

CURRENT AFFAIRS

**Month of
April-2018**



Plot-1441, Opp. IOCL Petrol Pump, CRP Square, Bhubaneswar

Ph : 8093083555, 8984111101

Web : www.vanikias.com | E-mail : vaniksias@gmail.com



www.facebook.com/vanikias

1ST WEEK OF APRIL**POLITY, GOVERNANCE AND PUBLIC POLICY****Industrial Employment (Standing Orders) Central (Amendment) Rules, 2018 - Fixed-term Employment****In News:**

- The Ministry of Labour and Employment recently notified fixed term employment for all sectors.
- It was through an amendment to the Industrial Employment (Standing Orders) Central Rules, 1946.

Key Highlights

- A fixed term employment workman is engaged on the basis of a written contract of employment for a fixed period.
- The existing permanent workmen as on March 16, 2018 cannot be converted as fixed term employment thereafter.
- March 16 is the date of commencement of the amended rules.
- The notified rules provide for equal work hours, wages, allowances and other benefits as that of a permanent workman.
- These are along with all statutory benefits available to a permanent workman proportionately according to the period of service.
- This will be available even if the period of employment does not extend to the qualifying period of employment required in the statute.
- Fixed-term employees whose services are terminated on non-renewal of contract or on its expiry is not entitled to any notice or pay in lieu.
- No notice of termination of employment shall be necessary in the case of temporary workman.
- This is whether it is monthly rated, weekly rated or piece rated and probationers or badli workmen (appointed in the position of permanent workmen or temporarily absent probationers).

expected benefits

- The Cabinet had earlier approved fixed-term employment for specific sectors.
- Fixed-term employment for all sectors now will make it easier for companies to hire-and-fire workers.
- It will also reduce the role of middlemen and allow companies to hire workers based on seasonal trends.
- The industries will be empowered to employ people for a fixed duration for which they have orders or assignments.
- There will be no burden of carrying extra labour force during the lean season.
- The move is further expected to promote 'ease of doing business'.

concerns

- **Job creation** - The move towards fixed-term employment will make it easier for companies to layoff workers.
- This could have a bearing upon job creation in the country.
- Notably, India's unemployment rate is estimated to rise to 3.5% for 2018 from 3.4% estimated earlier.
- **Labour laws** - The consolidation exercise of 44 central labour laws into four major codes is still pending by the government.
- **Trade Unions** - Trade unions across the country have opposed the extension of fixed-term employment to all sectors.
- This is because the move could lead to a situation where only fixed-term jobs are created.
- There is a possibility that permanent employment would vanish from the industrial sector.

Amendments to the NMC Bill

In News: The "National Medical Commission" (NMC) bill was piloted for establishing NMC as the primary medical education regulator in the country.

- While multiple clauses in the bill faced opposition, the government has now made important changes to the bill.

NMC Bill

- Government intends to replace current medical education regulator “Medical Council of India” (MCI) with “National Medical Commission” (NMC).
- While this the first major reform in medical education since 1956, there was considerable opposition to some of the structural changes proposed.
- Subsequently, a parliamentary standing committee had suggested about a dozen changes to the bill.
- The union cabinet has present made 6 changes that will address the most contentious issue in the bill.

New changes

- **The amendments** - The exit exam for doctors that was in the initial draft has now been merged with the final year MBBS exam.
- The bridge course to enable traditional medical practitioners (AYUSH doctors) to practice Allopathic medicine has now been axed.
- But interestingly, the current proposal has delegated the freedom for implementing an AYUSH bridge course to the states if they desire to.
- State representation in the NMC was increased from 3 part-time members to 6, while the parliamentary committee had recommendation for 10.
- **Retained clauses** - While there were calls for reducing government control over the NMC, the amendments haven’t much in this regard.
- Appointments to NMC will be made by a search committee headed by the Cabinet Secretary, which strongly curtails the body’s independence.
- The bill still retains the central government as the appellate body for those aggrieved by NMC decisions in contrast to the recommendation for constituting an independent authority.
- Also, the clamour for raising the proportion of “fee regulated seats” in private colleges from 40% to 50% hasn’t been approved.
- Additionally, the no strings attached “fee structure” for unregulated seats could make medical education too costly even for the middle classes.

Way forward

- Despite the deficiencies, the legislation is promising and will mark the beginning of a new era for medical education in India.
- Design appropriate sub-rules for implementing the law will also be a challenge due to the vast differences in the medical sector between states.
- It would be logistically difficult to conduct a common final year MBBS exam as it has to be a comprehensive test rather than a mere multiple choice paper.
- Lawmakers will have to tackle this gigantic task in a slow and phased manner in order to ensure quality and also enhance number of doctors.
- The coming days may see more protests against the Bill, perhaps delaying its passage and prompting further discussion.

Specific Relief (Amendments) Bill 2017

In News: Union government has approved the Specific Relief (Amendments) Bill 2017.

About Specific relief bill

- The Specific Relief (Amendment) Bill, 2017 was introduced in Lok Sabha by the Ministry of Law and Justice.
- The Bill seeks to amend the Specific Relief Act, 1963 and sets out the remedies available to parties whose contractual or civil rights have been violated.
- The Act sets out two main remedies to a party whose contract has not been performed
 1. The party may ask the court to compel performance of the contract (specific performance); or
 2. The party may seek monetary compensation instead of performance.
- Under the Bill, certain civil courts may be designated as Special Courts by the state government, in consultation with the Chief Justice of a High Court and these courts will deal with cases related to infrastructure projects.
- The Department of Economic Affairs is the nodal agency for specifying various categories of projects and infrastructure sub-sectors, which is provided as Schedule to the Bill.

- The Department may amend the Schedule relating to any such category or sub-sectors.

need for the bill

- The Specific Relief bill 1963 brought in enormous commercial activities in India including foreign direct investments, public private partnerships.
- But the act is not in tune with the rapid economic growth of the country.
- Government believes that with wider discretion of courts to grant specific performance and to make specific performance of contract will restricts economic growth.
- Thus the new bill proposes to enable courts to engage experts on specific issues and to secure their attendance.

salient features of the bill

- The Bill adds a new entity to the list of parties which includes a limited liability partnership (LLP) formed from the amalgamation of two existing LLPs, one of which may have entered into a contract before the amalgamation.
- The Act provides circumstances in which injunctions cannot be given, for example, to stop a party from filing a complaint in a criminal matter.
- The Bill additionally seeks to prevent courts from granting injunctions in contracts related to infrastructure projects, if such an injunction would hinder or delay the completion of the project.
- The court will determine the terms of payment of such expert and the payment will be borne by both the parties.

Six-month cap on stay orders

In News: Supreme Court has recently ruled that a stay of proceedings in trial, civil or criminal cases would automatically lapse in six months.

- For any further extension, the party concerned would have to move the court again to get a speaking order.

About the ruling

- While passing the order a three-judge bench held that the legislative mandate of expeditious disposal of a trial should be respected.
- The order came on a plea, posing a question of law as to whether a high court had the jurisdiction to entertain an appeal against an order framing charges by a trial court.
- While cautioning the higher appellate courts, the SC bench said the power to stay the trial proceedings has to be exercised with restraint, especially in corruption cases.
- If stay is granted, it should not normally be unconditional or of indefinite duration.
- Appropriate conditions may be imposed so that the party in whose favor stay is granted is accountable if court finally finds no merit in the matter and the other side suffers loss and injustice.
- Bench said that the speaking order must show that the case was of such exceptional nature that continuing the stay was more important than having the trial finalized.

Social Progress Index - 2017

In News: The Social Progress Index for 2017 has been released by a NGO Social Progress Imperative.

Social Progress Index

- The Social Progress Index (SPI) measures the development of the country based on the social and environmental measures provided by the country to its citizens.
- It defines social progress as the capacity of a society to meet the basic human needs of its citizens to enhance and sustain the quality of their lives, and create the conditions for all individuals to reach their full potential.
- Fifty-four indicators in the areas of basic human needs, foundations of well-being, and opportunity to progress show the relative performance of nations.

significance of SPI

- Generally, many aspects of social progress tend to improve with income growth and wealthier countries deliver better social outcomes than lower-income countries.
- But it has been observed by SPI that where there is an imbalance between economic growth and social progress, political instability and unrest often arise, as in Russia and Egypt.
- This indicates lagging social progress also holds back economic growth.
- The SPI data also reveals that countries have a higher level of social progress even with lower GDP e.g. – Costa Rica.

SPIvs GDP

- GDP is an old measure that was developed as a statistical tool for policy makers to determine the recovery from the Great Depression in 1930's.
- It focuses only on economic growth and is calculated quarterly to primarily analyse the strength of an economy, and for setting economic goals and objectives.
- It does not capture the social and environmental processes such as level of inequity which exists in the society regardless of overall economic growth.
- Therefore SPI is seen as a better yardstick to measure a country's level of progress by understanding the citizen's development needs and priorities.

about India

- The list is topped by Scandinavian countries like Denmark, Finland, Iceland, Norway, while India is at 93rd position.
- India's performance on health-related Sustainable Development Goals (SDGs) Index is the worst among BRICS nations.
- India still lags in areas such as water, sanitation and access to higher education.
- India also scored poorly on incidences of those under 18 who experienced sexual violence.

ECONOMIC AFFAIRS**Automation and the IT sector****Context:**

- Despite all the fear mongering around the "Artificial Intelligence" (AI) Technologies, they can't be wished away.
- While some jobs will indeed become redundant, more opportunities are bound to open up in new areas.

AI and related threat

- AI is the intelligence demonstrated by machines which are programmed to continuously 'learn', and mimic cognitive human functions.
- AI has already started impacting our lives and services like – "Voice-based searches in smart phones and Self-driven cars are already a reality".
- Gartner's "Technology hype cycle" has predicted mainstream adoption of AI to take off over the next 2-5 years on a massive scale.
- India currently holds a dominating position in the global services trade by virtue of its large youthful workforce.
- But many noted economist have warned that 'AI systems' and the consequent employment cuts could steal India's demographic thunder.

Effect on IT Industry

- It is a fact that AI-based bots have already taken away some jobs in the IT industry and this trend is expected to continue for a while.
- But we will still need people to monitor and maintain automated systems and a phase of sustained co-existence will eventually be reached.
- We will therefore ultimately end up with a more engaged and motivated workforce that would perform critical tasks rather than mundane activities.
- Additionally, historically, evolving technology has always been a net job creator and humans and machines have usually thrived and declined together.
- Hence, AI is also likely to create more jobs than it would destroy if the environment to foster innovation is nurtured.
- Notably, when computer made its foray into workspaces some 3 decades ago, the same fears of a technology takeover of jobs was expressed.
- But the down the lane, while computers have enhanced efficiency and reduced manual labour, newer opportunities that didn't exist before have opened up.

expected employment trend

- **New Skills** - A Gartner's report predicts that by 2020, automation will create 2.3 million jobs, while only 1.8 million jobs will be lost.
- To capitalise on these opportunities and wade through the disruptive technologies, the IT workforce needs reskilling/upskilling to stay relevant.

- By demonstrating the right attitude, individuals can adapt by garnering more domain knowledge and developing analytical skills.
- The industry and other support organisations need to promote such skill development programs for their own growth and for the larger benefits.
- **Uberisation** - Uberisation of workforce simply indicates freelance work as opposed to permanent jobs (like the taxi aggregator's model).
- With experts being hired on need basis for specific tasks and various projects being outsourced to individuals, this trend is gaining popularity.
- Organisations are warming up to the concept of remote workers, who can be contracted from anywhere on the planet, without any binding control.
- Such flexi working ecosystems is clearly the future and the workforce too needs to stay abreast with these developments to monetize on them.
- It is to be noted that contracted workers may be working for more than one organisation simultaneously.

Way forward

- About 8 lakh students pass out of the nearly 3000 engineering colleges in the country, and an astounding 55% aspire for a job in the software industry.
- But shockingly only a mere 3% of them are equipped with skills needed for the job, which is partly due to lacklustre industry-academia collaboration.
- In order to evolve an IT workforce that can be future-proofed, we need to enhance industry collaboration through internships and other engagements.
- The sheer volume of the pass-outs is also a big hindrance and better curbs to hinder proliferation of substandard colleges in the domain could help.

Implementation of GST E-way Bills

In News: Union government has announced introduction GST E-way bills from April 1, 2018.

e-way bill

- The E-way bill is a document to be generated online under the GST system, when goods of the value of more than Rs.50,000 are shipped inter-State or intra-State.
- The E-way bill must be raised before the goods are shipped and should include details of the goods, their consignor, recipient and transporter.
- The transporter has to carry the invoice and the copy of E-way bill as support documents for the movement of goods.
- Though check-posts have been abolished under GST, a consignment can be intercepted at any point for the verification of its E-way bill, for all inter-State and intra-State movement of goods.
- If a consignment is found without an E-way bill, a penalty of Rs.10,000 or tax sought to be evaded, whichever is greater, can be levied.
- Whether goods are transported on one's own or hired conveyance, by air, rail or road, the E-way bill has to be generated.

Significance of E-way bills

- GST has the ability to unify India as a market and do away with bothersome inter-State check-posts.
- Ministry of Road Transport and Highways reports that a typical truck in India spends 20 per cent of its time in inter-state check points.
- Both the GST levy and the E-way bill were expected to root out such transit delays, while at the same time plugging tax evasion.
- Every E-way bill generated by a sender or buyer of goods is to be automatically updated in the outward sales return (GSTR1) of the supplier, leaving little scope for tax evasions on shipments.
- In the previous tax regime, tax officials had to manually cross-check the way bill with the tax returns filed, to verify if all the consignments came within the tax net.

Recent decision on E-way bills

- An E-way bill has been planned for a reintroduction on April 1, which was earlier planned on February 2018 for inter-State transactions.
- The intra-State transactions may be brought into the ambit from June 1, although Karnataka has implemented it already.
- It has now been clarified that the value of Rs.50,000 will apply to a single consignment and not to an assortment of goods from different parties.

- The minimum distance allowed for movement of goods without the requirement of an e-way bill within a state has been increased from 10 km to 50 km.

Way Forward

- Business community is apprehensive that with GST collections falling short of the monthly norm of over Rs.1-lakh crore in 2017-18 the e-way bill may turn into a revenue-raising measure in 2018-19.
- In effect, this could lead to viewing every moving truck with suspicion, thus government ensure e-way bill as an alternative way to verify tax credit claims.
- Thus the original objective of replacing check post hold-ups, dubious paperwork and efficient system should not be lost sight of.
- For a flawless implementation errors and mismatches of compliance must be rooted out, the software backbone of the system need to be strengthened.
- In the event of an e-way bill lapsing if a vehicle breaks down in transit, there could be documentation challenges, regulations to resolve this need to be made.

Banning of Unregulated Deposit Schemes Bill

In News: Union cabinet had approved Banning of Unregulated Deposit Schemes Bill 2018.

About new bill

- It aims to provide a comprehensive legislation to deal with the menace of illicit deposit schemes.
- The Bill defines "Deposit Taker" who include all possible entities receiving or soliciting deposits except specific entities such as those incorporated by legislation.
- Being a comprehensive Union law, the Bill adopts best practices from State laws, while entrusting the primary responsibility of implementing the provisions of the legislation to the State Governments.
- It has planned a designation of special courts and competent authority by the state Government to ensure repayment of deposits in the event of default by a deposit taking establishment.
- The bill also enables creation of an online central database, for collection and sharing of information on deposit taking activities in the country.

need for this bill

- Finance Ministry had announced earlier that a comprehensive central legislation would be brought in to deal with the menace of illicit deposit taking schemes.
- India there have been rising instances of people in various parts of the country being looted by illicit deposit taking schemes.
- The worst victims of these schemes are the poor and the financially illiterate, and the operations of such schemes are often spread over many States.

Key features of the bill

- The Bill contains a substantive banning clause which bans Deposit Takers from promoting, operating, issuing advertisements or accepting deposits in any Unregulated Deposit Scheme.
- The principle is that the Bill would ban unregulated deposit taking activities altogether, by making them an offence ex-ante.
- The Bill creates three different types of offences namely
 1. Running of Unregulated Deposit Schemes.
 2. Fraudulent default in Regulated Deposit Schemes.
 3. Wrongful inducement in relation to Unregulated Deposit Schemes.
- It provides for severe punishment and heavy pecuniary fines to act as deterrent.
- The bill also provides for attachment of properties/ assets by the Competent Authority, and subsequent realization of assets for repayment to depositors.

Delhi's Green Budget

In News: Delhi released its first Green budget to improve quality of air in the National Capital Region.

Significance of the green budget

- Under the green budget Delhi has announced many new programmes under four Departments namely Environment, Power, Transport and PWD.
- Some of the initiatives includes 1,000 new fully electric buses, subsidies for electric vehicles, LED street lamps and incentives for residential and agricultural users who install solar panels.
- The government has proposed to give incentive to industries to switch over to piped natural gas and subsidies to firms to switch over to clean fuel-based power generators.

- Apart from these, first comprehensive city-wide inventory of greenhouse gas emissions will also be carried out.
- Dedicated information system showing levels of pollution will be set up inside all government buildings.
- Government has also planned for an innovative scheme named Agriculture-cum-Solar Farm scheme.

Implementation challenges

- The Delhi Transport Corporation has 6,000 buses, but it needs to maintain a fleet size of 11,000 buses.
- An addition of 1,000 new electric buses may mean lesser emissions, but it does little to address the overall supply gap.
- This means more private vehicles on the street and consequently a greater dose of pollution.
- The primary sources of pollution vary seasonally like in winter; it is the crop burning in neighboring Uttar Pradesh, Punjab and Haryana that affects Delhi's air quality.
- And in summer, it is dust from construction, storms, roads, etc.

Way Forward

- Tackling the existing problems needs coordination between different states bordering the national capital, and also with the Union government.
- Thus synchronizing with the efforts of neighboring governments is needed to tackle these issues effectively.

SEBI Acts on Kotak Committee Recommendations

Context:

- UdayKotak committee to suggest reforms in corporate governance was constituted by the SEBI in June 2017.
- While it has submitted a report with 80 recommendations, SEBI has accepted it only partially and plans to implement it in a piecemeal way.

SEBI's recent actions

- Securities and Exchange Board of India (SEBI) has recently decided to implement some of the Kotak panel report's recommendations.
- While implementation will be done on a piecemeal (spread over time) basis, accusations that SEBI has cherry picked recommendations has sprouted up.
- Notably, only half of the 80 recommendations have been accepted fully, while others have been modified and 18 proposals have been completely discarded.
- Some have vouched that SEBI is going ahead without sufficient deliberation and that the efficacy of the new laws will need to be tested in practice.

Recommendations accepted

- Some of the recommendations accepted by SEBI, if passed into law, can make a material difference to public shareholders in critical areas of governance.
- **Power Separation** - The proposal intends to make a mandatory separation between the "Chairperson of the Board and CEO" in listed companies.
- This is a significant move and is expected to reduce concentration of powers and root out conflicted decisions such as over-the-top managerial pay.
- But then, whether the Chairperson truly reins in top managers would depend on who appoints him/her and whether he/she is free of promoter influence.
- **Transparency** - Disclosure requirements on auditor resignations, related party deals and consolidated quarterly results is also being proposed.
- These will certainly improve the flow of material information to shareholders and help them in knowing the company's deals better.
- **Shareholder Approval** - The proposal requires companies to seek shareholder approval in all material deals involving payments of over 2% sales.
- While this is to curb "cosy related party deals", it will be difficult for shareholders win a vote against promoters, due to the skewed ownership patterns in many firms.
- Also, shareholders are highly constrained in their ability to mobilise institutional support in critical meeting to get vet out transactions.

Recommendations reject

- It isn't clear on why the Chairperson-CEO separation or deadlines for holding general body meetings must apply only to the top listed companies.
- While the intent may be to reduce the compliance burden on smaller firms, it is untenable in the Indian context as retail portfolios are dominated by mid- and small-cap firms.
- Additionally, it is also the smaller sized firms that feature low levels of analyst scrutiny and thus are at greater risk of mis-governance.
- SEBI has also omitted the recommendation for expanding its own regulatory ambit to scrutinise qualified accounts and prosecute auditors.
- Given the seriousness of the issue, it would have been useful if SEBI has elaborated on its reasons for cherry-picking proposals.

Memorandum for Air India Disinvestment

In News: Civil Aviation Ministry has recently released a preliminary information memorandum (PIM) for prospective bidders for Air India (AI).

Present situation

- In 2016-17, the airline suffered a net loss of around Rs. 5,700 crore, owing mainly to its high interest costs.
- Undoubtedly, debt has been the major reason for AI's losses in recent years.
- But besides, operational inefficiencies and poor management have also been concerns for long.
- In response, the Union Cabinet gave an in-principle nod for offloading the government's stake in Air India a few months back.
- The final moves for going ahead with privatization are on now.

Key highlight of memorandum

- According to the PIM, the Centre will divest 76% of its stake in AI.
- It has sought an expression of interest (EoI) from bidders.
- A 100% stake is being offered in its subsidiary Air India Express.
- A 50% stake is on offer in its ground handling operations arm.
- The government is expected to offload its residual 24% stake at a later date.
- This is on the hope of a better valuation after the new owner has fixed the airline's legacy issues.
- Foreign airlines or foreign consortium partners can pick up 49% equity in the airline.
- This is allowed only if the chairman and at least 2/3rd of directors are Indians and effective control vests with Indian nationals.
- A minimum of 27% equity must remain with Indian entities.
- Other subsidiaries, such as Alliance Air, Hotel Corporation of India, Air India Air Transport Services and Air India Engineering Services are not being sold.
- These will be transferred to a special purpose entity along with roughly a third of AI's outstanding debt (total - around Rs. 48,000 crore).

concern

- The bidders will be informed of the details and logic of reallocation of the liabilities between AI and AI Express only at a later stage.
- Effectively, the government is offering a majority stake in AI and AI Express with management control.
- However, this comes with a cumulative debt burden worth around Rs. 33,000 crore as well.
- For prospective buyers, AI's international flying rights and slots would be attractive.
- However, this advantage would be offset by the possibility of taking on so much debt.
- Devising a plan to bring it down or refinance the loans would be a huge challenge for the investors.

Implications

- It is to be seen if the government's recent decisions are really attractive for the investors.
- The uncertainty over the debt burden will make it difficult for the investors to offer a lucrative price to the government.
- Despite these, the real benefit of privatization will be that the airline will no longer drain taxpayer funds.
- This is because thousands of crores have been infused over the years to keep Air India up and running.

INTERNATIONAL AFFAIRS**Subsiding Indo-Pak Tensions****Context:**

- After weeks of an intense diplomatic stand-off, tensions seem to be easing between India and Pakistan, which was visible symbolic gestures.
- While the symbolism is positive, the countries need to address the important underlying issues to prevent a future crisis.

recent symbolic gestures

- Pakistan had recalled its High Commissioner to India due to mounting tensions, but he been returned in time to host the 'Pakistan National Day' reception in New Delhi.
- Responding positively, Indian government has stated that Minister of state for Agriculture Mr. Gajendra Singh Shekhawat would attend the reception.
- Also, Indian High Commissioner to Pakistan was in attendance at the military parade in Islamabad to mark the same occasion.
- Also, a sustained calmness has returned to the LoC which saw intense exchange of fire over the recent months.
- More significantly, despite the usual hard-line towed by military, the Pakistan's army chief, General Bajwa had indicated a desire to normalise ties with India.
- While these are signs from both sides that normalcy is returning, discussions for eliminating factors that precipitated the crisis is needed.
- Additionally, Pakistan should also work to curtail anti-India elements within its borders to further its outreach towards India.

diplomatic crisis

- **Utilities** - The Pakistani authorities are said to have disrupted contractor who were working on the Indian diplomatic residential complex in Islamabad.
- India argues that its construction plans were duly authorised and that Pakistan was simply seeking trouble by intervening on trivial pretexts.
- Contrarily, Pakistan argues that while the Indian complex in Islamabad is in an advanced state of construction, Pakistani diplomatic complex in Delhi hasn't even been approved by authorities for long.
- **Club membership** - Pakistan has refused to admit Indian diplomats to the recreational clubs like the "Islamabad Club".
- This is said to be in retaliation to corresponding Indian clubs charging Pakistani diplomats exorbitant amounts for membership.
- Interesting, India's contention that the government cannot interfere with how private clubs manage their membership procedures hasn't cut any ice.
- Rather, Pakistan had called for a "Memorandum of Understanding" for reciprocal club memberships for each other's diplomats.
- **The backdrop** - In addition to the above, ceasefire violations along the LoC and the resultant political rhetoric intensified the diplomatic standoff.
- Consequently, a series of actions and counter-actions that amounted to harassment of each other's diplomatic personnel unfolded.
- These were violations of 'Vienna Convention of diplomatic protection - 1961' and it is also concerning that routine disagreements were allowed to escalate.

previous standoff

- During the initial years of the insurgency in Kashmir in 1990's there were heightened fears of an India-Pakistan military escalation.
- The situation was far more tense than the current and had become particularly difficult for diplomats to work in each other's countries.
- But despite this, both countries managed to reach an agreement to protect each other's diplomatic personnel from harassment.
- Notably, lower ranked officials of the host country usually aggravate tensions as they aren't properly informed on how to deal with enemy diplomats.
- While efforts to percolate the 'code of conduct' in dealing with diplomats have paid off, habitual mistreatment in certain cases continues nevertheless.

India-Pakistan spies

- **The Trend** - India and Pakistan have claimed that they do not carry out espionage, despite operatives being caught on both sides.
- If an act of spying is established (or strongly suspected) in custody, then spies are subjected to the most inhumane forms of torture by the captors.
- Hence, captured spies routinely pretend ignorance, even though when released from custody, they return home and openly brag about their espionage.
- All countries involve in spying and to claim otherwise would be laughable, which hence mandates commissioning standard policy for dealing with spies.
- **Way forward** - While disrupting under-cover operatives is essential, torturing spies doesn't spell well for a humanitarian political setup.
- Hence an agreement on punitive action espionage or exchange of spies like the ones during the cold war could be co-opted.
- Hypernationalism and grandstanding can make professional handling of these issues difficult and hence a rationalistic approach is needed.

communication networks

- The state of communication between India and Pakistan is at its lowest ebb in more than a decade and these needs to be revived.
- Both countries have 'Director-General of Military Operations', who coordinate for easing border tensions, but they didn't meet recently despite constant ceasefire violations.
- Contacts between the respective High Commissions and the host governments have largely been through "summons, and stern warnings".
- Additionally, even planned high-level political engagements have been called off and even the discrete diplomatic initiatives have been a damper.
- Reviving engagements across domains is a high priority for sustaining peace.

Korean Peace - A Comprehensive Analysis

Context:

- North Korea has lately been engaged in a string of diplomatic engagements to resolve the nuclear standoff in the Korean peninsula.
- While this is a positive, the other stakeholders will have to adopt a pragmatic approach to negotiations in order to achieve sustain peace.



historicperspective to Koran crisis

- **History** - The Korean War (1950-53) split the Korean peninsula into the North and South Korea along the 38th parallel latitude.
- The North was communist dictatorship backed by USSR, while the South flourished into a vibrant democracy that is part of the US security alliance.
- After the fall of USSR and re-unification of East and West Germany, the North Korean regime got isolated internationally and saw a threat to its survival.

- Notably, both the North and South Korean government's claim to be the official representatives of the entire of Korea and do not recognize each other.
- **Survival** - While China is North Korea's strongest ally, despite pressure from Pyongyang, Beijing recognized South Korea in 1992.
- South Korea has now developed into a strong economic power and has become one of China's biggest trade partner and investment destination.
- All these factors have made North Korean leadership increasingly insecure as an US assisted South Korean annexation of North loomed large.
- While both Koreas have a stated official policy for reunification, neither seems ready to accept the political leadership of the other.
- Consequently, North Korea took refuge in developing nuclear weapons for securing its political survival since 2006.

Cause of the recent tensions

- **Weapons Program** - North has conducted 6 nuclear tests thus far and the latest one in Sept 2017 is said to be 6 times as powerful as Hiroshima bomb.
- The current North Korean supreme leader Kim Jong Un took over from his father Kim Jong Il in 2011 and has since accelerated the weapons mission.
- While his father conducted 16 missile launch tests during his 16 year rule till 2011, the current leader in his 7 years rule has conducted 80 launches.
- The last test in Nov 2017 successfully demonstrated the "Hwasong-15 missile", which has a 12,000 km range, and has the entire US territory within its reach.
- **Diplomatic Standoff** - The Weapons program got the whole world concerned and multiple sanctions were passed in the UN.
- These effectively cut-off all international ties of North Korea except China which continued to trade defying sanctions (although largely unofficially).
- Notably, China too got concerned due to
- Due to North's continued intimidations, Mr. Trump had threatened the Mr. Kim with a furious attack like never before in human history.

evolving diplomatic engagements

- Despite the harsh rhetoric of the other stakeholders, South Korean president Mr. Moon had been paddling a softer approach towards Pyongyang all along.
- Consequently, in Jan 2018, Mr. Kim had spelt out his willingness to negotiate a solution, which set of a new diplomatic breakthrough.
- North Korea participated in the recent Winter Olympic Games hosted by South Korea in Feb, and also Mr. Kim's sister led a delegation to the South Korea.
- Kim has also paused his weapons program and he recently travelled to Beijing for a short diplomatic meet with the Chinese premier Mr. Xi Jinping.
- A South Korean delegation also visited Pyongyang, and Mr. Kim is said to have conveyed his willingness to denuclearise if negotiations are successful.
- Additionally, North and South Korean leadership is touted to meet in April at the "Peace House in Panmunjom" for furthering the warmth.
- Also, the North Korean and US leadership are expected to meet sometime in May, which is touted to be the most significant part of the engagement.

expectations of various stakeholders

- **South Korea** - South wants to restore peace in the peninsula by sustaining this dialogue and furthering the cause of reunification.
- It would also like to be kept in loop with any US decision regarding the North to ensure that its interests aren't compromised.
- Notably, despite the multi-power geopolitics in the Korean peninsula, the current initiatives are solely powered by the North and South Korea.
- **North Korea** - The North has been effectively isolated from the world due to sanctions, and it would like all sanctions to be lifted to help its economy.
- It would also want to ensure its regime survival and its concerns regarding the massive US troop presence in South Korea also needs to be addressed.
- While the desire for reunification is strong in both the Koreas, current engagements can increase the chances of a mutual and peaceful unification.

- **China** - It hopes that the peace process will result in denuclearisation of its neighbourhood and withdrawal of the US troop and arms from South Korea.
- While the reunification of the Koreas isn't to China's liking, the possibility of that happening anytime soon is low and isn't concern for Beijing currently.
- **USA** - For the US, it is treaty obligated to protect South Korea in addition to its assumed role of being the "world saviour".
- Additionally, it would want to curtail Beijing's increasing clout in the region, which demands an increased engagement in region's conflicts.
- But there are multiple hardliners in the Trump administration, who might vouch for unrealistic expectations and thwart a deal, which is a genuine risk.
- **Others** – Japan is also a key member in the Korean neighbourhood, and has been advocating a hard-line on North Korea for long.
- Notably, it's also part of the US military alliance and fears that a pro-North Korean shift by US would weaken its case vis-a-vis China.
- Additionally, Russia was an erstwhile player in the region during the Soviet era and has been asserting itself worldwide again under Mr. Putin.
- It may want to engage and has to be satiated through suitable dialogues.

China – North Korea ties over time

- **Historically** - China has historically played a role in inter-Korean relations.
- In 2000, Mr. Kim's father and predecessor, Kim Jong-il, had visited China shortly before a summit with South Korea.
- In 2003, China launched the Six-Party Talks aimed at peacefully resolving the North Korean nuclear crisis, which eventually failed.
- **The strain** - China had been under pressure from the west for long to exercise its influence to curtail North Korea's nuclear program.
- Beijing too wasn't happy with Mr. Kim's conduct and had supported the stringent UN sanctions on North Korea, which crippled North Korean trade.
- Its coal exports of coal, seafood and other goods to China were hit and the friendship with China came under severe strain.

implications of the current visit

- North Korean leader Kim Jong-un recently travelled by train to Beijing, which marks his first foreign trip after assuming power in 2011.
- The visit has helped repair the strain that had developed lately between Beijing and Pyongyang over erratic nuclear tests by the latter.
- He held talks with Chinese President Xi and re-emphasised his commitment to de-nuclearise – thereby clearly inviting China into the current negotiations.
- Notably, a peace summit has been scheduled with South Korean President Moon and the subsequent one is slated with the US president Trump.
- This visit has send out a clear message that Mr. Kim is serious about his offer for talks.

are the areas of convergence

- Mr. Kim's visit to Beijing has reinstated China's central role in talks over the Korean crisis, which both countries see as mutually beneficial
- For the Kim regime, China's experience and guidance could come in handy when it is preparing to engage with two of its biggest rivals.
- For China, this presents an opportunity to get proactive as a global power house in resolving international disputes.
- Also, if Mr. Kim's fundamental concern is the survival of its regime, then China too has a major stake in North Korea's view point (South Korea is an US ally).

challenges for peace

- There are still considerable challenges due to the unreliability of the Trump administration in towing its commitments.
- If the US – North Korea summit fails, there will be a return to a high tension situation, which is undesirable and dangerous for all.
- As the context is volatile, multilateral intervention would help in sustaining the talks and China could possibly play facilitator to balance demands.

The Future of RCEP**Context:**

- The negotiations on “Regional Comprehensive Economic Partnership” (RCEP), is witnessing a stalemate mainly due to India’s concerns.
- In a positive development, the Chinese commerce minister had visited his Indian counterpart recently to further the deal.

RCEP

- RCEP is a giant trade and economic agreement encompassing all the 10 ASEAN countries and 6 other countries in the Asia-Pacific neighbourhood.
- The countries are China, Japan, South Korea, Australia, New Zealand, India and the ASEAN Block (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam).
- Taken together, these countries account for over a quarter of world trade and holds immense potential for enhancing trade ties in the region.
- While every country wants trade liberalisation for goods (tariff reduction), India has agreed to it on the condition that services trade is also liberalised.
- Additionally, India had also proposed a differential tariffs reduction timelines for different members of the agreement, which wasn’t accepted.
- Considering the prolonged stalemate, some countries party to the deal are even contemplating a possible agreement without Indian participation.
- But China has now reached out to work a compromise with India regarding the deal and demonstrated its intent to rectify recent troughs in bilateral ties.

basis for Indian demands

- At a time when India is promoting local manufacturing through ‘Make in India’ program, massive reduction in tariff lines as demanded is not desirable.
- Animal husbandry sector could also take a hit as opening tariff lines would flood Indian markets with “Australia and New Zealand’s” dairy products.
- Also, Indian economy is service oriented and there is much to gain on services liberalisation, while manufacturing liberalisation will benefit China the most.
- Notably, US had also made similar demands for trade in services during the Uruguay round talks, stressing that all previous rounds focused on goods.
- The US had managed to pull off with TRIPs in the Uruguay round and subsequently pushed for the creation of WTO to further its agenda.
- While India couldn’t emulate the same success, it wasn’t wrong on its part to try and hence it can’t be perceived as an obstructionist approach.

way forward

- While India has vouched a genuine case for itself, the lack of consensus demands India to move on to other positive aspects to save the deal.
- Even without the core demands, the deal is worthwhile as enhancing trades in goods will nevertheless have a positive impact on consumers and the economy.
- Competition will better quality and make things cheaper, and the inbuilt anti-dumping duties will anyway deter predatory trade practices.
- Additionally, for increasing exports and ensuring the fructification of ‘Make in Indi’ initiative, India can’t afford to ignore global supply chains.
- Within RECP - Australia is resource rich and Singapore is a financial hub, and Japan is a technological power and most other are low cost manufacturers.
- Hence a comprehensive trade deal within a group this diverse (that also has a huge consumer base) could benefit all due to economics of scale.
- Various Indian ministries are concerned about RCEP, the better approach would be to enhance sectoral competitiveness rather than sabotage the deal.

E.U’sGDPR law

In News: European Union has passed a General Data Protection Regulation (GDPR) Law.

About General Data Protection Regulation

- The GDPR redefines the understanding of the individual’s relationship with their personal data.
- It relates to an identifiable living individual and includes names, email IDs, ID card numbers, physical and IP addresses.

- This law grants the citizen substantial rights in his/her interaction with
1. **Data controllers** - Those who determine why and how data is collected such as a government or private news website.
 2. **Data processors** - Those who process the data on behalf of controllers, such as an Indian IT firm to which an E.U. firm has outsourced its data analytics.

Significance of this law

- Under the GDPR, a data controller will have to provide consent terms that are clearly distinguishable.
- The GDPR also requires data collectors to provide information on the 'who' and 'how.'
- Individuals will also have the right to have personal data deleted under certain conditions.
- The reporting obligations and enforcement are made stronger under the GDPR.
- By this, data breaches have to be reported within 72 hours and failure to comply with the new laws could result in a fine up to 4% of global turnover or maximum amount of fine 20 million Euros.

Implications for India

- The GDPR has global implications as it applies to those outside the E.U. who either monitor the behaviour of EU residents or sell goods and services to them.
- The E.U. bloc is India's largest trading partner, with bilateral trade in services alone running upwards of €28 billion (Rs.2.2 lakh crore).
- Therefore it will have a significant impact on Indian IT firms and other service providers with E.U. business.
- But only a third of Indian IT firms are making arrangements for the GDPR and a third unaware of such a law.
- This will likely mean fines, loss of business and missed opportunities, as well as diplomatic wrangling in trade talks between India and the E.U.

India's Position in World Happiness Index

In News: United Nations has released the World Happiness Index.

About World happiness report

- World Happiness index released by UN is basically an appraisal of the general well-being of a nation rather than an indicator of personal happiness.
- The index doesn't measure joy and cheerfulness of the people of a nation, besides it is a measure of prosperity such as income and healthy life expectancy.
- Index is based on six key factors found to support wellbeing: Income, Healthy life expectancy, Social support, Freedom, trust, and generosity.
- Out these six the important variable is trust, which is measured by the absence of corruption in business and government.
- The issue of migration was placed at the heart of the 2018 report, which also ranked 117 countries according to happiness of their immigrants.

findings of the recent report

- Finland, Norway and Denmark secured the first three positions, the remaining Scandinavian countries (Sweden and Iceland) found themselves in the top ten rankings.
- The Scandinavian countries are the perennial toppers in the Global Happiness Index.
- The United States and the United Kingdom were in 18th and 19th place respectively.
- The study found that the 10 happiest countries in the overall rankings also scored highest on immigrant happiness, suggesting that migrants' well-being depends primarily on the quality of life in their adopted home

Findings about India

- India is ranked terribly low at 133 out of 156 countries alongside some Sub-Saharan African countries, dropping 11 spots from 2017.
- Most of the emerging economies Mexico (24), Brazil (28), Argentina (29), Malaysia (35), Russia (59), and China (86) are placed far ahead of India.
- All the South Asian countries, even Pakistan and Nepal ranked better compared to India.

Cause for India's bad performance

- Despite being one of the fastest growing economies, India remains a non-egalitarian country with growing levels of economic inequality.

- An Oxfam survey in 2017 has revealed that India’s richest 1 per cent has cornered almost 73 per cent of the total wealth created in the country.
- India’s public health spending is well below the global average (just 1.4 per cent of GDP) leaving the deprived millions to pitiable public healthcare facilities.
- Even the well-off Indian professional class, who can afford expensive private healthcare, are not guaranteed a long, healthy and happy life.
- India has failed in building a trustworthy social support system, helping people when they are in real trouble.
- India’s political system and business establishments are unable to manage big cash flows in a sustainable, responsible and transparent way.
- Indian response towards the Rohingya crisis, despite being a country that welcomed Tibetans and Sri Lankans, illustrates that generosity and altruism are giving way to pseudo-nationalism and self-obsession.

Scandinavian countries

- Norwegians discovered a greater fortune than fishes in the North Sea, massive amounts of crude oil and natural gas.
- The political consensus that emerged in Norway for sharing the suddenly-discovered oil wealth for the entire citizenry than falling into the hands of a few business giants, leading to the creation of a welfare state model par excellence.
- When petroleum profits exceeded all expectations, the government established an ‘oil fund’ in 1990, which is now the world’s largest sovereign wealth fund entitling every Norwegian a millionaire on paper.
- Life for Scandinavians is to be taken at a slow pace leaving their worries and anxieties into the hands of a dependable, trustworthy government.
- In addition to its joyful locals, Finland is also home to the happiest immigrants due to the nation’s altruistic policies.

ENVIRONMENTAL AFFAIRS

Rhino Population in Kaziranga National Park

Context: The latest rhinoceros census in Kaziranga reported a gain of just 12 rhinos since 2015, a jump by barely half a percent. Though marginal, this increase is seen as a healthy trend.

concern

- Kaziranga lost over 500 rhinos in the last 2 decades of the twentieth century.
- The situation improved from the 2000s when an average annual loss to poaching came down to single digit.
- Kaziranga reported a population of 1,855 rhinos in 2006.
- But after 2006 it suffered a setback with poaching taking huge tolls.



Recent healthy trend

- Even as poaching made a comeback after 2006, Kaziranga reported the biggest jump in rhino numbers.
- Rhino population had a gain of 193 rhinos in just 3 years from 2006 to 2009.
- It increased by 353 between 2009 and 2015 period, despite worrying numbers on poaching.

- But since 2017, Kaziranga brought down the numbers on poaching and thus claims a healthy population gain.
- Kaziranga National Park (KNP) has counted 2,413 one-horned rhinos in the latest triennial population estimation.
- It comes closer to the goal of hitting the 3,000-mark in the Asian one-horned rhino population in Assam by 2020.
- Moreover among the female population now counted, a majority are breeding.

reasons for improvement

- Poaching has been brought down considerably by concerted efforts.
- A group of **informers** earlier used by the civil administration, to get updates on poaching operations, started turning hostile.
- In tie up with their controllers, they were apparently protecting the poachers in return for big protection money.
- This group of hostile informers have now been identified and controlled.
- It has been a practice to offer **political patronage** to monetise Kaziranga's rhinos in exchange for varied electoral services.
- The ups and downs in poaching numbers, with peaks during the election times, clearly reflect this practice.
- This decade-long tradition which affected rhino population has now been done away with by the government.

Cause of poaching

- Kaziranga and its rhinos still remain very much in the grip of both commercial and political interests.
- Rhino is far easier to poach than, say, a tiger or an elephant, and far more valuable in that sense.
- A carton of horns fetches as much as a carload of tiger derivatives or tusks would.
- These factors perpetuate the interest in rhino poaching, posing a challenge for controlling them.
- This interest had in the past made it easy for local insurgent groups to strike cashless arms deals with operators in Myanmar.

Administrative and legal shortfalls

- **Local Population** - The forest administration least consider as allies the local population, mostly tribals and Muslims.
- Violent eviction drives against encroachers are common and, at least once, led to deaths caused by police firing.
- **Killing Poachers** - Hundreds of alleged poachers have been gunned down and the number of poachers killed is on the rise.
- On the other hand, expressively, only two forest staffs have ever been killed by poachers since the late 1960s.
- In 2010, Assam extended legal protection against prosecution to staff who kill poachers.
- Resultantly, from a decadal count of just 17 between 2001 and 2010, the number of poachers killed raised to over 50 in the next 5 years.
- These figures clearly seem to give credibility to recurrent allegations of staged murders.
- **Neighbourhood** - The anti-migrant rhetoric against alleged Bangladeshis have alienated the minority population in villages around the park.
- Resultantly, rhino protection does not enjoy much goodwill in its neighbourhood.
- Winning their support over time can be the best insurance against poaching.

Two degree warming cap may not be enough

In News: Limiting global warming to two degrees Celsius will not prevent destructive and deadly climate impacts, as once hoped, dozens of experts concluded in a score of scientific studies released.

Why not enough?

- The 197-nation Paris climate treaty, inked in 2015, vows to halt warming at “well under” 2C compared to mid-19th century levels, and “pursue efforts” to cap the rise at 1.5C.
- A world that heats up by 2C – long regarded as the temperature ceiling for a climate-safe.
- Planet – could see mass displacement due to rising seas, a drop in per capita income, regional shortages of food and fresh water, and the loss of animal and plant species at an accelerated speed.

- Poor and emerging countries of Asia, Africa and Latin America will get hit hardest, according to the studies in the British Royal Society's Philosophical Transactions A.
- With only one degree of warming so far, Earth has seen a crescendo of droughts, heat waves, and storms ramped up by rising seas.
- Voluntary national pledges made under the Paris pact to cut CO2 emissions, if fulfilled, would yield a 3C world at best.

new studies

- A draft special report by the UN climate science panel to be unveiled in October, obtained by AFP, concludes that holding warming at 1.5C by the end of the 21st century is extremely unlikely.
- At current rates, the greenhouse gas emissions putting that goal out of reach will have been released within 10 to 15 years.
- Meanwhile, CO2 emissions -- after remaining stable for three years, raising hopes that they had peaked -- rose by 1.4 percent in 2017, the International Energy Agency said this week.
- But every tenth-of-a-degree counts. Even if we can't limit global temperature increase to 1.5C, but can limit it to 1.7C or 1.8C, this is still hugely more beneficial than just giving up.

TECHNOLOGICAL AFFAIRS

GSAT-6A Launch by GSLVF08

In News: The GSLVF08 launched the GSAT6A communication satellite into its orbit, from the SatishDhawan Space Centre at Sriharikota.

GSAT-6A

- GSAT-6A, similar to its predecessor GSAT-6, is a high power **S-band communication satellite**.
- It has a mission life of around **10 years**.
- The satellite has a **six-metre wide antenna** that would unfurl once it is in space.
- The antenna, meant for **S-band communication**, is 3 times broader than those generally used in ISRO satellite.
- This feature facilitates mobile communication for the country through **handheld ground terminals**.
- The smaller antenna in other communication satellites requires larger ground stations.
- The GSAT-6A is intended to provide communication services through **multibeam coverage**.
- The satellite would also provide services to the Indian **Armed Forces**.
- The GSAT-6A was successfully placed in **GTO** (Geo-stationary Transfer Orbit).
- Soon after separation from GSLV, the two solar arrays of GSAT-6A were automatically deployed in quick succession.
- The **Master Control Facility** (MCF) at **Hassan** in Karnataka assumed control of the satellite.

Satellite GSAT-6A	MISSION
Launch vehicle GSLV-F08 (three stage rocket)	> Provide mobile communication through hand-held ground terminals
Orbit Geostationary	> 6m diameter unfurlable antenna for communication link for S-band
Weight of the satellite 2,140kg	> 0.8m fixed antenna for hub communication link in C band frequency
Weight of rocket 415.6 tonnes	
Life span 10 years	

significance

- **Launch** - The launch took ISRO a step towards realising its second Moon mission Chandrayaan 2 planned for October 2018.
- The launch was the 12th satellite launched on board the GSLV rocket.
- This is the fifth consecutive success for a GSLV equipped with an indigenously developed **Cryogenic Upper Stage engine**.
- **GSLV** - The GSLVF08 is an improved and a fully operational version of ISRO's heavy-lift GSLV Mk II rocket series.

- The GSLV, specifically the GSLVF10, is the designated rocket to fly India's second mission to the Moon, the Chandrayaan 2.
- In the absence of heavy-lift rocket technology, India has been relying on France for launching its communication satellites.

GSLV-F08 flight profile



- **Vikas Engine** - Vikas engine powered the rocket's second stage.
- The performance of the vehicle is enhanced with an improved Vikas engine.
- The improved engine has increased the thrust by 6%, thereby enhancing payload capability of the vehicle by 50%.
- The second stage also had electromechanical actuation system replacing electrohydraulic actuation system.
- This is to enhance the reliability of the rocket.
- These improvements to the vehicle would be incorporated into GSLV's future missions, including Chandrayaan-2.

Significance of cryogenic stage

- The indigenous cryogenic stage on the GSLV is the third stage, and uses liquid hydrogen as fuel and liquid oxygen as oxidiser.
- **Challenge** - Cryogenic engine uses propellants at extremely **low temperatures**.
- The resultant and associated thermal and structural problems make cryogenic stage a very complex system.
- **Benefits** - Cryogenic engines provides more thrust for every kg of propellant it burns.
- It is a highly efficient rocket stage as the efficiency is better when compared to solid and earth-storable liquid propellant stages.
- Cryogenic engines also keep fuel loads relatively low.
- **GSLV** - Cryogenic engines provide unprecedented thrust to GSLV rockets in their final stages.
- Nearly 50% of the power for GSLV rockets as they push into space comes from the cryogenic stage.

Evolution of cryogenic technology

- India had first ventured on the path of obtaining cryogenic technology in 1992.
- It had a two-pronged strategy of purchasing cryogenic engines from Russia, and acquiring the technology from the US.
- But following the 1998 nuclear tests and the sanctions that followed, the US denied India cryogenic technology.
- ISRO used 7 cryogenic engines sold by Russia for the early phase of its GSLV programme that began in 2001.
- Parallely, India ventured into developing an indigenous technology.
- GSLV launches with Russian engines, including early operational flights, had mixed results, with only 2 flights going perfectly to plan.
- The first GSLV flight with an indigenous cryogenic upper stage failed on April 15, 2010.
- But India is now among 6 nations, along with the US, Russia, France, Japan and China, to possess cryogenic engine technology.

GSAT-6A - Communication Lost

- A day after launch, all communications with the satellite were lost, and the ISRO is working on restoring the link.
- The controllers were subsequently involved in correcting the orbit into a circular one.
- This is a critical but frequently done exercise that lasts about a week.
- The first on-board motor firing for course correction lasted for about 36 minutes, and is said to have successfully achieved the desired manoeuvre.
- The communication from the satellite is said to have got disrupted after the second firing.
- It is believed that contact was lost due to a possible power glitch or a short circuit on the satellite.

Way Forward

- ISRO is still in the process of developing a fully operational GSLV Mk III rocket.
- This can carry satellites weighing more than 4 tonnes to space.
- The cryogenic upper stage in the GSLV Mk III rocket uses the C25 engine.
- This is an improvement on C20 cryogenic engines used in the GSLV Mk II rockets.
- A GSLV Mk III D2 rocket is scheduled to fly a GSAT 29 communication satellite to space in its second mission soon in the year.

Redesigning Cyber Space**Context:**

- The principles of data protection need to be reinvented for preventing privacy abuse and ensuring a more democratic society.
- Also, as big firms have virtually monopolized cyber space, revising of our “fair competition laws for trade” to suit current realities is needed.

Approaches to prevent data abuse

- **Minimization** - Data controller firms should be allowed to collect data only if it is a prerequisite for providing functionality or if it is a legal requirement.
- For example, Facebook’s messenger app on Android harvests call records without any consumer-facing feature on the app that justifies such collection.
- This could be stated as a clear violation of the data minimization principle and a possible legal bar on such data collection could be considered.
- **Consent** - The data controller firms are required to secure explicit and voluntary consent from users (unless there are exceptional circumstances).
- Unfortunately, consent has been reduced to a mockery today through unintelligible and lengthy “privacy notices” and “terms of services”.
- To reinvent consent we need to evolve a data protection regulator that allows individuals to check against their unique identifiers through a web portal.
- The web portal is to provide the list of data controllers (like Facebook, Google) that hold a person’s unique identifiers like “email, phone number, Aadhaar”.
- The data subject should then be able to revoke consent with one-click, which would mandate controllers to delete the said data point.
- **Explicit Explanation** - Advertisements online are presently micro-targeted based on information that users give out in the course of their online activity.
- While currently, the reason for why we see a particular ad is provided on demand, data controllers should be mandated to explicitly display them.
- Presently, people do have a partial control over ads they see by manually blocking the automated ad dispersing algorithms, but more is needed.
- Explicitness in ‘ad policy’ would nudge more users to control their online feed better and this would also help in overcoming the “Echo Chamber Effect”.
- **Echo Chambering** - This is a phenomenon in which sites tend to show users more content relating to subjects what they had sought in the past.
- This thereby strengthens biases among people by reinforcing more of the same and gives false perceptions of online trends due to a conditioned news feed.
- Consequently, different users get psychologically manipulated differently due to their customized news feeds and thereby social polarization gets amplified.

Consequences of virtual online monopolies

- Google (YouTube, search etc...) and Facebook have over the years monopolized digital advertising revenues due to their dominance in cyber space.
- In Google's case, this more pronounced as it has a big share in both the open 'digital ad market' as well as the operating system space with 'android'.
- These tech-giants have algorithms that are designed to maximize the amount of time that users spend on their platforms by feeding them engaging content.
- They've also asserted themselves as mere social platforms that host content in order to absolve themselves of any responsibility for what is posted on them.
- This self-serving myopic foresight implies that there is little incentive for them to curb misuse of their platforms by immoral participants.
- Consequently, they've ended up creating a remunerative avenue for unauthenticated news platforms, and sensation mongers.
- Additionally, their market dominance has gulped up considerable revenue streams of authentic content developers and news agencies.

Structural changes needed in cyber space

- The tech-giants need to be legally mandated to evolve internal mechanisms to prevent misuse of their platforms and to curtail the spread of misinformation.
- Also, a revenue sharing model should be established on mutual terms between content developers and the host site (to nurture an open business space).
- Notably, sites like youtube do pay developers currently, but these are by their own terms and conditions and not by a mutual contract between parties.
- **Fair Competition** - Our current set of "fair-competition laws for business" is proving to be ineffective in the wake of emergence of massive online firms.
- Fair competition is an essential component of democracy, open society, innovation, and we have to get creative to ensure its sustenance.
- For achieving the stated ends, fundamental changes to the competition law is needed – which could even mean capping the growth of firms in cyber space or rather breaking Google into smaller firms.
- Also, divorcing operating systems from other services and products can be considered to deny firms the unfair advantages of vertical integration.
- While these are all long-term fix, we need to start ideating now on what are the possible scenarios that could replace the current cyber space structures.

Way Forward

- To dislodge the tech-hegemony from their omnipotent and monopolistic position, newer alternatives need to be promoted.
- As an immediate step, the Indian government could procure software solutions for its needs from smaller firms as against buying Google's products.
- Notably, considering the scale of government's digital India initiative, there are immense opportunities for tech-companies to capitalize and grow.
- The education sector in particular has a massive demand for digital content and classroom tools, all of which run the risk of being pocked by Google.
- The government could also stop using Facebook, and Twitter for e-governance, and thereby stop providing free advertisements for these companies.

Smart India Hackathon-2018

- Smart India Hackathon 2018 is a non-stop digital product development competition, where problems are posed to technology students for innovative solutions.
- Smart India Hackathon (SIH) – 2018 is organized by All India Council for Technical Education (AICTE) under the aegis of Ministry of Human Resource Development (MHRD).
- In the finale the teams would build innovative digital solutions for problems on different areas of Official Statistics identified by Ministry of Statistics and Program Implementation.
- The event will
 1. Harnesses creativity & expertise of students
 2. Spark institute-level hackathons
 3. Build funnel for 'Startup India' campaign
 4. Crowdsource solutions for improving governance and quality of life

5. Provide opportunity to citizens to provide innovative solutions to India’s daunting problems
 - It is the second massive scale hackathon initiative following the last year’s event.
 - SIH 2018 will have 2 sub-editions – Software as well as Hardware:
 1. Software Edition will be 36 hour software product development competition.
 2. The new Hardware Edition will be a hackathon where teams will be work for 5 straight days and build their hardware solutions.
 - SIH 2017 had only software edition and hardware edition is a new addition to this year event, which will be held later.

Cryosphere and NASA’ mission

- The term “cryosphere” comes from the Greek word, “krios,” which means cold.
- Ice and snow on land are one part of the cryosphere.
- This includes the largest parts of the cryosphere, the continental ice sheets found in Greenland and Antarctica, as well as ice caps, glaciers, and areas of snow and permafrost.
- The other part of the cryosphere is ice that is found in water.
- This includes frozen parts of the ocean, such as waters surrounding Antarctica and the Arctic.
- NASA and the German Research Centre for Geosciences are scheduled to launch the Gravity Recovery and Climate Experiment Follow—On (GRACE—FO) mission.
- It will track fluctuations in Earth’s gravity field in order to detect changes in mass, including the mass of ice sheets and aquifers.
- NASA is also scheduled to launch the Ice, Cloud, and land Elevation Satellite-2 (ICESat—2).
- This satellite will use a highly advanced laser instrument to measure the changing elevation of ice around the world, providing a view of the height of Earth’s ice with greater detail than previously possible.

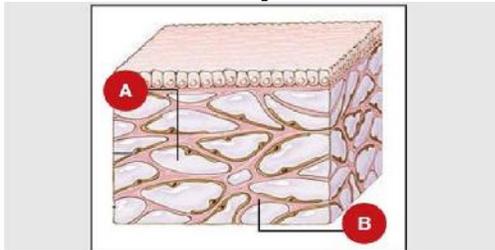
Space Debris

- China’s first space station, Tiangong-1 is crashing down in to Earth.
- The event brought the focus on space junk or space debris.
- Space debris encompasses both natural (meteoroid) and artificial (man-made) particles.
- Meteoroids are in orbit around the sun.
- Most artificial debris is in orbit around the Earth and is referred to as orbital debris.
- Orbital debris is any man-made object in orbit about the Earth which no longer serves a useful function.
- Such debris includes nonfunctional spacecraft, abandoned launch vehicle stages, mission-related debris and fragmentation debris.
- Since 1957, more than 4,900 space launches have led to an on-orbit population today of more than 18,000 tracked objects out of which only 1,100 are functional spacecraft.
- **Kessler effect or syndrome** is related to the space debris.
- It is a theory proposed by NASA scientist Donald J. Kessler, used to describe a self-sustaining cascading collision of space debris in Low Earth Orbit (LEO).

IN-SHORT

Interstitial layer

- Scientists have stumbled upon a new “organ” just beneath the skin.
- It contains collagen and elastin, proteins that give the skin its durability and elasticity.
- It is found in spaces filled with interstitial fluid, and lines tissues that suffer physical strain.



The newly found interstitium layer consists of body cells (A) collagen bundles (B). [Image Source: Nature]

- The layer is found in tissues lining the gut, lungs, blood vessels, and muscles.
- The organ was found using the technique called probe-based confocal laser end microscopy on a living tissue.
- The interstitium layer could help understand how cancer spreads in the body, and prove to be a potential diagnostic tool.
- It is the cells in this layer that age and contributes to skin wrinkles, the progression of certain diseases, and stiffening of limbs.
- Research is being carried out to confirm whether the layer is organ or not.

Bone tools

- An analysis of 115,000-year-old bone tools discovered reveals that the tool making techniques mastered by prehistoric humans in China were more sophisticated than previously thought.
- It is the first instance of the use of bone as raw material to modify stone tools found at an **East Asian early Late Pleistocene site**.
- The researchers identified three types of bone retouchers, known as soft hammers that were used to modify stone tools.
- Until now, the oldest bone tools discovered in China dated back 35,000 years.
- The bone fragments were dated using **optically stimulated luminescence (OSL)**.
- OSL is a method widely **used by geologists** for dating the sediment layers in which the tools were found.

Co-operation on the response to Oil and Chemical Pollution

- Union Cabinet has approved signing of a Memorandum of Understanding (MoU) between India and (SACEP) for cooperation on the response to Oil and Chemical Pollution in the South Asian Seas Region.
- The MoU intends to promote closer cooperation between India and other **maritime nations** comprising namely Bangladesh, Maldives, Pakistan and Sri Lanka in South Asia for protection and preservation of marine environment in the region.
- **Indian Coast Guard (ICG)** will be the Competent National Authority and national operational contact point for implementation of "Regional Oil Spill Contingency Plan" under the MoU.
- ICG **Maritime Rescue Coordination Centers (MRCCs)** will be the national emergency response centre for marine incidents.
- The SACEP jointly with the International Maritime Organization (IMO) developed a "**Regional Oil Spill Contingency Plan**".
- The plan will facilitate international co-operation and mutual assistance in preparing and responding to a major oil pollution incident in the seas around the Maritime States of Bangladesh, India, Maldives, Pakistan and Sri Lanka.
- The Governments of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka established the SACEP in 1982 in Sri Lanka to promote and support protection, management and enhancement of the environment in the South Asian region.

Bandhavgarh National Park

- Bandhavgarh National Park is spread at vindhya hills in Madhya Pradesh.
- The name Bandhavgarh has been derived from the most prominent hillock of the area of Umaria.
- Bandhavgarh was the hunting grounds of the erstwhile Maharaja of Rewa, Madhya Pradesh.
- The region is marked by vegetation that includes tall grasslands and sal forests.
- It was included in Project Tiger Network as very soon it gained publicity as a Tiger Reserve with highest density of Tigers in India.
- The park has been divided into three major zones named as Tala, Magdi and Bamera.
- Wild gaur in the region was extinct around 1990s.
- The Madhya Pradesh Forest Department, the Wildlife Institute of India and a safari group from South Africa relocated gaurs from Kanha Tiger Reserve to Bandhavgarh
- The relocation was done according to the guidelines provided by the International Union for Conservation of Nature / Species Survival Commission for re-introduction.

Wastes Generated at Nuclear Plants

- The wastes generated at the nuclear power stations during the operation of Nuclear Power Plants (NPPs) are of low and intermediate radioactivity level.
- The quantity of low and intermediate level waste to be stored at site is about 0.15 cubic meters/year/MW.

- These wastes are appropriately treated, concentrated and subjected to volume reduction.
- The concentrates are immobilized in inert materials like cement, bitumen, polymers etc. and stored in specially constructed structures located at the site under monitoring.
- The overall philosophy for safe management of radioactive wastes in India, is based on the concept of
 1. Delay
 2. Dilute and Disperse
 3. Concentrate and Contain
- The radioactivity level of the stored wastes reduces with time and by the end of the plant life, falls to very low levels
- Nuclear Power Corporation of India Limited (NPCIL) has to establish at each NPP site, a facility for storage and disposal of radioactive solid, liquid and gaseous wastes, which is approved by Atomic Energy Regulatory Board (AERB).

Coast Guard ship 'Bhikhaji Cama'

- Bhikhaji Cama, the coast guard ship was decommissioned by the coast guard after 21 years of service in trying circumstances.
- The Coast Guard ship was named after the famous women freedom fighter.
- The ship saved 85 lives during eight search and rescue operations, and also evacuated 137 personnel during a tsunami relief mission.
- It was part of the project responsible for curbing poaching in the Indian Exclusive Economic Zone.
- It also touched international ports, including Singapore, Myanmar and Manila.

Lonar Crater

- Around 50,000 years ago, a meteorite about 50 to 60 km in diameter hit the ground in the Lonar region creating a crater.
- Lonar is in Buldana district in Maharashtra.
- The site was discovered by a Britisher, C. J. E. Alexander in 1823.
- Lonar crater is unique because it's the world's only high-velocity meteor crater in hard basalt.
- It is an impact crater or meteorite crater which is a bowl-shaped depression with a raised rim, formed by the impact of a meteoroid.
- Crater can be volcanic in origin too.
- The Lonar Lake formed in this depression is remarkable because its water is both **saline and alkaline**.

Komodo dragon

- Komodo dragons are the largest, heaviest lizards in the world and one of the few with a venomous bite.
- The lizards prey on dogs, pigs, goats and other animals.
- Komodo dragons are limited to a few Indonesian islands of the Lesser Sunda group including Rintja, Padar and Flores, and **island of Komodo**.
- According to IUCN, the species is in vulnerable category.

GSAT-6A Satellite

- India's Geosynchronous Satellite Launch Vehicle (GSLV-F08) successfully launched GSAT-6A Satellite into Geosynchronous Transfer Orbit (GTO).
- A geosynchronous orbit is a high Earth orbit that allows satellites to match Earth's rotation.
- A spacecraft is first launched into an elliptical orbit called Geosynchronous Transfer Orbit (GTO) to attain geosynchronous (and also geostationary) Earth orbits later.
- GSAT-6A is a communication satellite built by ISRO to provide mobile communication services through multi beam coverage.
- It is equipped with S and C band transponders.

HF Band	3 to 30 MHz
VHF Band	30 to 300 MHz
UHF Band	300 to 1000 MHz
L Band	1 to 2 GHz
S Band	2 to 4 GHz
C Band	4 to 8 GHz
X Band	8 to 12 GHz
Ku Band	12 to 18 GHz
K Band	12 to 27 GHz
Ka Band	27 to 40 GHz

- A transponder is a device that receives and transmits radio signals at a prescribed frequency range.

Transiting Exoplanet Survey Satellite

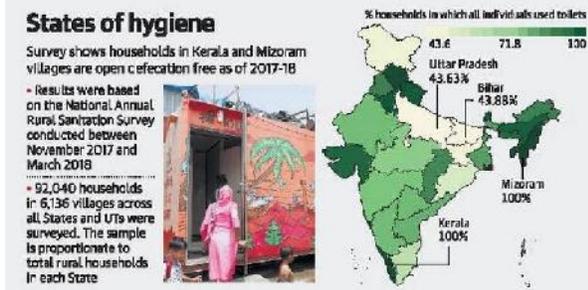
- The Transiting Exoplanet Survey Satellite (TESS) is an Explorer-class planet finder by NASA.
- The principal goal of the TESS mission is to detect small planets with bright host stars in the solar neighborhood



- The spacecraft will be launched aboard a SpaceX Falcon 9 rocket from Cape Canaveral Air Force Station in Florida.
- The spacecraft will be looking for a phenomenon known as a transit, where a planet passes in front of its star, causing a periodic and regular dip in the star’s brightness.

National Annual Rural Sanitation Survey (NARSS)

- The National Annual Rural Sanitation Survey (NARSS) 2017-18 reveals that 68% of rural households in India use the toilet when required.
- The survey was conducted by a third party agency Kantar Public, as a requirement by the World Bank to begin payout on its \$1.5 billion loan to the Swacch Bharat Abhiyan-Gramin.
- The provisional summary report of the survey found that 77% of all rural households now have access to toilets, and that 93.4% of those who had access to toilets used them regularly.



- Kerala and Mizoram top the list of States, with 100% of households which do not practice open defecation.
- Uttar Pradesh and Bihar are at the bottom of the rankings, with less than 44% of such households.
- The following 11 states/UTs namely Sikkim, Himachal Pradesh, Kerala, Uttarakhand, Haryana, Gujarat, Chandigarh, Daman and Diu, Arunachal Pradesh, Chhattisgarh and Meghalaya had been declared Open Defecation Free in India.

InSight

- Interior Exploration using Seismic Investigations, Geodesy and Heat Transport mission (InSight)
- NASA is to send the first-ever mission dedicated to exploring the deep interior of Mars, called InSight.
- It will be the first NASA mission since the Apollo moon landings to place a seismometer, a device that measures quakes, on the soil of another planet.
- It is a Mars Lander designed to give the Red Planet its first thorough checkup since it formed 4.5 billion years ago.
- The lander uses cutting edge instruments to measure the planet's "vital signs": its "pulse" (seismology), "temperature" (heat flow), and "reflexes" (precision tracking).
- It is the first outer space robotic explorer to study in-depth the "inner space" of Mars: its crust, mantle, and core
- Two cubesats named Mars Cube One or MarCO are also launched.
- MarCO will relay back InSight data as it enters the Martian atmosphere and lands.
- It will be a first test of miniaturized CubeSat technology at another planet.

Kadaknath Chicken

- Madhya Pradesh has got the Geographical Indication (GI) Tag for Kadaknath Chicken.
- Kadaknath is a black-feathered chicken known for its flavorful meat and found mainly in the districts of Madhya Pradesh.
- The breed is native to Jhabua, Alirajpur and parts of Dhar district of eastern Madhya Pradesh.
- The protein-rich meat of Kadaknath, chicks and eggs are sold at a much higher rate than other varieties of chicken.
- The Kadaknath is popular mainly for its adaptability, and the good-tasting black meat, which is believed to have medicinal properties
- In the recent past, the Madhya Pradesh government had launched a mobile app called 'MP Kadaknath'.

Ladakh Lakes

- Ladakh is a part of the Trans-Himalayan range; it is in the northern most area of Jammu and Kashmir.
- The natural high altitude salt water lakes — TsoKar, TsoMorari and PangongTso, are a typical feature of Ladakh
- They lie in the sweeping valleys of Rupshu and the Changthang Plains.
- The **PangongTso is a 'high grassland lake'** located at an altitude of 14,270 ft on the Sino-Indian Line of Actual Control.
- The lake is endorheic in nature and completely freezes during winter.
- Endorheic regions are considered closed systems as surface waters drain to inland termini whence they evaporate or seep away rather than draining to the sea or ocean.
- The **TsoMorari, a pearl shaped 'Mountain Lake'** lies on the Ladakhi part of the Changthang plateau.
- It is encircled by mountains and said to be the 'Jewel of the Rupshu Valley' is at an altitude of 14,836 ft.
- TsoMorari Wetlands conservation reserve is situated here which is also a Ramsar Conservation site.
- The **TsoKar or 'white lake'** lies in the Rupshu Valley in the Southern part of Ladakh.
- It is called as white lake as the white salt of the water deposits all over the lake shore.
- The Tso-Kar area is inhabited by the Khampas or Rupsa Chang, a nomadic group

Land Degradation

- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Assessment Report is the world's first comprehensive evidence-based assessment of land degradation and restoration.
- Land degradation is defined as the temporary or permanent decline in the productive capacity of the land, and the diminution of the productive potential.
- It says that land degradation has been driving species to extinction and intensifying climate change.
- The degradation is also a major contributor to mass human migration and increased conflict.
- By 2014, more than 1.5 billion hectares of natural ecosystems had been converted into croplands.
- Less than 25 per cent of the earth's land surface has escaped substantial impact of human activity.
- The report estimates that 50 million- 700 million people will be forced to migrate by 2050

RatnaBhandar

- Recently, the state government's law department granted conditional permission to open the PuriJaganath Temple's RatnaBhandar.
- The permission was granted for inspection by experts of the ASI to assess its structural stability and safety.
- Precious jewellery and ornaments of the deities of the temple are kept in the RatnaBhandar.
- The Bhandar is inspected after 34 years.
- During the last inspection in 1984, only three chambers out of seven were inspected. Therefore, no one knows what is inside the rest of the chambers.
- PuriJagnath temple is in the state of Odisha.
- It is one of the four 'Dhams' the Hindus considered holy while, the other three 'Dhams' are Badrinath, Dwarka and Rameswaram.

Electric and Hybrid Vehicles

- A vehicle is a hybrid if it utilizes more than one form of onboard energy to achieve propulsion.
- Electric cars and trucks use an electric motor powered by electricity from batteries or a fuel cell.
- The key difference between hybrid and electric vehicles is in the sources of fuel and locomotion available to them.
- Hybrid vehicles have two sources available to them— a battery that powers an electric motor and a fuel tank that powers a normal petrol engine.
- Electric vehicles depend upon only the battery in the vehicle.
- Electric cars have the benefit of larger batteries since they do not have to share space with a petrol engine or fuel tank as it is the case in Hybrid vehicles.
- EVs are taxed at 12% while hybrid vehicles are taxed on par with the luxury vehicles at 28% plus 15% cess.

World Autism Awareness Day

- The United Nations General Assembly declared 2 April as World Autism Awareness Day.
- It is to highlight the need to help improve the quality of life of those with autism so they can lead full and meaningful lives as an integral part of society.
- Autism is a lifelong neurological condition that manifests during early childhood, irrespective of gender, race or socio-economic status.
- The term Autism Spectrum refers to a range of characteristics.
- It is mainly characterized by its unique social interactions, non-standard ways of learning, keen interests in specific subjects, inclination to routines, challenges in typical communications and particular ways of processing sensory information.
- The 2018 Autism Awareness Day observance at United Nations Headquarters New York will focus on the importance of '**Empowering women and girls with autism**'.

Phthalates

- Phthalates are a group of chemicals used in food packaging and processing materials.
- Phthalates are used to soften and improve the flexibility and durability of plastics.
- They are known to disrupt hormones in humans and their exposure linked to breast cancer, developmental issues, decreased fertility, obesity and asthma.

- Pregnant women, children and teens are more vulnerable to the toxic effects of hormone-disrupting chemicals.
- Dining out more at restaurants, cafeterias and fast-food outlets may boost total levels of “phthalates” in the body.
- Adolescents who were high consumers of fast food and other food purchased outside the home had 55 per cent higher levels of phthalates compared to those who only consumed food at home.

World Council on City Data (WCCD)

- Chennai Corporation has passed a resolution to implement the ‘City Data for India Initiative’ in partnership with Tata trusts and World Council on City Data.
- The initiative allows Indian cities to join a global network of cities that are committed to using data to improve the lives of their citizens.
- The WCCD ISO 37120 certification, an international standard, published for globally-comparable city data, provides a comprehensive set of indicators to measure the city’s social, economic and environmental performance in relation to other cities.
- The certification is given to Indian cities after Tata Trusts partnered with WCCD and initiated City Data for India Initiative.
- The different certification levels are Platinum, Gold, Silver, Bronze and Aspirational.
- In India, Jamshedpur and Surat has the Gold Tag while Pune has the Platinum tag.
- It will help the city compete with global cities and ensure world-class amenities.
- The WCCD is a global hub for creative learning partnerships across cities, international organizations, corporate partners, and academia to further innovation, envision alternative futures, and build better and more livable cities.
- WCCD piloted the ISO certification in the foundation cities which is showed in the map below,



Particularly Vulnerable Tribal groups (PVTG)

- PVTGs are less developed groups within Tribal groups who need special and focused attention.
- There are 75 Particularly Vulnerable Tribal Groups (PVTGs) notified as on date in the country.
- The criteria followed for determination of PVTGs are as under:
 1. A pre-agriculture level of technology
 2. A stagnant or declining population
 3. Extremely low literacy
 4. A subsistence level of economy
- The Ministry of Tribal Affairs is implementing a scheme namely “Development of PVTGs”.
- The scheme covers the 75 identified PVTGs among Scheduled Tribes in 18 States/ UT of Andaman & Nicobar Islands.
- It is a flexible scheme and covers funding for activities like housing, land distribution, land development, agricultural development, animal husbandry,
- It also covers construction of link roads, installation of non-conventional sources of energy for lighting purpose, social security activity meant for the comprehensive socio-economic development of PVTGs.

National Culture Fund scheme (NCFS)

- National Culture Fund (NCF) set up as a Trust under the Charitable Endowment Act, 1890 on 1996 by the Government.
- The Fund aims at inviting the participation of the corporate sector, non-government organizations, private/public sector as well as individuals in the task of promoting, protecting and preserving India’s cultural heritage.

- It enables institutions and individuals to support arts and culture directly as partners with its government.
- It is managed and administered by a council headed by Culture Minister to decide the policies and an Executive Committee headed by Secretary, Culture to actualize those policies.
- The projects under NCF cover both tangible and non tangible heritages.
- Some of the successfully completed projects are Humayun Tomb, Shaniwarwada in Pune.

Sahara Desert

- According to a study published in Journals of climate, the Sahara Desert has expanded by about 10 per cent since 1920.
- Desert is defined by low average annual rainfall — usually 100 millimeters of rain per year or less.
- The most notable expansion of the Sahara occurred in summer, resulting in a nearly 16 per cent increase in the desert's average area.
- Lake Chad, in the Sahel region, serves as a useful indicator of changing conditions along the border of the Sahara.
- The study also examined conditions in the Sahel region, the transitional zone connecting the southern Sahara to the Sudanian Savanna.
- The results suggest that human-caused climate change, as well as natural climate cycles, caused the desert's expansion.
- The geographic pattern of expansion varied from season to season, with the largest differences along the Sahara's northern and southern boundaries.
- The Sahara is the world's largest warm-weather desert.
- The desert covers large sections of Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Western Sahara, Sudan and Tunisia.

Small Industries Development Bank of India (SIDBI)

- SIDBI celebrated its foundation day today as day of Sampark (connect), Sanwad (interaction), Suraksha (security) and Sampreshan (disseminate) recently.
- SIDBI was set up on 1990 under an Act of Indian Parliament,.
- It acts as the Principal Financial Institution for Promotion, Financing and Development of the MSME sector as well as for co-ordination of functions of institutions engaged in similar activities.
- SIDBI launched **Samridhhi**- the virtual assistant on banks revamped universal loan portal (www.udyamimitra.in) which will answer standard queries of aspirants 24*7.
- A '**Bankability Kit**' (brought in partnership with Bank of Baroda and IDBI Bank) was launched.
- It is a step to look beyond financial literacy and be a trusted guide for aspirants and existing entrepreneurs to know entrepreneurial self, know banker & know banking.
- Other Initiatives of SIDBI includes **MSME Pulse**-health tracker of MSME, **CRSIDEX**-to gauge the MSME aspirations and **SMILE LOANS**.

Bioluminescence

- In 2016, blue waves were spotted in the Juhu beach, Mumbai.
- Though popularly called blue waves, the rare natural phenomena are referred to as bioluminescence.
- Bioluminescence is the emission of light by an organism or by a laboratory biochemical system derived from an organism.
- It results from a chemical reaction in which the conversion of chemical energy to radiant energy is direct and virtually 100 percent efficient.
- The biological light, or bioluminescence, in the waves is the product of marine microbes called phytoplankton.
- The presence of phytoplankton known as dinoflagellates in the water is the most common reason for marine bioluminescence.
- Dinoflagellates have a tail-like structure called flagella that produces light when disturbed, stressed or in high-pollution levels.

Sand Fish

- The sand fish is a small, robust lizard that prefers to stay under the sand rather than above it.
- The name sandfish originated because of its ability to move through sand as if it were swimming.
- A streamlined body and paddle like feet enable it to move through the sand as easily as a fish moves through water.



- The species is generally found in the North African desert and also in Arabian Desert.
- A species of sand fish is found in Rajasthan.
- The sandfish is an insectivore that can detect vibrations the insects in its vicinity create while moving.

Underwater Melting –Antarctica

- Warming waters have caused the **base of ice near the ocean floor** around the South Pole to shrink.
- According to the first complete underwater map of the world’s largest body of ice, hidden underwater melt-off in the Antarctic is doubling every 20 years.
- It could soon overtake Greenland to become the biggest source of sea-level rise.
- The base of the ice around the South Pole shrank by 1,463 square kilometers between 2010 and 2016.
- Climate change is affecting the Antarctic more than previously believed and may lead to global projections of sea—level rise upward.

Materials ISS Experiment Flight Facility (MISSE-FF)

- Astronauts aboard the International Space Station were set to receive research, crew supplies and hardware in SpaceX, a commercial resupply mission.
- The SpaceX Dragon lifted off on a Falcon 9 rocket with a delivery of experiments dealing with **how the human body, plants and materials behave in space**
- The MISSE Flight Facility is a commercially-available **materials research facility** that will reside externally aboard the International Space Station (ISS).
- It has been developed by Alpha Space Test and Research Alliance (Alpha Space) under a Cooperative Agreement with NASA.
- The primary MISSE-FF platform provides the ability to test materials, coatings, and components or other larger experiments in the harsh environment of space.
- The MISSE-FF provides a platform for testing how materials react to exposure to ultraviolet radiation, atomic oxygen, ionizing radiation etc., in **the low-Earth orbit** environment.

Dark Net

- In some registered cases, ‘Dark Net’ was used for sale and purchase of Narcotic Drugs and Psychotropic Substances as per the records of Narcotics Control Bureau.
- It is a computer network with restricted access that is used chiefly for illegal peer-to-peer file sharing.
- It also refers to networks that are not indexed by search engines such as Google, Yahoo or Bing.
- These are networks that are only available to a select group of people and not to the general internet public, and only accessible via authorization, specific software and configurations.
- In recent past ,Silk road ,an online dark market was busted which was used to sell drugs, weapons and stolen identities.

Antacids and allergies

- A study warns babies who are given antacids or antibiotics during their first 6 months of life may have a sharply higher risk for allergies or asthma.
- Gut bacteria play a role in a healthy immune system.
- Antibiotics and antacids might change the makeup of a baby's microbiome, perhaps enough to cause an overreaction in the immune system that shows up as an allergy.
- Though the cause and effect phenomenon is ambiguous but the relationship between the allergies and drug usage is striking.
- Antacids are medicines that counteract (neutralize) the acid in our stomach to relieve indigestion and heartburn.
- They contain ingredients such as aluminum, calcium, or magnesium which act as bases (alkalis) to counteract the stomach acid and lower pH.

- They work quickly and are used to relieve symptoms of acid reflux, heartburn or indigestion.

National Institution Ranking Framework (NIRF)

- The Indian Institute of Science (IISc) in Bengaluru was adjudged the overall best institution in the country by the Human Resource Development Ministry's national ranking framework (NIRF).
- **NIRF** was launched by Ministry of Human Resources Development (MoHRD) in 2016.
- This year for the first time medical and dental colleges were also ranked by the NIRF.
- NIRF has also added Architecture and Law this year.

YEAR	RANKED ENTITIES
2016	Universities, Pharmacy, Engineering and Management
2017	Overall ranking and college Rankings were added
2018	Medical and Dental college, Law and Architecture rankings were added

- The rankings assume significance as performance of institutions has been linked with “Institutions of Eminence” scheme.
- ‘Institutions of Eminence’ is a government scheme in which 20 institutions both public and private would be selected on challenge method and they would be actively supported to come up in the global rankings.

Wayanad wildlife Sanctuary

- The Wayanad Wildlife Sanctuary in Kerala was formed in 1973.
- The sanctuary was carved out of two territorial divisions- Wayanad and Kozhikode.
- The sanctuary is located on the southern part of Western Ghats.
- It is a part of the Nilgiri Biosphere Reserve and also an Elephant Reserve.
- The sanctuary is significant because of ecological and geographic continuity with other protected areas such as
 1. Bandipur Tiger Reserve and Nagarhole National Park of Karnataka in north-eastern portion
 2. Mudumalai Tiger Reserve of Tamil Nadu in south-eastern side
- The vegetation comprises of tropical semi-evergreen forests, moist mixed deciduous forests, dry mixed deciduous forests, bamboo forests, and marshy grasslands.
- Last year, the **first-ever vulture and raptor survey** was conducted at the sanctuary.
- As many as 24 species of raptors and two species of vultures were recorded.

RashtriyaAvishkarAbhiyan

- Ministry of Human Resource Development has launched the RashtriyaAvishkarAbhiyan (RAA).
- It is a convergent framework across School Education and Higher Education aiming to **encourage children towards learning Science and Mathematics**.
- The objectives of the RAA are,
 1. To enable children to become motivated and engaged in Science, Mathematics and Technology (SMT).
 2. To create a culture of thinking, inventing, tinkering to promote enquiry based learning in schools.
 3. To encourage and nurture schools to be incubators of innovation.
- It is planned to provide nourishing and nurturing support to and a platform for schools in a dual track approach.

Specific Initiatives planned under the Rashtriya Avishkar Abhiyan



- RashtriyaAvishkarAbhiyan will target students in the **age group of 6 - 18 years**.
- It will encourage the children to have an enduring interest both inside classroom and outside classroom activities.

Competition Commission of India (CCI)

- The Union Cabinet approved a proposal to bring down the members of Competition Commission of India (CCI).
- Presently the CCI has seven members, including the chairperson.
- With this decision the change may be one chairperson and three members, totaling four members.
- CCI is a statutory body of the Government of India responsible for enforcing the Competition Act, 2002.

Internet Security Threat Report

- The 'Internet Security Threat Report' was recently released by security solutions provider Symantec.
- According to the report, **India** emerged as the **third most vulnerable country** in terms of risk of cyber threats, such as malware, spam and ransomware, in 2017.
- India continues to be 2nd most impacted by spam and bots, 3rd most impacted by network attacks, and 4th most impacted by ransomware.



- Cyber criminals are rapidly adding “**cryptojacking**” to their arsenal as the ransomware market becomes overpriced and overcrowded.
- Cryptojacking is defined as the secret use of your computing device to mine cryptocurrency.
- The global threat ranking is based on eight metrics — malware, spam, phishing, bots, network attacks, web attacks, ransomware and cryptominers.

National Social Assistance Program (NSAP)

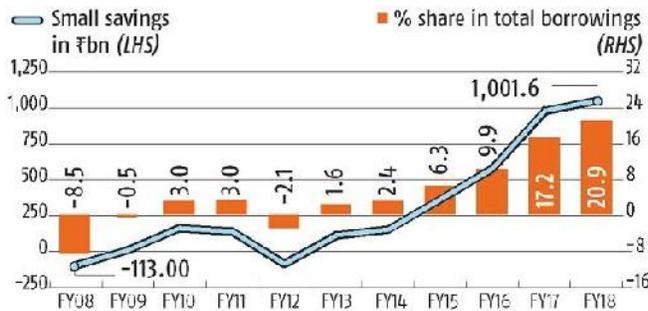
- NSAP is a welfare program administered by the **Ministry of Rural Development**.
- Its launch represents a significant step towards the fulfillment of the Directive Principles in Article 41 of the Constitution.
- The program introduced a National Policy for Social Assistance for the poor.
- It aims at ensuring minimum national standard for social assistance in addition to the benefits that states are currently providing or might provide in future.
- This program is implemented in rural areas as well as urban areas.
- The NSAP scheme was brought within the umbrella of ‘Core of Core’ scheme in 2016.
- NSAP at present comprises of
 1. Indira Gandhi National Old Age Pension Scheme (IGNOAPS)
 2. Indira Gandhi National Widow Pension Scheme (IGNWPS)
 3. Indira Gandhi National Disability Pension Scheme (IGNDPS)
 4. National Family Benefit Scheme (NFBS)
 5. Annapurna

Small Savings Schemes

- According to data from the Reserve Bank of India (RBI), small savings schemes accounted for a little over a fifth (20.9 per cent) of all central government borrowing.

SMALL IS BIG

Central government borrowing from small savings



- Small savings scheme include post office deposits, National Savings Certificate (NSC), and KisanVikasPatras (KVP).
- The period (FY14-FY18) also saw a jump in government borrowing from the provident fund.
- In the same period, annual borrowing from the (bond) market declined by 27 per cent.
- KisanVikasPatra is a small savings instrument that will facilitate people to invest in a long term savings plans.
- National Savings Certificates are savings instrument that are eligible for tax rebate.
- Both KVP and NSC can be purchased from the Post offices.

2ND WEEK OF APRIL

POLITY, GOVERNANCE AND PUBLIC POLICY

I&B Ministry's Move on Fake News

In News: The Information and Broadcasting Ministry withdrew its order which was earlier issued to regulate fake news.

About the order

- I&B ministry recently released a notification on fake news.
- Under it, accreditation of any journalist found guilty of disseminating “fake news” could be cancelled.
- The complaints would be referred to the Press Council of India if they pertained to the print media.
- It would be referred to the News Broadcasters Association (NBA) if they are related to the electronic media.
- The regulatory agencies would have 15 days to dispose off a complaint.
- During the period of probe, the journalist’s accreditation would be suspended.
- The note further said that on first violation, the accreditation would be suspended for 6 months.
- The suspension on the second violation would be for a year and, on the third violation, it would be cancelled permanently.

Concerns

- Many media stakeholders and opposition agitated against this.
- The move was seen as draconian since it paves the way for government’s interference in press freedom.
- The notification released by the ministry did not define the phrase “fake news”.
- The I&B order will only affect the accredited journalists.
- Various news portals were not covered by the government’s accreditation policy.
- It is also said that government did not consult on “Media Ethics” with organisations like the PCI and NBA before passing this order.
- Following the outrage from the media and the Opposition, the Ministry has decided to withdraw its order.

News Broadcasters Association (NBA)

- The News Broadcasters Association (NBA) represents the private television news and current affairs broadcasters.
- It is an organization funded entirely by its members.
- The NBA presents a unified and credible voice before the Government, on matters that affect the growing industry.

Press Council of India

- The Press Council of India is an autonomous, statutory, quasi-judicial body.
- It governs the conduct of the print media.
- It is also empowered to hold hearings on receipt of complaints and take suitable action where appropriate.

TN's Contempt Petition on Cauvery

In News: Tamil Nadu government has filed a contempt petition seeking action against the Centre for not setting up the Cauvery Management Board (CMB).

Background

- The dispute over Cauvery water sharing started as Tamil Nadu's share of water got reduced due to the multiple dams that Karnataka built across the river.
- A case was filed and "Cauvery Water Dispute Tribunal" (CWDT) was constituted, which pronounced its verdict in 2007.
- The 2007 verdict specified the quantum of water for each state and mandated the creation of a "Cauvery Management Board" (CMB).
- The CMB was envisioned on the lines of "Bhakra-Beas Management Board" (BBMB), based on "Inter-State River Water Disputes Act", 1956.
- The board was supposed to have representatives of all the concerned governments (including the union government).
- The water release was to be overseen by a commission constituted by the board.
- But the case went up for further appeal in the SC.

Significance of Cauvery for T.N.

- Cauvery is regarded as the lifeline of Tamil Nadu as it is the only major river of the state, unlike Karnataka which gets water from the Krishna and the Godavari.
- The River also accounts for 70% of canal irrigation and nearly 25 lakh acres are recognised as irrigated area, under the Cauvery in Tamil Nadu.
- The paddy cultivating districts which account for 40% of the total area of the state, contribute 35% of the total crop production.
- In the past 10 years, the Cauvery has also become a major source of drinking water for a number of districts.



Recent SC judgement

- In its recent verdict over Cauvery issue, Supreme Court has declared Cauvery a "national asset" and reduced the allocation of Cauvery water from Karnataka to Tamil Nadu.
- It upheld the principle of equitable apportionment of inter-State river water among riparian States.

- The SC had given the Centre 6 weeks to frame a scheme to make sure the final decisions are implemented.
- SC also directed the formation of the Cauvery Management Board (CMB) immediately.
- The SC ruled, in Feb 2018, by reducing the allocation of water for Tamil Nadu.
- It also called for a “Water Management Scheme” for dividing water between the concerned states - Karnataka, TN, Kerala and Puducherry.
- The deadline for constituting such a scheme was fixed by the SC as March 29th.
- But the Centre did not constitute the CMB within this deadline.
- It has instead asked for a 3 months extension.
- Meanwhile, TN government has filed a contempt petition against the center for non-compliance with the court orders.
- Widespread protests have erupted in Tamil Nadu.

T.N. concerns with the ‘scheme’

- The word ‘scheme’ was mentioned in the SC’s judgement which required for the implementation of the final order given by the Cauvery Water Disputes Tribunal in February 2007.
- The Tribunal’s final order states that the board would ensure timely water release in right quantum and at the right time taking into account the irrigation requirements of the states.
- Tamil Nadu demands that the ‘scheme’ should have entailed setting up of the Cauvery Management Board and the Cauvery Water Regulation Committee.
- Whereas, **Karnataka** argues that there is no mention of a ‘board’ in the court’s order.
- Union government is also delaying the interpretation of the scheme and setting up of CMB.

Centre’s View

- TN government had perceived the “management scheme” in the recent judgement referred to the CMB as mentioned in the 2007 Tribunal order.
- But the center has sought clarification from the SC on what exactly “water management scheme” meant, as there are multiple options possible.
- Center has stated that even existing boards such as Bhakra-Beas Management Board (BBMB) and the Narmada Control Authority (NCA) are not similar.
- Notably, BBMB, has control over operation, maintenance, regulation and control including ownership of the structure.
- But NCA only looks after the implementation of the Tribunal award with respect to the storage, apportionment, regulation and control of waters.
- Hence, the ownership, operation and maintenance of structures across Narmada lie with the respective states (MP, Maharashtra, Gujarat and Rajasthan).
- As there is a divergence in views among the states concerned in the “Cauvery case”, the center has expressed its inability to proceed unilaterally.
- Notably, the CJI had indicated currently that the court is open to a management scheme that is in variance with the CMB as envisioned in 2007 tribunal order.

Stakeholder’s Argument

- **Karnataka** - According to the state, the apex court has left the contents of the management scheme open to the discretion of the Centre.
- It has maintained that Tamil Nadu’s contention that CMB should be constituted was against the autonomy of the state over rivers.
- **Kerala** - Kerala has suggested that the CMB should be headed by the Union Secretary of water resources and have 4 additional secretaries.
- It has also stated that the board should only ensure that the states do not overshoot the quantity of water allocated to them.
- Additionally, Kerala has also petitioned the court to give it complete autonomy to use the 30 TMCft of water allocated to it according to its own needs.
- **Puducherry** - The Union Territory has been allocated 7 TMCft of water for its Karaikal enclave, which falls in the Tamil Nadu delta region.
- While the Puducherry government wanted to file a contempt plea against the Centre, it was turned down by the Lt. Governor on technical grounds.

Parliamentary Session and Powers of the Speaker

In News:

- The Budget session of the parliament has highlighted the serious challenge that the Indian democracy is currently facing.
- Significantly, even a “No-Confidence Motion” couldn’t be taken up.
- Despite the Speaker’s defined powers in this regard, she has failed to act upon this.

No Confidence Motion

- A no-confidence motion is a tool of opposition party to prove no majority or no confidence in the PM and Council of Ministers.
- No-Confidence motion is not mentioned in the Constitution of India.
- As per Rule 198 of the Rules of Procedure and Conduct of Business in Lok Sabha, any member of the house can move a no-confidence motion.
- The member has to give a written notice to the Secretary General of the Lok Sabha on any day of sitting. The member does not need to give a reason for moving a no-confidence motion.
- Once a ‘no-confidence’ motion is moved, and the Speaker is of the opinion that the motion is proper, then s/he reads out the motion to the house. A minimum of 50 members have to accept the motion.
- Once the motion is accepted, the Speaker will announce a day when the motion is to be discussed. The day cannot be more than 10 days from the day the motion is accepted.
- The Speaker can allot one day, multiple days, or a part of a day to discuss the motion.
- A No confidence motion needs to be necessarily brought only in Lok Sabha. Rajya Sabha cannot take up a No confidence motion or Adjournment motion.
- The parliamentary system is thus primarily based on the idea of accountability.
- It is achieved through processes such as questions, adjournment motions, etc.
- The no-confidence motion is a final measure in this context.

Speaker's role

- **Motion** - The no-confidence motion needs to be given priority over all other businesses of the Parliament.
- This is because other businesses cannot be undertaken when the very legitimacy of the government is being questioned.
- If there are notices for no-confidence motion, the Speaker has to verify whether there are at least 50 MPs who support its introduction.
- She should then fix a time for discussing it.
- **Order** - The Speaker has the prime responsibility of ensuring that the House functions in order.
- In case of disruptive behaviour by some MPs, the Speaker has the powers and the responsibility to bring order to the House.
- MPs failing to comply with the Speaker's order can be asked to withdraw from the House, or can even be forcibly removed.
- Necessary steps including suspension of members can be taken to ensure order in the House.

Present concern

- The Parliament is witnessing disrupt for quite some time due to various concerns of different States.
- In this backdrop, the Speaker has expressed her inability to ensure the required number of members supporting the no-confidence motion.
- The inability of Parliament to function and to test the support for the government undermines the very basis of democratic structure.

Larger implications

- Beyond mere numbers, the quality of interactions that took place is what has damaged India’s democracy more than anything else.
- Glaringly, the Lok Sabha Speaker failed to take up a “No-Confidence Motion” (NCM) citing protests, which is a shocking precedent like never before.
- She could’ve used her powers to suspend unruly MPs (mostly AIADMK members) to ensure that the all-important NCM is taken up.
- But her intentional inaction has raised doubts on the tacit government support for the AIADMK MPs to sabotage the proceedings to suppress the NCM.

- While Modi government's majority is not in doubt, a future government might use the same route to cling on to power, which is dangerous for the democracy.

Way Forward

- Some ruling party MPs have proposed to forgo their salaries as gesture of regret for the session's washout - which is noble but misleading.
- Notably, while the ruling coalition has conveniently blamed the opposition for the crisis, government too has played an important role in the stand-off.
- A special session before the monsoon session to finish pending business has been mooted, but uncertainty over further sabotage remains.
- The parliamentary system's fairness has taken a server beating and is need of a strong revival for safeguarding the vibrancy of our democracy.

State of Prisons worries Supreme Court

Context:Supreme Court expressed its dismay over the pathetic condition of jails in the country and had asked the state governments to respond.

- Significantly, overcrowding is a major problem and it continues in spite of capacity enhancement of prisons and fast-tracking of cases.

Prison Statistics in India

- Supreme Court has asserted that prisoners cannot be kept in jail like animals and has been demanding states to reduce overcrowding of prisons.
- As of 2016, India's 1,412 jails are crowded to 114% of their capacity, with a count of 4.33 lakh prisoners against a capacity of less than 3.81 lakh.
- Of the jails, there are - 741 sub jails, 379 district jails and 134 central jails, the rest being open jails, juvenile centers, women's jails, and special jails.
- Notably, women's jails are just 18 and comprise just over 1% of the total but despite this, it is the men prisons that are overcrowding.
- Women's prisons had an overall occupancy of 71%, but some states like Chhattisgarh (186%), Uttarakhand (141%), Delhi (138%), Goa (120%) and Uttar Pradesh (117%) had overflowing women prisoners.
- Goa presented a unique case, where women prisoners were 20% over capacity, while men prisoners were less than 36% of capacity.

authority for governing prisons

- Prisons are governed by the Prisons Act, 1894, and the Prison Manuals of respective state governments.
- Thus, states have the primary role, responsibility and authority to change the current prison laws, rules and regulations.
- However, the Centre has set up various committees from time to time to recommend modernization of prisons.
- In 2016, a model prison manual was drafted by the Ministry of Home Affairs and was sent to all States and Union territories for implementation.

Steps taken to address overcrowding

- The primary reason for overcrowding of prisons is pendency of court cases (above 3 crore) and 67% of all prisoners were under-trials (as per NCRB data).
- Notably, in its landmark judgement on inhumane conditions in prisons, SC issued an "eight-point guideline" in which under-trials featured prominently.
- **SC Directive** - The 8 point agent called for the establishment of an "Under-trial Review Committee" in every district and should meet quarterly.
- The committee should see to that under-trial prisoners are released at the earliest even if poverty is a hindrance for them to furnish a bail bond.
- The secretary of the District Legal Services Committee will also look into the issue of the release of under-trial prisoners in compoundable offences.
- Notably, compoundable offences are less serious in nature and can be settled through a compromise rather than requiring a trial.
- **Government Efforts** - In 2003, the union home ministry floated a scheme for modernisation of prisons and construction of additional barracks.
- The initial five-year outlay was Rs 1,800 crore for 27 states and 119 new jails and 1,572 barracks had been built with the funds allocated.

- Recently, the government acknowledged the large number of under-trials as a major reason for overcrowding, and listed measures taken to address them:
- Establishing fast-track courts
- Establishing open prisons in states and UTs
- Launching a “National Mission for Justice Delivery and Legal Reforms”
- Introducing “Plea bargaining” through Section 265 of CrPC
- Capping the maximum period for detaining an under-trial prisoner
- Strengthening “National Legal Services Authority” (NALSA).

National Institutional Ranking Framework, 2018

In News: Ministry of Human Resource Development recently released the National Institutional Ranking Framework (NIRF) 2018.

NIRF

- The National Institutional Ranking Framework (NIRF) was approved by the MHRD and launched in 2015.
- The framework outlines a methodology to rank institutions across the country.
- The parameters broadly cover -
 1. Teaching, Learning and Resources
 2. Research and Professional Practices
 3. Graduation Outcomes
 4. Outreach and Inclusivity
 5. Perception
- There were a total of 9 categories this year under which India’s higher education institutions were judged.
- The 2018 exercise newly added the disciplines of law, medicine and architecture.

2018-rankings

- The ranking of most colleges and universities have remained almost the same this year.
- Indian Institute of Science (IISc), Bengaluru, is again ranked first in both overall and university categories.
- The Indian Institutes of Technology (IITs) are the best among engineering institutes.
- The Indian Institutes of Management (IIMs) are the best among management institutes.
- This is for the third time in row on the NIRF ranking that IITs and IIMs are leading.
- IIT-Madras was adjudged the best engineering institute.
- IIM-Ahmedabad was adjudged the best management institute.
- The All India Institute of Medical Sciences was adjudged the top medical college.
- There were some institutes, which could not be placed in any of the 9 categories.
- These have been placed in special category because of the quality of research work.
- Some of them include the National Dairy Research Institute, Karnal, Indian Agricultural Research Institute, New Delhi, etc.

concerns

- **Participation** - India has around 860 universities, 40,000 colleges and 11,600 standalone institutions of higher education.
- Of these, only around 4,500 institutes took part in the India Rankings 2018.
- Even among the institutions that participated, there is a clear skew towards southern, south-eastern and western India.
- The government is planning to cut some sort of funding to those which do not participate in the rankings.
- **Parity** - Older institutions with historical advantages now enjoy a higher ranking.
- This obscures newer entrants who may have stronger claims to excellence.
- **Approach** - The ranking approach worldwide is critiqued for failing to capture the crucial metric of learning outcomes.
- The rankings instead rely on proxy data on faculty strength and qualifications.

way forward

- **Funding** - The governing bodies should make available adequate financial and academic resources to colleges.
- This is particularly essential for the developing colleges, to help them improve performance.

- **Participation** - Ranking educational and research institutes has some significant practical uses.
- It helps students make study choices, sponsors to identify research projects, and other universities to form partnerships.
- Thus, for a reliable and relevant process, all recognised educational institutions should be enrolled, and not just the public ones.
- **Objective** - Beyond competitive ranking, the higher order goal is to foster learning and scholarship.
- Encouraging faculty to exercise complete academic freedom is essential to achieve this.
- The NIRF ranking thus needs a fine tuning to incorporate these aspects.

ECONOMIC AFFAIRS

Need for Cost-Plus Pricing in Petroleum Industry

In News: In Indian cities the retail prices of petrol and diesel have risen to new high.

increasing petroleum prices

- The hike in petrol and diesel prices are attributed to the steadily increasing price of international crude oil.
- The share of Petrol and diesel out of total indirect tax revenues increased significantly after international crude oil prices started declining from the middle of 2014.
- The Union and states took advantage of the lower prices to increase excise duty and sales tax on petrol and diesel, respectively.
- Now there is demand for rolling back these duties as the crude oil prices have begun rising.
- However, conceding the roll back can be disastrous for the fiscal situation of the Union and the states.

factors determine the fuel costs

- **Market factors** -The price is determined by the movement of crude oil price (the main raw material), the rupee/dollar exchange rate and demand-supply situation in the market.
- **Excise duty**-There was a series of excise duty hikes in the second half of 2015 and the initial months of 2016 on both petrol and diesel to help shore up finances.
- This has helped the Centre realise higher central excise duties will fetch higher revenues.
- **Oil companies** - Oil companies have the pricing freedom and Government has no business interfering in the day-to-day affairs of the companies.

Current system of pricing

- Daily pricing of petrol and diesel linked with market was introduced in keeping with international practices.
- This current system of pricing is based on trade parity, assuming 80 per cent of petrol and diesel is imported and 20 per cent is exported.
- At many instance companies buy crude oil at high price and they sell it for low price due to market trends, to match this losses they hike the prices.
- This system is no longer relevant as the country does not import any of these products and this system confers undue benefits to private sector refiners on their sales of petrol and diesel in the domestic market.

Measures need to be taken

- The only way there can be a reduction of taxes on petroleum products is by including them in the GST regime.
- This is difficult to be implemented in the short run considering the undue shock to the revenues to the Centre and States.
- Hence, it would be more relevant to allow oil refiners to price their products based on their costs of refining, a reasonable rate of return and marketing overheads.
- This will introduce an element of competition among different oil refiners and allow more efficient and transparent price discovery for these products.

SEBI's Proposals on Colocation Facilities

In News: SEBI has addressed the complaints regarding Algo trading in colocation facilities.

Algo trading

- Algorithmic trades are orders executed on the stock exchange platform by computers through a programme designed by the user.
- Algo trades can involve different degrees of manual intervention ranging from zero-touch algorithms which does not require much manual intervention.
- It was introduced in 2009 in India and there has been rising interest from large domestic and foreign institutional investors.

Colocation facility

- A colocation facility is a physical data centre that allows customers to deploy their own servers, networks and storage hardware.
- It is powered by Internet bandwidth, electricity, backup power and other services generally required in a data centre.
- The colocation feed includes all the orders entered in to the SE trading system along with order alterations, cancellations and executions
- It can be used only by machines which can spot trading opportunities by scanning through voluminous data and therefore will be useful only to programs that run from colocation facilities.
- It also allows trading members and other institutional players to place their servers' right next to the Stock Exchange servers so that their latency-sensitive strategies can work effectively.

SEBI on colocation

- SEBI has announced that stock exchanges should publish minimum, maximum and mean latencies within the colocation facility.
- This would aid in bringing parity among these users and to increase transparency.
- The board has also decided to introduce shared colocation facilities that allow smaller members to rent rack space for Algo trading.
- A Tick-by-Tick Data feed is proposed to be made available to all trading members, free of charge by the exchanges.

Significance of SEBI's proposals

- SEBI has found a solution to tackle the challenge posed by the unregulated Algo trading by deciding to introduce colocation facilities.
- Colocation facilities are more favourable to the long term investors for whom speed of execution matters little.
- But SEBI has also planned for the data feed which will be beneficial for the small investors, who trading involves crunching numbers.
- The new proposals will boost Algo trading as it accounts for more than 40 per cent of the cash and derivative turnover and almost 80 per cent of the orders.

The Spirit of Patenting – Form 27

In News: A PIL in Delhi HC has sought for better disclosure of 'local working requirements' for pharma patents in India through 'Form 27'.

- This might open another avenue for 'compulsory licensing' of products and also facilitate innovation in the country.

spirit of patenting legislations in India

- Countries like India signed up to the intellectual property bandwagon to maximise opportunities for technology transfer.
- Part of this exercise involves allowing local firms to compete and improve innovation, especially on life-saving pharmaceuticals.
- Patents are not for the benefit of companies but for the promotion of research and betterment of the health metrics of the public.
- There is hence no wisdom in enacting patent laws that mainly enable foreign companies to import products, without helping in our scientific progress.

What is Form 27

- A PIL was filed before the Delhi High Court – stressing the importance of "Working requirements" in the patents Act, 1970 (mainly drugs & medicines)
- In essence, it stressed the need for making 'Form 27' (that seeks to ensure working of patented invention on a commercial scale) more rigorous.
- Patented invention needs to cater to the demands of the public and this is also mandated in the patent law (and Form 27 merely verifies compliance to this).

- If the demand is not met, then it can be a ground for **‘compulsory licensing’** of the product within India for enhancing supply and protecting public health.
- Under a compulsory license, an individual or company seeking to use another's intellectual property can do so without seeking the rights holder's consent.
- While patent owners usually have the right to decide on granting licenses for their products, compulsory licensing route is an exemption to the general rule.
- A licence fee is paid to the rights holder as fixed by the licence granting authority (Controller General of Patents – under the Ministry of Commerce).

‘working requirement’ of patents

- Patent law grants to the patentees the privilege of enjoying a limited monopoly in order to achieve the objective of public benefit.
- As part of the disclosures, patentees are required to disclose if they are locally working their patented invention in exchange for the conferred benefits.
- Patents are granted to encourage inventions and to secure that the inventions are worked in India on a commercial scale to the fullest practicable extent.
- Hence, it needs to be stressed that the monopoly granted to the patentees is not merely to import the invention but to make them locally too.
- Historically, India has considered that “working” the invention is important for enjoying monopoly and non-working could enable compulsory licensing.

Will the working requirement violate WTO’s TRIPS?

- In streamlining the local working requirement, especially in the field of pharmaceuticals, India is in line with its international trade obligations.
- In fact, Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) provides flexibilities to countries in honouring trade commitments.
- Doha Declaration also outlines the right of national governments to compulsorily license patents as per their situational needs and discretion.
- Thus, lack of local working of a patent can be grounds for granting a compulsory licence, along with others such as high prices and lack of supply.
- Doha Declaration hence allows the exercise of sovereign rights to define when patent rights could be curtailed to achieve a larger public interest result.

Way forward

- The country is obligated to protect the right to life of its citizens under Article 21, and this duty is heavier than its commitments to the patentees.
- As monopoly holders, patentees should contribute to the promotion of technological innovation and balance their rights and obligations.
- Indian Patents Act through Form 27 requires a patentee (or licensee) to furnish statements of how the invention is been commercially worked in India.
- But as the Form is bereft of crucial details, there is a need to revise it to ensure the spirit of patenting is observed and innovation is promoted.
- Conversely, ‘Controller General of Patents’ also has the right to publish the information received in the public domain.

Addressing the Concerns with ToR in 15th FC

Context: The 15th Finance Commission constituted recently is shaped with certain issues relating to the Terms of Reference (ToR).

role of the Finance Commission

- The Finance Commission (FC) is a constitutional body created to address issues of vertical and horizontal imbalances of federal finances in India.
- It is appointed every five years and consists of a chairman and four other members.
- The constitutional mandate of the FC is
 1. To decide on the proportion of tax revenue to be shared with the States
 2. The principles which should govern the grants-in-aid to States.
 3. Responsibility to make recommendations on policy issues referred by the President in the interests of sound finance.
- The recommendations made by the FC are advisory in nature and, hence, not binding on the Government.

Terms of Reference (ToR)

- Besides the core mandated areas of FC like tax devolution, ToR is a set of other areas that the President mandates the FC to provide its recommendations.
- Although the FC is an independent quasi-judicial body, it can work on areas which suit the government's preferences by careful handling of the ToR.
- Some of the key ToR for the 15th FC are reviewing the need for revenue deficit grants, assessing the increased tax devolution of the 14th FC, measuring effect of flagship schemes, etc.

concerns with ToR in 15th FC

- Some provisions under the ToR of the 15th FC seem to transgress upon the discretionary domain of the Commission.
- The ToR of 15th FC has referred for estimation of revenue potential and fiscal capacity of only the Union and States leaving aside the local governments (LG), which are a crucial part of the Federal structure.
- There is a provision in ToR for examining the fiscal impact of the "enhanced tax devolution" of the 14th FC and of national development programmes including the New India 2022.
- Evaluating the fiscal impact of 14th FC whose period of recommendation ends in 2020 is beyond the purview of this Commission.
- The 15th FC's ToR has omitted certain significant provisions like 'sums to be paid to states in need of assistance', which are generally found in all the previous FCs.
- These provisions could hugely affect the LGs whose shares have increased many times since the last 2 FCs.

Way forward

- Provisions in ToR has to be in line with the principle of cooperative federalism which ensures citizens with comparable level of fundamental services irrespective of residential jurisdiction.
- The efforts to provide grants to local bodies have to be consolidated with the initiatives taken by 13th and 14th FC to improve the quality of basic services.
- Balanced regional development, inter regional equity are goals to be focussed by all tiers of the federal structure and not left to the states as implied in the ToR to usher in inclusive growth.

Downsizing CCI

In News: The Union Cabinet recently approved rightsizing of Competition Commission of India (CCI) by halving the number of its members.

recent decision

- CCI currently has a chairperson and 6 members.
- With the recent downsizing, it will now have a chairperson and 3 members.
- The decision is in pursuance of the Government's objective of 'minimum government, maximum governance'.

proposed reasons

- **Workload** - The assets and turnover threshold for mergers and acquisitions (M&A) deals that would need CCI approval has been raised recently.
- The raised threshold and low coverage would reduce the workload of the CCI.
- **Time** - The corporate affairs ministry had also contended that the reduction would speed up the CCI's work.
- Few members would lead to faster turnaround in hearings that is expected to result in speedier approvals.
- This is because all members in office have to sign on to an order, and 4 members would facilitate this faster than earlier 7.
- **Decision making** - Downsizing especially reduces the scope for dissenting judgments.
- **DG's Office** - The director-general's office, the CCI's investigation arm, with just 14 people, is undoubtedly understaffed.
- It urgently needs more people to perform this critical role.
- It is argued that CCI's downsizing could help expand the director-general's office.
- **Besides**, competition regulators in advanced jurisdictions in UK, US, Australia and Japan also have minimum possible members.

downsizing benefit

- **Process** - In CCI's case, the downsizing may prove counterproductive due to various factors.

- The paperwork and processes that are required for companies to file for approvals remain voluminous.
- How efficiently can a small CCI take up these is highly uncertain.
- **Decision making** - If 7 members widened the scope for dissent, a quorum of 4 hardly diminishes it.
- The question of a possible 2:2 tie and a deadlock in decision remains unaddressed.
- Moreover, the law defines the chairperson as a member.
- So the issue of a casting vote becomes contentious.
- **Composition** - Technology is adding manifold degrees of complexity to commerce.
- The global dimension of business today also requires sectoral expertise.
- Global M&As may have unique local consequences or standard global practices may impact Indian consumers differently.
- Given these, general expertise in corporate and M&A law increasingly demands specialist knowledge to supplement.
- Thus, fewer CCI members may not provide scope for the addition of sector experts.
- Sector experts working on a rotating roster of cases may serve the cause of the competition regulator better than a reduced CCI.
- **DG's Office** - The two i.e. the CCI and the DG's office have distinct functions.
- So it is difficult to see why expanding one should prevent enlarging the other.
- In all, in CCI's case, a reduction in members is less likely to serve the perceived cause of efficiency.

INTERNATIONAL AFFAIRS

Rising Diplomatic Expulsion

Context: The current string of expulsions of Russian diplomats from many countries is indeed massive and calls for a historic analysis of such actions.

- While expulsion of diplomats as a sign of protest is indeed very stressful for them, it is one of the least disruptive ways to express outrage.

lawgoverning diplomatic expulsions

- Currently, according to the Vienna Convention on Diplomatic relations, 1961, diplomats enjoy immunity from law enforcement authorities of the host country.
- Hence, if a diplomat commits an offence in a personal or official capacity, the host country declares them as persona-non grata, which mandates their immediate expulsion.

Effect of the expulsion

- It is the most effective bloodless punishment, as the person concerned is removed from the scene, never to return.
- Additionally, rulers have historically also expelled court diplomats if tensions break out between their host and home countries.
- Significantly, the diplomat concerned may not be guilty of omission or commission or even aware of the reason for being expelled.
- The diplomat hence becomes a mere pawn (a pledge/security/guaranty) in international disputes.
- S/he may even be a victim of a symbolic protest or a reciprocal action.

Russian diplomatic expulsions

- Russia may well be the country whose diplomats have perhaps suffered the largest number of expulsions.
- The recent coordinated expulsion of over 100 Russian diplomats by more than 20 countries (US and many EU countries) is huge even by Cold War standards.
- This is done by countries to express solidarity with UK.
- It is due to the alleged Russian involvement in the attack on a former spy who worked for UK.
- Importantly, Russia has denied any involvement in the murderous attack that took place in UK soil.
- Russia has accused UK of a baseless and false campaign.
- As multiple countries expelled its diplomats, Russia retaliated with a symmetrical response.

- Generally, this is the maximum build up and the diplomats will slowly but steadily return to their seats in the host countries over time after negotiations.
- Notably, Austria did not join the other EU members in the expulsion, stressing that some communication channels should be kept open during the crisis.
- China and India had called for more concrete evidence about Russian complicity, and hence have called for a more patient approach.

India's Approach

- India takes recourse to expulsion of diplomats only in extreme circumstances when it has clear evidence of wrongdoing.
- When it expels diplomats, it does expect reciprocal action.
- In most cases, it informs its personnel in advance for a possible retaliatory expulsion.
- Notably, India has expelled Soviet diplomats to express annoyance on certain issues even when Indo-Soviet friends weren't particularly bad.
- Russian sponsored military coup in Fiji caused a spike in tensions and even the Indian head of mission was expelled (although after 2 year of strain).

Way Forward

- While the diplomats will eventually be called back, the current episode of expulsions clearly marks the emergence of a new Cold War in world affairs.
- The rise of an ambitious China and versatile strongmen like Putin in Russia, Salman in Saudi and Erdogan in Turkey are bound to strengthen these trends.

Reviving Neighbourhood First Policy

Context: South Asian relations are facing tough time due to India-Pakistan rivalry, China-Pakistan proximity and India-China hostility.

- A paradigm shift in South Asia's regional integration strategy is required to address such issues.

India's neighborhood

- Politics and religion aside, across India, Pakistan and Bangladesh (IPB) there are common socio-cultural bonds.
- People-to-people connectivity remains positive.
- The remaining five i.e. Bhutan, Nepal, Maldives, Sri Lanka, and Afghanistan are paying the price of regional disintegration.
- This is possibly caused by unresolved puzzles having roots in the China-IPB (CIPB) axis.
- There are cross-border barriers and lack of transport facilitation among IPB.
- This is leading to freight movement taking place along expensive routes, escalating the investment cost.
- The Bangladesh-China-India-Myanmar Economic Corridor (BCIM-EC) has a sluggish progress in infrastructural development.
- Pakistan-Bangladesh relations and the India-China tug of war over Bangladesh are increasing in recent times.

significance of IPB

- IPB account for approximately 95% of South Asia's GDP and population.
- Along with China, they account for 18.5% of global GDP and 41% of global population.
- South Asia's intra-regional trade, currently 5% of total trade, can grow to \$80 billion from the current \$28 billion, huge share being within IPB.
- Pakistan and India have potential trade capacity of \$20 billion compared to the current \$3 billion.
- If IPB can have a strategic partnership factoring China, the remaining five can effortlessly fit into positive regionalism with a win-win situation for all.

challenges before IPB

- The supply-demand gap of **power** in IPB is estimated to be around 18,000 MW.
- Besides, by 2050, China, India, Pakistan and Bangladesh will also experience **water** shortages.
- India and China are leading globally in terms of **Internet** and smartphone users.
- But Internet penetration for these four countries is below 55%, indicating the untapped potential.
- IPB fails to attract sufficient **tourists** due to poor civil aviation connectivity, complex regulations and lack of visa liberalisation procedures.

- Movement of trucks across the international frontier is limited by absence of **cross-border agreements** between India and Bangladesh, and India and Pakistan.
- **Rail connectivity** is restricted due to technical problems of different gauges, track structures, signalling and so forth.

measures need to be taken

- **Multilateral Co-operations** - The China-Pakistan Economic Corridor (CPEC) is being developed as a bilateral initiative.
- However, if Indian sensitivities can be addressed, it can be a multilateral project.
- Combined efforts of BCIM, CPEC and the proposed China-Nepal-India (CNI) Economic Corridor under BRI, can capitalise on regional economic potential.
- **Infra Projects** - Synergetic integration of the economic corridors with other BRI projects can accelerate inward investment into IPB.
- Developing transport, logistics services and bureaucratic procedures between India-Bangladesh are essential.
- This can contribute to the cross border trade growth between the two by 300%.
- **Renewable Energy** - To unravel the full potential, energy treaties based on renewable sources have become imperative.
- Greater electricity generation and utilisation of domestic energy endowments along with connectivity are significant to capitalise on the regional energy potential.
- **Water sharing** - The three largest trans-boundary river basins, Indus, Ganga and Brahmaputra, are all within CIPB.
- China has expressed interest to pursue water- sharing treaties.
- IPB could thus come together in a collaborative framework to boost the livelihoods of millions across the region.
- **Digital transformation** - Digital connectivity can act as the gateway to a holistic transformation of the region via the CIPB conduit.
- If these opportunities are tapped, it would enhance mobility of both tourists and students.
- Thus a strategic collaboration, looking beyond historical animosity and misgivings, can unlock a new era of regionalism whose benefits far outweigh negatives.

Indo-Pak and West Asian Geopolitics

Context:The bilateral relationship and cooperation between India and Iran have been fairly good.

- But despite the well-crafted diplomacy, Iran's equations vis-à-vis Pakistan could be an irritant for India in the long run.

Indo-Iran relationship shaping up

- **Positives** - For New Delhi, Iran is the gateway to connect with Central Asian countries.
- India is investing in port and rail-road projects in the country.
- Iran is also a key partner for cooperation in the energy sector.
- India also shares centuries-old cultural ties with it.
- **Irritants** - US is clearly on a confrontational path with Iran.
- Iran is thus not comfortable with India because of its strategic partnership with the US.
- Notably, Trump is currently undoing the Iranian nuclear deal and Iran has also disapproved the new Afghan policy of the US.
- Similarly, the blossoming India-Israel bonhomie and a growing sympathy for Kashmiri separatists among Iranian politicians are concerns.
- These are probably the reasons why the Fasad B gas-field that India discovered is yet to be allocated to India for exploitation.

Pak-Iran relationship shaping up

- **Strategic situation** - Iran continues to have strong ties with Pakistan despite Pakistan's aggression against India which is a point of concern.
- Such an outlook is partly due to Pakistan's effort to sustain a cordial equation with Iran for strategic reasons as it shares a 900 km border with it.
- Notably, the border runs along Pakistan's Baluchistan province, which is a disturbed area that is seeing insurgencies and foreign meddling.

- There have also been occasional border skirmishes with the Iranian military, which if builds up could open a third confrontational front for Pakistan (the others being Indian and Afghan borders).
- Additionally, Pakistan sees a partner in Iran for its activities in Afghanistan and there is also immense mutual economic benefit in Iran's Gas.
- **Recent Developments** - Pakistan's army chief Gen Bajwa paid a three-day visit to Tehran last year, which was the first such engagement in 20 years.
- There was considerable enthusiasm as Gen Bajwa offered cooperation in missile technology and also discussed about a gas pipeline as part of China's Belt and Road Initiative (BRI).
- Notably, while BRI is shunned by India, Iran sees it as an opportunity and even desires to get Chabahar connected to it (which India is developing).
- Additionally, Iran has even invited China to invest partly in Chabahar, which would smash any strategic significance that India associates with it as a counter to Gwadar.
- Iran has also thanked Pakistan for its help in countering Sunni extremists on its soil, which is in direct contrast to India's view on Pakistan.

Way Forward

- The strength of the Pak-Iran equation will hinge largely on how Pakistan's approach to Saudi Arabia shapes up.
- While Iran and Saudi are oppositely placed in the West Asian geo-political grid, Pakistan is closely aligned with Saudi in many international forums.
- Pakistan is in fact standing by Saudi's side in Yemeni and Syrian conflict, which pits it opposed to Iran, which is Saudi's chief regional contender.
- Notably, even the Riyadh based Islamic Military Alliance is headed by Pakistan's ex-military chief Rahel Sheriff.
- Pakistan has tried hard to not take sides in the Saudi-Iran dichotomy, but this approach might prove hard at all times.
- Also, while India maintains cordial relationships with all powers, it is not clear if Pakistani fallout with any of them would benefit India in any way.

India - Nepal Bilateral Ties

In News: The new Nepali PM "Sharma Oli" has visited India in his 1st foreign trip, which is now a longstanding tradition for Nepali PMs.

- While Mr. Oli had a run in with India during his previous stint at the helm, he has currently displayed pragmatism by overlooking the bitterness of the past.

Nepal's chequered political history

- Nepal's political transition began nearly three decades ago when it adopted a new constitution in 1990 which ushered in multiparty democratic monarchy.
- But the rise of a violent Maoist insurgency that claimed 15,000 lives had eroded stability and the small democratic gains made.
- Reconciliation with the Maoists started in 2005, and a subsequent multi-party mass public uprising also saw the abolishing of the 250 year old monarchy.
- Following this, a constituent assembly was elected for drafting the statutes for the new republic, but the process proved to be long and turbulent.
- This seven-year exercise finally produced a new constitution in 2015 and several elections were held 2017 and early 2018.
- Significantly, the local body elections were held after a gap of 20 years as political instability had hindered any chance of local governance.

recent election results

- Nepal has seen 25 PM in the past 27 years due to multiple coalition troubles and other political nefarious political bickering.
- But in what could be a break from this trend, Mr. Oli's UML party seems to have won big this time, which promises the much desired political stability.
- In the parliament, the UML alliance has secured a convincing majority of 174/275 in lower house and the alliance has a 42/59 in the upper house.
- Additionally, the UML had secured 294 of the 753 local bodies and most of the provinces also have UMLCMs.

implications of Mr. Oli's rise

- Previously, when Mr. Oli had began his 1st term as PM (that lasted just 9 months), the Madhesi agitations were at its peak.
- Significantly, Madhesis had protested against certain clauses in the new constitution, and India was accused of tacitly backing the agitators.
- All this created much bitterness between India and Nepal and Mr. Oli was openly reaching out to China as a counter-balance to India.
- Even in Mr. Oli's election campaigns, there was a distinguishable anti-India Nepali nationalist tinge, which added to his popular appeal.
- But after the comfortable the win that has secured his position domestically, Mr. Oli has been visibly shrewd in recognizing India's criticality.
- India too had realised the need to befriend the new leader to prevent a pro-China tilt in Nepal's polity and had proactively reached out to him.
- Consequently, Mr Oli has begun his 2nd turn with a positive outreach to India and is probably signalling his intention to look beyond the past tensions.
- As a result of all this back-track reconciliations, his recent visit was smooth, but a sustained engagement by both sides is required to restore complete trust.

recent visit

- A short joint statement was issued which stressed the need for strengthening relations on the basis of "equality, mutual trust, and respect".
- Multiple contentious issues like "a review of 1950 Treaty, recruitment of Nepali nationals in the Indian Army" did not find mention.
- Also, resolving the fallout of India's demonetisation exercise, that devalued a large trove of Nepali Central Bank's Indian currency reserves wasn't remarked.
- Madhesh issues, delays in hydel projects like Pancheshwar, and resumption of SAARC was also missed out.
- But despite all these, this seems to be progress from Mr. Oli's Feb 2016 visit, when there was no Joint Statement at all.

important bilateral projects

- For long, India has been Nepal's biggest development partner, but the project implementation pace has been bad and there were also multiple cost overruns.
- While both India and Nepal have a shared responsibility in this tardy work, the political instability in Nepal had worsened the shabby track-record.
- **Hydel Projects** – Despite its humongous hydro-electric potential, Nepal's installed capacity is less than 700 MW and it imports power from India.
- Over 60% of the Ganga waters come from Nepal's rivers namely - Sarda, Ghagar, Rapti, Gandak, Bagmati, Kamala, Kosi and Mechi.
- Misrepresentations have delayed India collaborated hydel projects for long, and it's imperative to resolve these issues and push these projects ahead.
- **ICP** - The proposal for 4 Integrated Check Posts (ICP) on the India-Nepal border to facilitate movement of goods, and people was mooted 15 years ago.
- An MOU for the same was signed in 2005 but multiple administrative and political constraints delayed construction and costs overshoot by 400%.
- As a result, only the Raxaul-Birgunj ICP has been completed and was inaugurated last week.
- **Petroleum Pipeline** - Motihari-Amlekhgunj cross-border pipeline has now been started after almost 15 years since the MOU was signed.
- Now, for the work to be completed within the planned 30 months, a brisk paced work and proper monitoring is needed.

Way Forward

- Cultural and historical ties between the people in both countries are a big positive for in the relationship, but there are other aspects too.
- Importantly, just like for India, globalisation offers multiple opportunities for Nepal too and it is only logical that Nepali leaders aspire to capitalise on them.
- In this context, China's "Belt and Road Initiative" (BRI) currently appears attractive for the Nepali dispensation, despite some serious concerns.
- India would do good to recognize these aspirations and desires while simultaneously enhancing co-operation with our land-locked neighbour.

- Firstly, one should ensure that the ongoing projects like - border check-posts, rail connectivity, and Terai's postal road network are executed to perfection.

DEFENCE/SECURITY AFFAIRS

Draft Defence Production Policy, 2018

In News: Ministry of Defence has released a new Draft Defence Production Policy (DProP), 2018.

aims of DProP, 2018

- The DProP 2018 has embarked on an ambitious journey to mark India's position among the top defence production countries in the world.
- The DProP 2018 is focused on self-reliance.
- It seeks to change India's position from being the largest importer of arms in the world.

plan under DProP

- **Indigenous Defence production** - The policy targets 2025 for becoming self-reliant in 13 weapons platforms.
- It includes fighter aircraft, warships, tanks, missiles and artillery, which constitute the bulk of India's imports.
- **PPP Model** -The policy attempts for increased productivity and innovation.
- It thus calls for increased participation of MSMEs, start-ups and other players from the private sector in the defence industry.
- **Liberal Policies** -The policy would liberalise licences that will be provided to defence industries.
- Also, the requirements for renewal of licences will be pruned.
- The companies with a good track record will be given favourable consideration.
- The policy also liberalises the FDI regime in the defence sector.
- **Skill Development** - It aims at advancing and boosting the existing public sector defence production units.
- This is particularly aimed to be achieved through skill development and overall program management.
- **Overseas Production** - The recent policy aims at fusing together technologies from Ordnance Factory Board, Defence Public Sector Undertaking and private players.
- For this, the policy plans on setting up Defence Export Organisation in partnership with the industry.
- This will facilitate for overseas marketing of domestically produced goods.

expected outcomes

- If properly implemented the policy will reduce the **import** bill.
- It could increase the **export** earnings up to Rs 1,70,000 crore by creating **employment** for more than 3 million people.
- This will make India a top destination for Research & Development (**R&D**) in the world.
- It can promote India as a hub for defence related **Intellectual Property (IP)**.
- The broad policy will accelerate **domestic defence production** and thereby makes it feasible to have a market of our own.
- Indigenous defence production will attract more **investors** which eventually will lead to massive **market** creation.

challenges

- Realising the aims demands difficult changes.
- E.g. the military will have to abandon its insistence on imported, state-of-the-art weaponry.
- Several categories listed for complete indigenization are already available.
- However the military has traditionally insisted on inducting into service only cutting-edge, fully proven weaponry.
- There is a need for an overarching infrastructural, fiscal and legal environment, and essential testing and validating facilities that individual firms cannot cost-effectively create.
- The policy involves multiple ministries which could delay the establishment of defense production ecosystem within an optimistic time frame.

Violent Response of Israel to Gaza Protesters

In News: A Peaceful protest in Gaza by the Palestinians has turned violent after the use of force by Israeli administration.

- International communities must take action against the Israeli government to protect Gaza civilians.

Gaza conflict

- Gaza is a densely populated strip of land that is mostly surrounded by Israel and peopled almost exclusively by Palestinians.



- Israel used to have a military presence, but withdrew unilaterally in 2005.
- But it is currently under Israeli blockade.
- In recent years, Egypt has also joined the blockade, practically cutting off the strip from the rest of the world.
- The flow of both goods and people into and out of Gaza is heavily restricted.
- Life in Gaza has become increasingly miserable more than a decade of closures, with residents enduring daily power outages lasting for hours.

recent happenings in Gaza

- Gaza has become a site of frequent border protests against a stifling blockade of the territory.
- Hamas is an Islamist organization of Palestine which organizes the border protests in Gaza.
- It recently announced that the protests would continue until May 15, the 70th anniversary of Israel's creation.
- Recently thousands of Palestinians marched near the border fence and violent protest continued.

present concern

- Israel responded unlawfully by calling for the use of live fire against even peaceful Palestinian protesters who posed no imminent threat to life.
- More than 750 Palestinians were wounded by Israeli fire.
- It became the bloodiest attack in Gaza since the 2014 war between Israel and the Islamic militant group Hamas.
- In the past, Israel has faced serious allegations of using force against Gaza civilians.
- But Israel enjoys the privilege in the UN by the U.S. support.
- US has already blocked move in the UN Security Council seeking any inquiry on Israel.
- Despite international calls and repeated warnings by rights groups, Israel has not eased its restrictions on the strip.

Palestine's response

- It accused Israel of “intentionally, grossly and systematically” violating its legal obligation to protect civilians.
- Recently the Palestinian authorities appealed to the U.N. Security Council for immediate international protection for Palestinian civilians, especially in Gaza.
- There is also a call for an independent investigation of the killings.

Role of Global community

- Joint efforts to mitigate the suffering of Gaza's people need to be taken from both Israel and Palestine side.
- International community needs to act responsibly when it comes to the grave rights violations.
- There has to be an international probe into the latest violence.
- World powers should urgently provide economic assistance to Gaza to save it from total collapse, and put incremental pressure on Israel to end the illegal blockade of the Gaza strip.

ENVIRONMENTAL AFFAIRS

Blackbucks - Story of the Indian Antelope

Context: Actor Salman Khan has been convicted for his involvement in a case of hunting the blackbucks in 1998.

- This brings the spotlight on the status of the animal, its conservation efforts and the challenges ahead.

population of Blackbucks

- About 300 years ago, it is estimated that about 4 million blackbucks roamed the whole of the Indian landmass that lies south of the Himalayas.
- The love of the colonial masters and the royalty for hunting had reduced their numbers considerably, and had completely disappeared from the areas that constitute modern day Pakistan, Bangladesh and Nepal.
- At the time of independence, the number of blackbucks were estimated to be 80,000 and this further dwindled to 30,000 by the 1970s.
- The Wildlife Protection Act, 1972 give the blackbuck (also called the Indian antelope) as much protection as the tiger, which helped boost their numbers.
- By the turn of the millennium, their numbers had reached 50,000 and the IUCN altered the status of blackbucks from "Vulnerable to Near Threatened".
- A decade after that, antelopes had become so numerous in several pockets of north and central India which saw IUCN changing its status again from "Vulnerable to Least Concerned" in 2017.

Why the population has increased

- The ban on hunting and the absence of two of its most efficient predators (Cheetah and Wolf) had caused the blackbuck population to burgeon.
- Notably, Cheetah is now extinct and the wolf is scarce.
- **Community Support** - For the Bishnoi sect of western Rajasthan, killing of wild animals or the felling of green trees is against their religious beliefs.
- In the 1730s, Bishnois are said to have sacrificed many lives to save the khejri trees from being felled by the Jodhpur royalty.
- Also, the Chipko Movement of the 1970s and the case that they are fighting against Salman Khan are a continuation of this legacy.
- Hence, it is little surprise that wildlife (particularly blackbuck) has flourished in the safe haven that the Bishnois had created near their settlements.
- **Agricultural expansion** - The antelopes survive on grassy plains and thinly forested areas, a large part of which was lost to developmental activities.
- But massive conversion of woodland to farmland largely compensated the inevitable loss of the blackbuck's natural habitat to some extent.
- In fact, a section of farmers in Odisha value blackbucks for its role in enhancing agri-productivity, which has given the animal a new sanctuary.
- They believe plants grow thicker and produce higher yields after blackbuck have cropped their tops.

Cultural significance

- The strong cultural connect with the species dates back to the Harappan era.
- In mythology, the blackbuck is variously described as the vehicle (vahana) of Vayu (the wind god) and Chandrama (the Moon god).
- Antelopes apparently also pulled the chariot of Krishna, and Rajasthani stories consider goddess "Karni Mata" as the protector of the blackbuck.

Concerns

- Despite some voices that think blackbucks aid agri-productivity, there is evidence to note that they are a major pest when they become over-abundant.
- As early as in 1989, a study estimated that 300 blackbuck had caused a loss of Rs 29,000 to the sorghum crop in Gujarat's Surendranagar district.
- In 1990, the Wildlife Institute of India looked into conflict mitigation measures to limit the damage caused by nilgai and blackbuck in Haryana.
- But unlike nilgai (blue bull), blackbucks are yet to be officially identified as pests or vermin anywhere in India - probably due to its cultural significance.
- Hence, unless the damage to crops and farmland reaches a tipping point, the elegant blackbucks will continue to thrive.

way Forward

- Poaching or hunting currently accounts for only a fraction of unnatural blackbuck deaths in the country and road accidents actually kill more.
- Predation is also causing the bulk of the unnatural deaths as feral dogs seem to be progressing to occupy the space once help by the Cheetah and the Wolf.
- Notably, the dogs too are protected strongly by powerful animal welfare NGOs, which currently account for 93% of all unnatural blackbuck deaths.

Draft National Forest Policy 2018

In News: Ministry of Environment, Forest and Climate Change (MoEFCC) recently released the draft National Forest Policy 2018.

Key highlights

- **Objective** - The draft forest policy, 2018 will be an overarching policy for forest management.
- It aims at bringing a minimum of one-third of India's total geographical area under forest or tree cover.
- It seems to address the concern of decline in forest productivity.
- **Concepts** - The draft has introduced some new concepts such as:
 - economic valuation of ecosystem services
 - forest certification
 - national forest ecosystem management information system
- **Approach** - The 1988 forest policy had a local community- and ecology-centric approach.
- From this, the new draft shifts the focus to timber and forest-based industries.
- It identifies "**production forestry**" and plantations as the new thrust area.
- **Tribal to Timber** - The importance offered to the rights of local, forest-dependent communities are being diluted.
- It is substituted by the demand for raw material from forest-based industries.
- The draft aims to use degraded land available with forest corporations to produce "quality timber".
- This goes against the emphasis on "fuelwood and fodder development" as in 1988 policy.
- **Production forestry** - The 1988 policy had sections called 'Rights and Concessions' and 'Tribal People and Forests'.
- These are replaced by ideas of 'Production Forestry', increasing the productivity of forest plantations and facilitating forest industry interface.
- **Industry** - The draft stresses the need to stimulate growth in the forest based industry sector.
- It encourages forest corporations and industrial units to step up growing of industrial plantations.
- **Livelihood** - The current draft mentions about the livelihoods of local communities -
 - as passive recipients of benefits accruing from wildlife tourism
 - as labour for forest-based industries
 - in relation to non-timber forest produce (NTFP)
- **PPP** - The draft proposes a public-private partnership model for afforestation and reforestation activities.
- This will be in "degraded forest areas and forest areas available with Forest Development Corporations and outside forests".
- **Plantation choice** - The draft recommends 'commercially important species' like poplar and eucalyptus.

- Both of these are non-indigenous plantation species.
- **Protection measures** - The policy proposes to restrict schemes and projects which interfere with forests that cover steep slopes.
- Catchments of rivers, lakes, and reservoirs, geologically unstable terrain and such other ecologically sensitive areas are also covered.
- The ecologically sensitive catchment areas shall be stabilized with suitable soil and water conservation measures.
- Planting suitable trees and grass like bamboo in these areas is also suggested.
- **Mechanism** - It suggests setting up of two national-level bodies for better management of the country's forests.
- These are the National Community Forest Management (CFM) Mission and the National Board of Forestry (NBF).
- NBF will have to be headed by the central minister in charge of forests.
- The state boards of forestry will have to ensure inter-sectoral convergence, simplification of procedures, conflict resolution, etc.
- The state boards of forestry will have to be headed by state ministers in charge of forests.
- Besides, efforts will be made to achieve harmonization between policies and laws like Forest Rights Act (FRA) 2006.
- **Community participation** - Efforts to ensure synergy between gram sabha & JFMC (Joint Forest Management Committee) will be taken up.
- This is for ensuring successful community participation in forest management.
- The CFM mission will address participatory forest management.
- **Financing** - The compensatory afforestation fund which is being transferred to the states will provide for management of forests.
- It will source afforestation and rehabilitation works in degraded forest areas and for bringing new areas under forest and tree cover.
- Efforts for tapping funds from other national sectors will be taken up.
- This may include rural development, tribal affairs, national highways, railways, coal, mines, power, etc.
- **Forest fire** - The draft policy includes measures to safeguard ecosystems from forest fires, which include:
 - mapping the vulnerable areas
 - developing and strengthening early warning systems
 - remote sensing technology to control fire
 - improved community participation
- **Climate change** - Forests are natural carbon sinks, assisting in climate change mitigation.
- Climate change concerns will be factored in all forest and wildlife areas working/management plans and Community Ecosystem Management Plans.
- Wildlife rich areas and corridors outside protected areas would be identified and maintained for ensuring ecological and genetic continuity.
- **Human-wildlife conflict** - Quick response, dedicated teams of well equipped and trained personnel would be developed.
- Health and veterinary services, rescue centres, speedy assessment of damage and quick payment of relief to the victims are other short term actions.
- Monitoring and management of population of wildlife would be adopted as part of long-term measures.

earlier policy approach

- Forest policy in colonial India focussed on maximising products and revenues for the state.
- The imperial forest department functioned as sole owner, protector and manager of the forest estate.
- Unfortunately, post-Independence policy too continued this 'state-managed forestry' approach.
- Forests were seen as sources of raw material for industry.
- On the other hand, local communities were merely treated as labour.
- In a paradigm shift, the 1988 Forest Policy recognized the multiple roles of forests. Significantly, it prioritized environmental stability over revenue maximization.
- It acknowledged the rights of forest-dependent communities on forest produce.

- Also, the policy emphasised people’s involvement in protecting and regenerating forests.
- It thus formally recognised the limitations of state-managed forestry.

post-1988 experience

- **Devolution of control** - Joint forest management (JFM) was initiated in the 1990s to facilitate people’s involvement.
- Foresters created thousands of village forest committees.
- But their autonomy and jurisdictions were severely limited.
- Donor money was spent on plantations but activities were stopped once funds ran out.
- “People’s participation” by executive order was too weak.
- What was actually required was substantive devolution of control over forests
- **Community rights** - The Forest Rights Act (FRA) of 2006 created a historic opportunity for such devolution.
- Its community forest resource provisions gave communities rights to both access and manage forests.
- **Forest Diversion** - FRA also democratised the forest diversion process.
- It mandated community concurrence for forest diversion once community forest rights are recognised.
- E.g. the Adivasis of Niyamgiri in Odisha exercised this provision to prevent bauxite mining in their sacred hill tracts.

BIO/ HEALTH ISSUES

World Health Day – Significance & Concerns

In News: April 7th of every year is celebrated as World Health Day under the sponsorship of WHO.

Significance of World Health Day

- World Health Day is one of eight official global health campaigns marked by WHO.
- Which include World Tuberculosis Day, World Immunization Week, World Malaria Day, World No Tobacco Day, World AIDS Day, World Blood Donor Day, and World Hepatitis Day.
- On World Health day WHO organizes international, regional and local events related to a particular theme.
- It primarily focuses on universal health coverage by fixing medical infrastructure.
- For the year 2018 the theme is “Universal Health Coverage (UHC): Everyone, Everywhere”.

Measures suggested by WHO towards UHC

- UHC ensures that all people get quality health services, where and when they need them, without suffering financial hardship and not having to make a choice between good health and other life necessities.
- WHO aims to
 1. Inspire – Policy makers by highlighting their power to transform health of the nation by driving policy change.
 2. Motivate – By providing examples of countries who have accomplished this goal and encourage them to find their own path.
 3. Guide - By providing tools for structured policy dialogue on how to advance UHC.

Status UHC in India

- While India has done well on some indicators like immunization of children for hepatitis B and Diphtheria-tetanus-pertussis.
- India’s health indicators such as Maternal Mortality Rate (MMR) and under-5 Mortality Rate are still on the higher side.
- There is also an increasing number of deaths due to TB and Malaria.
- The probability of an individual dying of the non-communicable diseases such as cancer between ages 30 - 70 is nearly 20 per cent.
- India has a long way to go as its healthcare infrastructure are inadequate and healthcare professionals are deficit particularly in the poorer parts of the country.

Concerns

- Health clinics that are accessible and affordable still go unutilised in rural and under-served people.

- Behavioural patterns, old traditions, conventional beliefs, and habits have a strong hold on people.
- There is a long entrenched practice of going to untrained and unqualified doctors.
- There is evidently a lack of trust on existing scientific healthcare models.
- All these in turn affect the success of healthcare efforts.

Desired to shift in Approach

World Tuberculosis Day	24 th March	Wanted: Leaders for a TB-free world (2018)
World Health Day	7 th April	Universal Health Coverage: Everyone, Everywhere’.
World Immunization Week	Last week of April	Protected Together, #VaccinesWork (2018)
World Malaria Day	25 th April	Ready to Beat Malaria. (2018)
World No Tobacco Day	31 st May	Tobacco and Heart Disease (2018)
World Blood Donor Day	14 th June	Give Blood. Give Now. Give Often (2017)
World Hepatitis Day	28 th July	Eliminate Hepatitis (2017)
World AIDS Day	1 st December	My health, my right (2017)

- The low turnout witnessed at health outlets call for a shift in the approach.
- It takes concerted efforts to address this which include:
 - breaking various myths
 - sharing continued education and awareness
 - rendering door-to-door services especially for women and child care
- Notably holding camps and reaching out to the villages proved to be more effective.
- It triggered a change in the behavioural patterns of the villagers who began trusting a scientifically sound model.
- They started moving away from the traditional practices.

Women suffering from anemia

- A report that was based on a pan-India survey data of over 3 lakh men and women during 2015-2017 revealed the following findings.
- Owing to rapidly changing lifestyles, nearly 40% women in India suffer from anemia than men.
- Women aged 61 years onwards were more likely to suffer from anemia.
- While over 20% men suffer from abnormal sugar levels than women.
- Nearly 80% of people were either deficient or insufficient in Vitamin D levels.
- Women were more commonly Vitamin D insufficient while men were vitamin D deficient.
- Prevalence of abnormal levels of vitamin B12 was more commonly found in men (33.28%) than women (27.85%).

ODL - A New Class of Anti-biotic

In News: Researchers have reported the discovery of a new class of antibiotics called ODLs, whose operational mechanism is very unique.

- This also offers hope for overcoming the menace of drug resistance.

Functioning of new drug

- This new class of anti-biotic is unique and promising on two fronts - its unconventional source and its distinct way of killing bacteria.
- Both of this suggests that the compound may be effective at treating drug-resistant or hard-to-treat infections.
- **The Study** - Odilorhabdin (or ODL) are antibiotics that are produced by special bacteria that are found inside the soil-dwelling “nematode worms”.
- These bacteria live inside the said worms and are engaged in a symbiotic relationship with the insect for food.
- They are said to secrete antibiotics to keep competing bacteria away – of which, 80 cultured secretion strains were analysed by researches.
- Active compounds were also isolated and studied for engineering enhanced versions of the secretions for bettering their effectiveness.
- **The Mechanism** - ODLs were found to act on the ribosome of other bacteria, which is the molecular machine that makes the vital proteins.

- While many clinically useful antibiotics also target ribosome, ODLs are unique because they bind to a place on the ribosome that has never been used by other known antibiotics.
- When bound to the ribosome, ODL antibiotics disrupts the ribosome’s ability to read, interpret and translate genetic code and thereby hinders reproduction.
- This leads to miscoding of proteins, which make newer bacterial off-springs to be born defective - thereby they die out soon and get annihilation.

Imports of hormone oxytocin Ban

- The Union government has banned imports of hormone oxytocin to stop its misuse in livestock industry, where causes hormonal imbalances and shortens the lives of milch animals.
- The Government has decided to rely on domestic production to satisfy requirements of hormone.
- It has asked customs officials to step up vigilance against those likely to try and smuggle oxytocin into India.

Background

- India had halted retail sales of oxytocin as prescription-only drug in 2014, but failed to curb illegal sales and the volume of imports was unclear.
- Even, Drug Technical Advisory Board (DTAB) in February 2018 had recommended import ban of oxytocin.
- It also had recommended that sale be limited to registered government hospitals and clinics and bar code system should be used on a form of drug to ensure tracking and prevent abuse.
- For adopting its recommendations, DTAB proposal had proposed amendments to section 10 of Drugs and Cosmetics Act, 1940 and rule 96 of Drugs and Cosmetics Rule 1945.

Oxytocin

- Oxytocin, often called love hormone, is released naturally in human bonding activities such as sex, childbirth and breastfeeding.
- It is uterine stimulant hormone, prescribed for initiation of uterine contractions and induction labour in women as well as stimulation of contractions during labour.
- It is also used to help abort fetus in cases of incomplete abortion or miscarriage, and control bleeding after childbirth.
- It may be used for breast engorgement.

Misuse

- It is a controversial hormonal injection that is used widely in the dairy industry agriculture and horticulture.
- The drug’s abuse in animals shortens their life and makes them barren sooner.
- Even its misuse is reported among trafficked children, injected to accelerate puberty among girls. It is also being misused to speed up deliveries for pregnant women in overcrowded government hospitals.

What is oxytocin

- Oxytocin is a hormone secreted by the pituitary gland

- It plays a role in reproduction, child birth and lactation, apart from social interaction

- Oxytocin is used both for humans and animals, to accelerate normal labour

- It is supposed to act directly on the uterus to induce rhythmic contractions



- In certain animals, especially farm animals, it is used to achieve 'milk let down'

- Oxytocin is believed to stimulate the mammary gland and induce milk production in farm animals, provided the udder is prepared to do so

TECHNOLOGICAL AFFAIRS

ISRO successfully launches navigation satellite

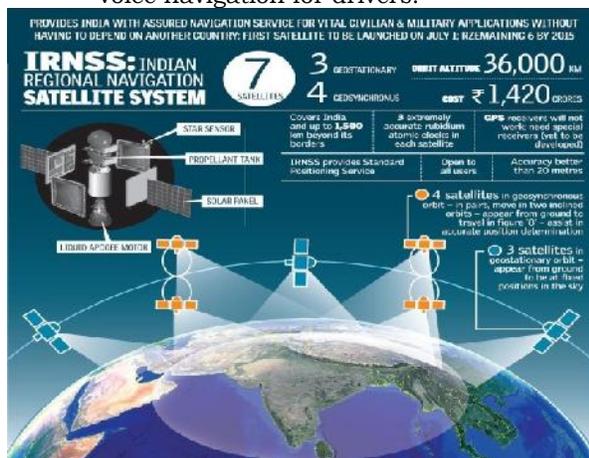
- The Indian Space Research Organisation (ISRO) has successfully launched IRNSS1I navigation satellite from Sriharikota in Andhra Pradesh.
- The satellite was launched on board of PSLV-C41 (height of 44.4 meters and weight of 321 tonnes) after the normal lift-off and was successfully placed in the designated orbit.
- It was overall 20th flight of PSLV-XL version and 41st successful mission of total 43 of PSLV.

Key Facts

- The IRNSS-1I is overall eighth satellite to join ISRO’s NavIC navigation satellite constellation.
- It replaced IRNSS1A, the first of seven navigation satellites of IRNSS series that was rendered ineffective after its three rubidium atomic clocks failed.
- IRNSS-1I was made by Bengaluru-based Alpha Design Technologies in collaboration with ISRO.
- It was ISRO’s second attempt to send replacement satellite. The previous mission of a PSLV carrying IRNSS-1H in August 2017 failed after the heat shield covering satellite failed to separate in space after the launch.
- The IRNSS-1I was having lift-off weight of 1,425 kg and has life span of 10 years. It carried two types of payloads: Navigation and Ranging.
- They are L5 and S-band navigation payloads and C-band ranging payloads. It also has corner cube retroreflectors for LASER ranging.
- It will be stationed in Geosynchronous Orbit at 36,000 km height.

IRNSS

- The Indian Regional Navigation Satellite System (IRNSS) is an independent satellite based regional system developed indigenously by India on par with US-based GPS, Russia’s Glonass and Galileo developed by Europe.
- It was renamed “Navic” (Navigation with Indian Constellation). The NAVIC system is constellation of seven satellites, (namely IRNSS-1I, 1B, 1C, 1D, 1E, 1F and 1G) of which three are geostationary and four are non-geostationary.
- It provides location tracking within 20 meters of actual positions, especially in 1,500 km area around the country’s borders.
- The indigenous satellite-based navigation system under one’s control and command is considered a deep strategic asset.
- The NAVIC navigation system has both civilian and military uses. Moreover, it helps not just in land navigation but also in marine and aerial navigation. It offers wide services like terrestrial and marine navigation, disaster management, vehicle tracking and fleet management visual and voice navigation for drivers.



Background

- The need for indigenous navigation system on par with GPS was felt soon after Kargil conflict (1999), when India desperately needed services satellite based navigation system, but did not have one of its own. The US system was not available at the time.
- Only US (named GPS) and Russia currently have fully operational GPS systems at present. China (Beidou) and Europe (Galileo) are still in process of deploying their full systems.

Parker Solar Probe: first flight to Sun

- NASA's will launch humanity's first mission Parker Solar Probe (PSP) to the Sun in July 2018.
- It is undergoing final preparations for its scheduled launch on board of NASA's Delta IV Heavy launch vehicle from Kennedy Space Centre in Florida.
- After its launch, the probe will orbit directly through solar atmosphere — the corona closer to surface than any human-made object has ever gone.

Parker Solar Probe mission

- It is NASA's first planned robotic spacecraft to study outer corona of Sun. has been designed and built by Johns Hopkins University Applied Physics Laboratory.
- It is named after solar astrophysicist Eugene Parker, first spacecraft of NASA to be named after living person.
- The spacecraft is designed to endure harsh environment near Sun, by approaching within 8.5 solar radii (5.9 million kilometers) to 'surface (photosphere) of Sun where incident solar intensity is approximately 52 times intensity at Earth orbit.
- The probe will be fitted with thermal protection system (TPS) or heat shield made of reinforced carbon-carbon composite that will allow it to survive temperatures in Sun's corona.
- Its main systems and scientific instruments are located in central portion of shield's shadow, where direct radiation from Sun is fully blocked.
- The primary power for mission is dual system of solar panels (photovoltaic array).
- Secondary source consists of much smaller secondary array power uses pumped-fluid cooling to maintain operating temperature.

Scientific goals of PSP

- Determine structure and dynamics of magnetic fields at sources of solar wind. Trace flow of energy that heats corona and accelerates solar wind.
- Determine what mechanisms accelerate and transport energetic particles. Explore dusty plasma near Sun and its influence on solar wind and energetic particle formation.
- In its seven-year mission, PSP will explore Sun's outer atmosphere and make critical observations to answer questions about physics of stars.
- Its data will also be useful in improving forecasts of major eruptions on Sun and subsequent space weather events that impact technology on Earth, as well as satellites and astronauts in space.

IN-SHORT

Wayanad wildlife Sanctuary

- The Wayanad Wildlife Sanctuary in Kerala was formed in 1973.
- The sanctuary was carved out of two territorial divisions- Wayanad and Kozhikode.
- The sanctuary is located on the southern part of Western Ghats.
- It is a part of the Nilgiri Biosphere Reserve and also an Elephant Reserve.
- The sanctuary is significant because of ecological and geographic continuity with other protected areas such as
 1. Bandipur Tiger Reserve and Nagarhole National Park of Karnataka in north-eastern portion
 2. Mudumalai Tiger Reserve of Tamil Nadu in south-eastern side
- The vegetation comprises of tropical semi-evergreen forests, moist mixed deciduous forests, dry mixed deciduous forests, bamboo forests, and marshy grasslands.

RashtriyaAvishkarAbhiyan

- Ministry of Human Resource Development has launched the RashtriyaAvishkarAbhiyan (RAA).
- It is a convergent framework across School Education and Higher Education aiming to **encourage children towards learning Science and Mathematics**.
- The objectives of the RAA are,
 1. To enable children to become motivated and engaged in Science, Mathematics and Technology (SMT).
 2. To create a culture of thinking, inventing, tinkering to promote enquiry based learning in schools.
 3. To encourage and nurture schools to be incubators of innovation.
- It is planned to provide nourishing and nurturing support to and a platform for schools in a dual track approach.

Specific initiatives planned under the Rashtriya Avishkar Abhiyan



- RashtriyaAvishkarAbhiyan will target students in the **age group of 6 - 18 years**.
- It will encourage the children to have an enduring interest both inside classroom and outside classroom activities.

Internet Security Threat Report

- The ‘Internet Security Threat Report’ was recently released by security solutions provider Symantec.
- According to the report, **India** emerged as the **third most vulnerable country** in terms of risk of cyber threats, such as malware, spam and ransomware, in 2017.
- India continues to be 2nd most impacted by spam and bots, 3rd most impacted by network attacks, and 4th most impacted by ransomware.



- Cyber criminals are rapidly adding “**cryptojacking**” to their arsenal as the ransomware market becomes overpriced and overcrowded.
- Cryptojacking is defined as the secret use of your computing device to mine cryptocurrency.
- The global threat ranking is based on eight metrics — malware, spam, phishing, bots, network attacks, web attacks, ransomware and cryptominers.

National Social Assistance Program (NSAP)

- NSAP is a welfare program administered by the **Ministry of Rural Development**.
- Its launch represents a significant step towards the fulfillment of the Directive Principles in Article 41 of the Constitution.
- The program introduced a National Policy for Social Assistance for the poor.
- It aims at ensuring minimum national standard for social assistance in addition to the benefits that states are currently providing or might provide in future.
- This program is implemented in rural areas as well as urban areas.

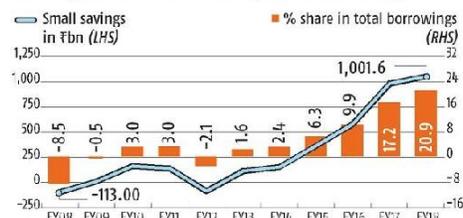
- The NSAP scheme was brought within the umbrella of ‘Core of Core’ scheme in 2016.
- NSAP at present comprises of
 1. Indira Gandhi National Old Age Pension Scheme (IGNOAPS)
 2. Indira Gandhi National Widow Pension Scheme (IGNWPS)
 3. Indira Gandhi National Disability Pension Scheme (IGNDPS)
 4. National Family Benefit Scheme (NFBS)
 5. Annapurna

Small Savings Schemes

- According to data from the Reserve Bank of India (RBI), small savings schemes accounted for a little over a fifth (20.9 per cent) of all central government borrowing.

SMALL IS BIG

Central government borrowing from small savings



- Small savings scheme include post office deposits, National Savings Certificate (NSC), and KisanVikasPatras (KVP).
- The period (FY14-FY18) also saw a jump in government borrowing from the provident fund.
- In the same period, annual borrowing from the (bond) market declined by 27 per cent.
- KisanVikasPatra is a small savings instrument that will facilitate people to invest in a long term savings plans.
- National Savings Certificates are savings instrument that are eligible for tax rebate.
- Both KVP and NSC can be purchased from the Post offices.

UTTAM App

- UTTAM stands for – Unlocking Transparency by Third Party Assessment of Mined Coal (uttam.coalindia.in).
- Ministry of Coal and Coal India Limited (CIL) developed the app.
- It aims to provide for all citizens and coal consumers to monitor the process of Third Party Sampling of coal across CIL subsidiaries.
- It provides a platform for monitoring of sampling and coal dispatches.
- It is an example of leveraging technology to facilitate a bidirectional channel between Coal India Limited and a common citizen.
- It ensures transparency and efficiency in the coal quality monitoring process and brings coal governance closer to people.
- The salient features of UTTAM APP are:
 1. Sampling Coverage
 2. Subsidiary wise quality parameters
 3. Complaints pertaining to quality of Coal
 4. Sampled Volume
 5. Imported Coal

Schemes for welfare of Women and Children

- Ministry of Women and Child Development (MWCD) implements several schemes supporting for the welfare of the women and children including SC/ST and minority of different age groups.
- Some of the important schemes are SwadharGreh, Ujjawala, and STEP Scheme.
- **Ujjawala** is a comprehensive Scheme for Prevention of Trafficking and Rescue, Rehabilitation and Re-Integration of Victims of Trafficking for Commercial Sexual Exploitation.
- **One Stop Centre:** One Stop Centre (OSC) scheme is being implemented by the Ministry to support women affected by violence.
- OSC aims to facilitate access to an integrated range of services including medical aid, police assistance, legal aid/case management, psychosocial counseling and temporary support services.
- The Ministry also implements the scheme of **Universalization of Women Helpline** through States/UTs Government.

- It provides 24-hour emergency and non-emergency response to women affected by violence.
- The helpline is functional in 28 states.

Supplementary Nutrition Program under ICDS Scheme

- The Supplementary Nutrition is one of the six services provided under the Integrated Child Development Services (ICDS) Scheme.
- It is given to the children (6 months – 6 years) and pregnant and lactating mothers under the ICDS Scheme.
- The services are provided to those who visit Anganwadi Centers and enroll themselves.
- ICDS comes under the purview of Ministry of Women and child Development (MoWCD).
- ICDS is a centrally sponsored scheme implemented by state governments and union territories.
- The Supplementary Nutrition Program (SNP) component was funded through a 50:50 ratio.

Bhimgad Wildlife Sanctuary

- The sanctuary is in Belgaum, Karnataka and is home to subtropical moist broadleaf and tropical forests.
- The rare **Wroughton's free-tailed bat** can only be found in two or three places on earth, one of them being the Bhimgad forest of Karnataka.
- This evergreen forest on the Western Ghats on the Goa-Karnataka border is the origin of Mahadayi River.
- There is a fort that stands atop a hill in the heart of the forest that was served by the descendants of Marathas, during Shivaji's time.
- The sanctuary gets its name from this former Maratha outpost which was known as Bhimgad Fort.
- The sanctuary also houses the tiger, the Malabar giant squirrel, the mouse deer, the King cobra and birds like the Great Indian pied hornbill, the Malabar trogon and the imperial pigeon.

Kra canal

- China pushes plan for kra canal construction splitting Thailand into two and thereby reshaping the Indian Ocean.
- Kra canal also known as **Thai canal** or **Kra isthmus canal** is a proposed canal to connect **Gulf of Thailand** (formerly known as **Gulf of Siam**) with **Andaman Sea**.
- The Kra Canal could benefit India and the region by taking pressure off the overcrowded Malacca Straits.



- From China's point of view, the Kra Canal offers a means to secure its expanding demand for West Asia's hydrocarbons against overcrowding in the Malacca Straits.
- Strait of Malacca is the world's busiest maritime lane, through which an estimated 84,000 ships carrying around 30 per cent of global trade transit each year.
- Exiting the Kra Canal westwards, traffic would enter the Andaman Sea, transit past India's Andaman and Nicobar Islands, and then head south towards the Chinese-owned port at Hambantota, in Sri Lanka.
- Thailand's tourism industry and fisheries could, however, face damage from the project.

White label ATM (WLA)

- White label ATMs are set up by non-banking entities.
- Broadly, ATMs differ from WLAs in two ways:
 1. In case of a White Label ATM, the logo displayed on the ATM machine and in the ATM premises pertain to the WLA operator instead of a bank.

2. Cash deposits are not accepted at WLAs as it is not permitted by the RBI at present
 - The country's first WLA was set up by the Tatas' Indicash in 2013.
 - Non-bank entities were allowed by the RBI to set up White Label ATMs as banks won't be able to provide their ATM facilities in each and every place.
 - At present, cash crunch following demonetization and transaction fees that do not cover costs are affecting these services hardly.

Van DhanVikas Kendra

- The Ministry of Tribal affairs has approved establishment of the first multipurpose "**Van DhanVikas Kendra**" on pilot basis for establishment in Bijapur District of Chhattisgarh State.
- The Kendra will provide for **skill up-gradation** and capacity **building training** and setting up of primary processing and value addition facility.
- This Kendra to start with will have processing facility for Tamarind brick making, Mahua flower storage facility and chironjee cleaning and packaging.
- TRIFED has assigned the work for establishment of this pilot Vikas Kendra to Chhattisgarh Minor forest produce (CGMFP) Federation.
- The Collector, Bijapur will be the coordinating force.
- Minor Forest Produce (MFP) is a major source of livelihood for tribal living in forest areas.
- The Tribals derive 20-40% of their annual income from MFP on which they spend major portion of their time.

TRIFED

- Tribal Cooperative Marketing Development Federation of India Limited (TRIFED) is celebrating **World Honey Bee Day** to create awareness about Beekeeping and uses of its products.
- It is a national-level apex organization functioning under the administrative control of Ministry of Tribal Affairs.
- The objective of TRIFED is socio-economic development of tribal people by undertaking marketing development of the tribal products.
- It serves the interest of Tribal people by ensuring better remunerative price for their Minor Forest Produce and tribal art and handicraft products.
- It is also engaged in skill up gradation and capacity building to develop the marketing of Minor Forest Produce.

Exercise Gaganshakti-2018

- Gaganshakti is a coordinated and composite exercise conducted by the Indian Air Force.
- The aim of the exercise is real time coordination, deployment and employment of Air Power in a short & intense battle scenario.
- Full spectrums of operations are planned by IAF with special focus on 'Network Centric Operations', and 'Effect Based Operations'.
- Apart from wartime drills, IAF will also practice and validate various Humanitarian Assistance and Disaster Relief drills.

VSS Unity

- Virgin Galactic conducted a supersonic test flight over the Sierra Nevada Mountains of its **SpaceShipTwo** passenger rocket ship recently.
- SpaceShipTwo is a reusable spaceflight system.
- It consists of WhiteKnightTwo, a custom-built, carrier aircraft, and SpaceShipTwo, the world's first passenger carrying spaceship to be built by a private company and operated in commercial service.
- VSS Unity is the first Virgin Galactic spaceship to enter service.
- It offers everyone the opportunity to become private astronauts and experience the wonder of space for themselves.
- The flight of VSS Unity plans to carry tourists on suborbital hops into the lower reaches of space to see the Earth far below and the stars beyond.

Rock nitrogen

- The prevailing idea is that all the nitrogen used by plants comes from the air.
- However, nearly a quarter of nitrogen (26%) comes from the earth's bedrock, with the remaining fraction from the atmosphere.
- Nitrogen from rocks can enter ecosystems when rocks weather naturally
- Rock nitrogen availability is determined by weathering, which can be physical or chemical.

- Nitrogen-weathering is a globally significant source of nutrition to soils and ecosystems worldwide.
- Ecosystems need nitrogen and other nutrients to absorb carbon dioxide pollution.
- If a large amount of nitrogen comes from rocks, it helps explain how natural ecosystems like boreal forests are capable of taking up high levels of carbon dioxide.
- Areas with higher levels of rock nitrogen weathering may be able to sequester more carbon.

Latent tuberculosis infection (LTBI)

- Mumbai is preparing a pilot project to target latent tuberculosis.
- Persons with LTBI are those who harbor the TB-causing bacteria within, where it can lie dormant.
- In other words, it is a state of persistent immune response to stimulation by Mycobacterium tuberculosis antigens without evidence of clinically manifested active TB.
- TB is caused by Mycobacterium tuberculosis, a species of pathogenic bacteria that is spread through air.
- The WHO lays emphasis on a specific strategy to tackle latent TB but only in high- and upper middle-income countries with a low incidence of the disease.
- According to a WHO report, approximately 10% of people with LTBI will develop TB, with the majority of them getting it within the first five years of infection.
- LTBI can often be tackled by maintaining good health and observing coughing and sneezing etiquette.

National Environment and Engineering Research Institute (NEERI)

- NEERI is a pioneer laboratory in the field of environmental science and engineering.
- The Institute was established at Nagpur in the year 1958, as Central Public Health Engineering Research Institute (CPHERI).
- The Institute was renamed in 1974 as National Environmental Engineering Research Institute (NEERI).
- NEERI is a constituent of Council of Scientific & Industrial Research (CSIR), New Delhi.
- CSIR-NEERI has initiated vital outcome-driven R&D activities under CSIR-800 program to benefit rural people of India in terms of water pollution control, air pollution control and waste to wealth.
- The mandate of NEERI is:
 1. To conduct research and developmental studies in environmental science and engineering
 2. To render assistance to the industries of the region, local bodies, etc. in solving the problems of environmental pollution through S&T intervention
 3. To interact and collaborate with academic and research institutions on environmental science and engineering for mutual benefit
 4. To participate in CSIR thrust area and National mission projects

E-Office

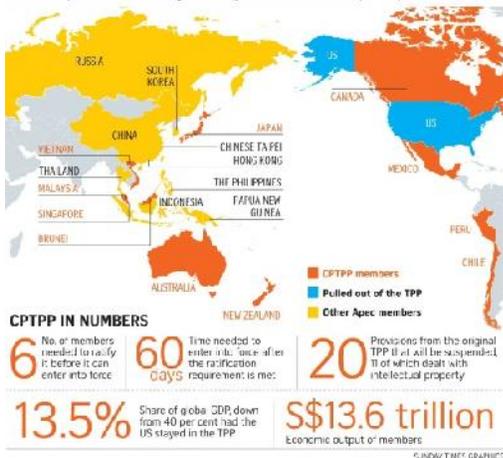
- The e-Office is a Mission Mode Project (MMP) under the National e-Governance Program of the Government of India.
- The e-Office product has been developed by National Informatics Centre (NIC), Ministry of Electronics & Information Technology (MeitY).
- It is to be implemented in all central Ministries/Departments of the Government of India.
- e-Office suit comprises of various applications including routine daily works like Leave Management System, File Management System to **ensure economy in use of paper**

Comprehensive and Progressive Trans-Pacific Partnership (CPTPP)

- The CPTPP is a new free trade agreement between 11 Asia-Pacific countries.
- Its members—Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam—constitute 13.5% of the world economy.
- The economies of the CPTPP members will be made 1.7% larger than they would have been, on average, by 2030.

TPP-11 to move forward on trade deal

The 11 remaining members of the Trans-Pacific Partnership (TPP) all of them in Apec, will push ahead on their free trade deal without the United States. They have renamed it the Comprehensive and Progressive Agreement for the TPP (CPTPP).



- It provides freer trade and investment access among its members.
- After USA withdrawing itself from Trans Pacific Partnership agreement, the other members of TPP planned to go ahead by signing the CPTPP agreement.
- All 11 TPP countries are members of the Asia-Pacific Economic Cooperation (APEC)

Butterfly fish

- In order to survive, melon Butterfly fish changed their behavior to adapt to coral death caused by climate change.
- The bleaching event of 2010 killed patches of corals in several reefs off the Lakshadweep Islands.
- Despite these large differences in coral cover across the reefs in Lakshadweep, melon butterfly fish numbers were similar in the region.
- Butterfly fish relies on live coral for food and has been shown to decline substantially (67%) following climate-induced coral depletion.
- This species is widely distributed in the Indian Ocean, ranging from coastal East Africa to Raja Ampat (Indonesia), and Christmas Island (Australia).
- It is found in coral rich, protected areas in lagoons and on seaward reefs.
- It is found at depths of up to 20 m.
- The species has declined significantly in Seychelles where there has been coral loss and bleaching.

Proto-historic settlement of artisans

- Archaeologists of the University of Calcutta excavated microlithic tools, semi-precious bead in Asuralay village in West Bengal’s Birbhum district.
- The excavation on a mound, which is about two metres from the surface of the earth, has revealed a proto historic settlement.
- The initial estimate tells that the settlement could date to the 2nd millennium BC.
- Raw materials in the form of bones and stones, finished materials, tools like stone and bone drills used for making these products and several fire places used for making the tools are found.
- A large amount of black and red ware pottery (BRW) has also been found at the site in large quantities.
- The pottery signifies a proto historic level of human occupation.
- Other contemporary pottery such as red ware, black ware and buff ware has also been found.
- High temperature burning and charcoal deposits at the mud floor of this monocultural site has also been unearthed.

KaniyanKoothu

- KaniyanKoothu, a folk art with elements of classical music, is performed by the Kaniyan community.
- It is an invocation to SudalaiMadan, the Lord of the Graveyards.
- Kaniyans are a Scheduled Tribe whose population is less than 750 and only around 200 persons are currently performing the art.

- Magudam and mantham are the instruments used by the artists.
- The main singer of the troupe is called as 'Annavi'.
- The annavi is usually supported by a second singer.
- Two artists play the magudam - one plays the bass and the other the sharper version.
- Two men, dressed as women, dance to the tune with boundless energy.
- The art is facing a crisis not because of lack of patronage, but because not many come forward to take up it as a profession.
- In addition, many dancers of the Kaniyankoothu are from the families of paavaikoothu (puppetry) artists who hail from Maharashtra.

8th Regional 3R Forum

- The Eighth Regional 3R (Reduce, Recycle and Recovery) Forum in Asia and the Pacific is all set to commence in Indore, India.
- The Forum is hosted by the Ministry of Housing and Urban Affairs.
- It is co-organized by the Ministry of the Environment, Government of Japan, and the United Nations Centre for Regional Development of the Division for Sustainable Development /United Nations Department of Economic and Social Affairs.
- The overall theme of the forum is "Achieving Clean Water, Clean Land and Clean Air through 3R and Resource Efficiency – A 21st Century Vision for Asia-Pacific Communities".
- Forum will see participation of around 40 mayors of cities around the world and mayors of more than 100 cities across India.
- The signing and subsequent adoption of the 'Indore 3R Declaration on Achieving Clean Water, Clean Land and Clean Air' in cities by mayors and city authorities is the major expected outcome of the event.
- The Forum aims to address how 3R and resource efficiency measures can provide complementary benefits in making cities and countries clean, smart, livable and resilient.

Silent Valley Park

- Silent Valley Park in Kerala will soon reopen to visitors.
- It is located in the Northeast corner of Palakkad district.
- It is a beautiful representation of the last remaining rain forest of Kerala.
- Silent Valley was declared as National Park in 1984 and formally inaugurated in the year 1985.
- It constitutes the centerpiece of the Nilgiri Biosphere Reserve, an integral part of the Western Ghats.
- It was called 'Sairandhrivanam' as it was considered this was where Sairandhri (the secret identity donned by Panchali, from the epic Mahabharata) hid along with her five husbands.



- A perennial river named Kunthipuzha is passing through the western side of the park, from north to south direction finally merging in to Bharathapuzha.
- Species like Elephants, NilgiriLangur, NilgiriTahr, Tiger, Leopard, Sloth Bear, Gaur, etc. are found in this area.
- The endangered lion tailed macaque is found in this park
- The indigenous tribal groups that live within park boundaries include Irulas, Kurumbas, Mudugas and Kattunaikkars.

Advanced Supersonic Parachute Inflation Research Experiment ASPIRE

- NASA successfully launched a supersonic parachute into the sky that will help missions to land on Mars.
- The test was meant to mimic the conditions that a spacecraft would experience during a Red Planet entry, descent and landing (EDL).
- An ambitious NASA Mars rover mission set to launch in 2020 will rely on a special parachute to slow the spacecraft down as it enters the Martian atmosphere.
- The payload that was launched is a bullet-nosed, cylindrical structure holding a supersonic parachute, the parachute's deployment mechanism, and the test's high-definition instrumentation -- including cameras -- to record data.
- The Mars rover which is scheduled to launch in two years (2020), on a mission to hunt for signs of ancient life on the Red Planet.
- The six-wheeled vehicle, whose body is based heavily on NASA's Curiosity Mars rover, will study rocks on site and cache samples for eventual return to Earth.

Low cost weather modification technology

- China is experimenting with a new low-cost weather modification system in a bid to increase rainfall on the Tibetan plateau.
- The Tibetan plateau, Asia's largest freshwater reserve, feeds the continent's biggest rivers including the Yellow River, Yangtze, Mekong, Salween and the Brahmaputra.
- As it is often called Asia's 'water tower', the rivers serve as a lifeline for almost half the world's population, flowing through India, Nepal, Laos and Myanmar and other countries.
- China intends on building a network of fuel-burning chambers in select locations across the plateau.
- The chambers will burn solid fuel to produce **silver iodide**, a cloud seeding agent.
- The chambers will be built on steep mountain ridges facing the direction of the wind,
- When the wind hits the chambers, it produces an upward draft and sends particles into the atmosphere to bring rain.
- The technology has been used by other countries, such as the US, China is attempting to implement it in a large-scale.
- There are already 500 burners reportedly deployed on the plateau for experimentation.

3RD WEEK OF APRIL**POLITY, GOVERNANCE AND PUBLIC POLICY****Right to marry person of one's choice: SC**

In News: The right to marry a person of one's choice is integral to Article 21 (right to life and liberty) of the Constitution", the Supreme Court said.

- The SC set aside a 2017 order of the Kerala High Court which annulled the marriage of Kerala Muslim convert girl Hadiya and ShefinJahan.
- Hadiya's father moved the Kerala High Court Claiming that her daughter had been "brainwashed" by ShefinJahan.
- The Kerala HC annulled the marriage and sent Hadiya to her parents' custody.
- On appeal by ShefinJahan, the Supreme Court summoned Hadiya, interacted with her in open court and then sent her to continue her studies in a Salem college.

SC Directive

- The choice of a partner whether within or outside marriage lies within the exclusive domain of each individual.
- The Constitution guarantees to each individual the right freely to practise, profess and propagate religion.
- Choices of faith and belief as indeed choices in matters of marriage lie within an area where individual autonomy is supreme.
- Neither the state nor the law can dictate a choice of partners or limit the freeability of every person to decide on these matters.

- The Supreme court also said that the duty of the court is to uphold the right and not to abridge the sphere of the right unless there is a valid authority to do so.

Rights Declared As a Part of Art-21

- Right to live with human dignity
- Right to decent environment including pollution free water and air and protection against hazardous industries
- Right to livelihood
- Right to privacy
- Right to health
- Right to free education up to 14 years of age
- Right to free legal aid
- Right to fair trial
- Right to information
- Right to marry person of one's choice.

Handling Child Rape Cases

Context

- With the recent Kathua and Unnao rape incidents, the demand for death penalty for rape convicts is back.
- However, the decision on death penalty needs a thorough view through the social and legal lenses of the nation.

two recent cases

- **Kathua** - It involves an 8-year-old girl from Kathua, J&K.
- She was abducted, drugged, raped and killed.
- The accused are identified and arrested.
- Notably, the deceased is a Muslim girl and the accused are Hindus.
- These identities have made it an issue of communal politics.
- **Unnao** - A minor girl was allegedly lured by promise of patronage and was raped by the local MLA from the current ruling party.
- Her family had to struggle to get a complaint registered.
- She then went missing, and a case of abduction was registered.
- She was recovered and gave a statement that did not implicate the MLA.
- She and her family persisted in alleging rape and began to protest outside the CM's residence in Lucknow, UP.
- Her father is said to have been beaten up by the MLA's brother and then, picked up by the local police.
- He was sent to jail, where he eventually died in judicial custody.
- The government interfered and the policemen involved in the arrest of the father were suspended.
- The case was transferred to the CBI and the MLA was arrested.
- The charges of rape may or may not be established, but the abuse of power is evident.

Complexity of child rape cases

- **Nature** - Child sex abuse is a complex crime unlike murder.
- There is an attitude of equating family 'honour' with such incidents.
- Societal taboo, under-reporting and hostility to the victim make it more complicated.
- **Underreporting** - In 95% cases, the perpetrator is known to the child.
- In such cases, the child is under severe pressure to not report the abuse.
- In most cases, the child victim turns hostile.
- Apparently, only a lesser percentage of them actually testify against the accused.
- The severity of punishment holds children (family) back from reporting and testifying.
- This, along with poor investigation, results in low conviction rates.
- **POCSO** - The POCSO Act has provisions for special, child-friendly courts.
- It calls for in-camera testimony, child psychologists, protection officers and educators.
- However, these are rarely implemented in states.
- This results in hostile questioning by defence lawyers, threats by the perpetrators, and delays in registering of cases.

- In the present case, owing to its special status, J&K does not even have a POCSO law.
- So the perpetrators must be tried under the Indian Penal Code.

Argument of Death Penalty

- **Rationale** - The demand for death penalty arises from disgust and society's need for revenge.
- This alone could not certainly be the basis for deciding on death penalty.
- **Effect** - Death penalty is already a provision in most cases.
- Evidently, it has not been an effective deterrent against crime.
- It will only aggravate the problem of under-reporting of child sex abuse cases.
- **Judicial system** - There is a legitimate concern that the country's judicial system has not been consistent in awarding death penalty.
- The Law Commission earlier recommended abolition of death penalty, except in terrorism-related cases.
- It however observed that it is difficult to operate the 'rarest of rare cases' principle without a hint of arbitrariness.
- It is wrong to force judges to compare the relative 'merits' of rape victims based on age and choose between death sentence and life.

Way Forward

- **Legislation** - Public sentiments do matter in a democracy.
- But it cannot replace sensible policies and the rule of law.
- Legislation thus ought to be a well-considered exercise.
- It should not be a response to popular outrage in particular incidents.
- **Policing** - The issue of lack of public trust in the police should be addressed.
- It must be ensured that the police serve without fear or favour.
- They must abide by due process, and devote enough time and resources to handling heinous cases.
- They must be allowed to carry out investigations without undue pressures and influence.
- **Social** - Besides these, the social attitudes towards women and children ought to change.
- Sensitisation on gender matters and proper socio-psychological support are essential for the society in general and the potential perpetrators in particular.

CJI has Authority to Allocate Cases- SC

In News: In the backdrop of the four most senior judges holding an unprecedented presser earlier this year over the Chief Justice of India's role as 'master of the rooster', the Supreme Court dismissed a plea seeking transparent guidelines and framework for allocation of cases and setting up of benches.

Supreme Court Judgment

- Constitution puts CJI at the helm of affairs of Supreme Court.
- CJI is the head of institution, authority vested with him is to ensure smooth administrative and judicial functioning of the court
- The Chief Justice of India is first among equals and has the authority to decide allocation of cases and setting up of benches.
- The CJI is a high constitutional functionary, there cannot be "any distrust about the responsibilities he discharges" to ensure that the Supreme Court carries out the work required under the Constitution

Aspirational Districts Programme

In News

- NITI Aayog has recently launched the baseline ranking for 115 aspirational districts.
- This is in line with the Aspirational Districts Programme (ADP) announced earlier by the Prime Minister.

ADP

- It aims to quickly and effectively transform some of India's most underdeveloped districts.
- It will identify areas of immediate improvement, measure progress, and rank districts.
- The broad ideas of the programme include -
 - **convergence** of central and state schemes
 - **collaboration** of central, state level 'Prabhari' (in-charge) officers and district collectors
 - **competition** among districts

- The states are the main drivers in the programme.
- Deliberately, the districts have been described as aspirational rather than backward.
- The motive is to view them as areas of opportunity and hope rather than of distress and hopelessness.

Selection of the District

- The 115 districts were chosen by senior officials of the Union government.
- This was in consultation with State officials on the basis of a composite index.
- The parameters included are -
 - deprivation enumerated under Socio-Economic Caste Census
 - key health and education performance indicators
 - state of basic infrastructure

Present Ranking

- The present ranking is based on 49 indicators across 5 sectors.
- These sectors are areas that have been targeted for transformation -
 1. health and nutrition
 2. education
 3. agriculture and water resources
 4. financial inclusion and skill development
 5. basic infrastructure
- A minimum of one district was chosen from every State.
- Apparently, the largest concentration of districts is in the States which have historically under-performed.
- This includes states such as UP and Bihar, or which are afflicted by left-wing extremism such as Jharkhand and Chhattisgarh.
- The present ranking would be followed by delta ranking of these districts based on their "incremental progress".

Progress Monitoring

- NITI Aayog in partnership with the government of Andhra Pradesh has created a dashboard.
- This is for monitoring the real-time progress of the districts.
- District collectors of all the aspirational districts can input the latest available data of their respective districts.
- The dashboard will also be open to the public.

Significant aspects of ADP

- **Approach** - This is the first time India's most backward districts are being focussed.
- ADP is a better vision of how public services are best delivered to those who need them the most.
- **Governance** - Achieving success in this programme necessitates the contribution of all 3 tiers of government.
- The role of states is important in terms of facilitating resource, personnel, etc.
- On financial inclusion, the full cooperation of banks is necessary and only the Central government has leverage over them.
- The most crucial is the role of District Magistrate or Collector.
- As s/he is familiar with the challenges of his or her geography and has considerable power to implement government schemes.
- **Competitive federalism** - The spirit of cooperation needs to be supplemented by a culture of competition.
- ADP takes the principle of competitive federalism down to district administrations.
- **Civil society** - ADP has opened its door to civil society and leveraged the tool of corporate social responsibility.
- This will bring new ideas and fresh energy from non-government institutions, to join the "official" efforts.
- **Efficiency** - Many schemes of the Centre have flexible spending components, permitting autonomy at local level.
- But these are seldom used in practice due to controlling Central and State machineries.
- Thus ADP focusses on not spending more but spending better.
- There is no financial package or large allocation of funds in ADP.

- It only aims at leveraging the already existing resources of several government programmes, to use them more efficiently.
- **Smart data** - Data collection is often delayed or lacking in quality in India, distorting the development policy efforts.
- With real time data in ADP, those on the ground level can alter strategies after accurate feedback.
- In a way, the ADP reorients how government does its business of delivering development.

Prabhari Officer

- Each district has a prabhari (in-charge) officer -
 1. assigned from the Centre (of additional secretary or joint secretary rank)
 2. assigned from the State (of the rank of Secretary to State government)
- A prabhari officer will work in cooperation with the district administration.

The Pathalgadi Rebellion

In News: Many Adivasi villages in Jharkhand have put up giant plaques, declaring their gram sabha as the only sovereign authority and banning 'outsiders' from their area.

Pathalgadi movement

- The villages spread across four districts in the State, namely Khunti, Gumla, Simdega and West Singhbhum have come up with Pathalgadi (huge stone plaques) at the entry points of tribal hamlets.
- These stone plaques have messages engraved on them including warnings for outsiders, prohibiting them from entering the village.
- The Pathalgadi movement draws on this tradition of honouring the community's ancestors.
- Activists say that the movement derives inspiration from the provisions of the PESA.
- The leaders of the movement decided to carve the key provisions of the PESA as messages on huge stones in order to enlighten Adivasi people about this law.
- PESA empowered a village as an administrative unit.

PESA Act, 1996

- PESA (Panchayats Extension to Scheduled Areas) Act, 1996 is a law enacted by the Government of India for ensuring self-governance through traditional Gram Sabha's for people living in the Scheduled Areas of India.
- Scheduled Areas are areas identified by the Fifth Schedule of the Constitution of India.
- Scheduled Areas are found in ten states of India which have predominant population of tribal communities.
- The Scheduled Areas were not covered by the 73rd Constitutional Amendment.

Decision on Red Corridor Region

In News: Ministry of Home Affairs (MoHA) has redrawn the red corridor region which are affected by Left-wing extremism.

Red Corridor Region

- Red corridor region is demarcated by the union government to notify the districts which are affected by left wing extremism.
- It is spanning across 106 districts in 10 States, namely Bihar, Jharkhand, Andhra Pradesh, Maharashtra, Odisha, Telangana, West Bengal, Madhya Pradesh, Uttar Pradesh and Chhattisgarh.

Recent Decision

- A recent report of MoHA classifies the red corridor region with respect to the severity of the Naxal influence.
- The three main categories are -
 1. **Severely affected** - Chhattisgarh, Jharkhand, Odisha and Bihar
 2. **Partially affected** - West Bengal, Maharashtra and Andhra Pradesh
 3. **Slightly affected** - Uttar Pradesh and Madhya Pradesh
- 44 districts have been removed from the list and eight new districts which could be slightly or partially affected has been added to the list.
- The recent decision is taken since only 30 worst affected districts account for 90% of the LWE violence.

EIGHT NEW DISTRICTS IN, 44 OUT



Government’s Action to tackle LWE?

- The National Policy & Action Plan constituted by the MoHA had been introduced to reduce the concentration of Naxal affected districts.
- All expenses incurred by the affected areas were covered under the Security Related Expenditure (SRE) Scheme.
- This provides funds for projects related to development such as infrastructure, transportation, communication, bridges and schools.
- Under which mobile towers, boarding schools and roads were installed in LWE affected areas.
- Government also aims for a multi-pronged strategy which primarily includes development and security aspects of affected districts.

ECONOMIC AFFAIRS

Addressing Sugar Sector Crisis

In News:

- The sugar sector is beset with a crisis with high production, low prices and accumulation of sugarcane price arrears.
- It calls for swift actions from the Centre and State governments to address this.

The Concerns

- The crisis is part of the cycle of ups and downs in the supply and prices of sugarcane and sugar.
- Sugarcane price arrears payable by mills to farmers have been accumulating.
- The total unpaid dues of farmers crossed Rs 160 billion in March-end, 2018.
- It reflects a liquidity crunch in the sugar industry.
- Also the financial deprivation of farmers who have already supplied their produce to factories is obvious.

Measures Taken

- **Measures** - A series of measures were taken by the Centre to balance the high production.
- This was done through exports and stabilising sugar prices.
- The measures include:
 - doubling of import duty
 - abolition of export duty
 - mandatory export of 2 million tonnes of sugar
 - fixing the quota of sugar that each mill can sell in the domestic market
- Government’s market measures have achieved little because of the slump in the international market.
- Such piecemeal moves are unlikely to bring in a lasting solution.

Rangarajan Committee Recommendations

- The C Rangarajan committee report has made recommendations on sugar deregulation
- The Centre has accepted the report in 2013 and implemented some of the recommendations.
- These include lifting the levy on sugar production and doing away with the monthly release mechanism for open market sale.
- **States** - The relatively more crucial recommendations of the committee were left to the states to accept and implement.
- However, the states' pace of action in this regard leaves much to be desired.
- The most pertinent recommendation is to abandon the system of state advised prices for sugarcane.
- It was suggested to be replaced with the **revenue-sharing formula**.
- Under this, 70 to 75% of the revenue generated by the mills from the sale of sugar and its by-products is shared with cane suppliers.
- It balances the interests of cane producers and the sugar industry.
- It lets the production of both sugarcane and sugar to be dictated by market demand.
- This has not been conceded by most states, barring Maharashtra, Karnataka and, recently, Tamil Nadu.
- **Farmers** - The farmers are now turning suspicious of the revenue-sharing formula.
- The apprehension is that sugar factories always show losses or very little profits.
- This denies the farmers their legitimate stake in the revenue.

Way forward

- A sound long-term strategy is the need of the hour.
- Linking the prices of inputs (mainly sugarcane) with those of the output (sugar and by-products) is crucial.
- States have to act swiftly in implementing the C Rangarajan committee report suggestions.
- The revenue-sharing model, indeed, holds the key to production and price stability in this sector.
- Better supervision and audit of sugar mills' accounts is imperative to restore the farmers' confidence in revenue sharing formula.

Making GSTN Government-owned

In News: The finance ministry considers converting the Goods and Services Tax Network (GSTN) into a government-owned company.

GSTN at present

- The GSTN is a not-for-profit organisation at present.
- It provides the technological support to the GST.
- The government holds a 49% stake, with Centre and states share of 24.5% each.
- The balance 51% is held by five non-government institutions.
- These are LIC Housing Finance, HDFC, HDFC Bank, ICICI Bank and NSE Strategic Investment Co Ltd.

Rationale behind the Recent Proposal

- The Goods and Services Tax Network handles massive amounts of data.
- It deals with crucial data sets such as indirect tax returns and refunds.
- By now, over 10 million businesses have already registered on the GSTN portal.
- GSTN is apparently a repository of sensitive data on business entities nationwide.
- It is of strategic importance to the country.
- The government is thus concerned about the safety and security of "sensitive" data.
- It thus considers limiting the ownership to the government.

Argument and Counter Argument

- The implicit assumption here is that data is safer with a government company than with private sector entity.
- This seems to be illogical as there is no evidence as yet that safety of data is in any way related to the ownership of the GSTN.
- The government and private entities do not function under different data security norms.
- Moreover, government's own data security systems do not have an appreciable track record.
- Evidently, several government websites have been routinely hacked.

- The controversy over leaks in Aadhaar data further undermines the confidence in government's ability to be a safe custodian of data.
- Moreover, changing the ownership will likely hurt the freedom and efficiency with which the GSTN needs to work.
- This is especially significant given the fast-paced demands of businesses.

Way forward

- In any case, the government already enjoys strategic control over the GSTN due to its 49% stake.
- Also, as per rules, the quorum for a board meeting requires that at least half of the government-nominated directors be present.
- Notably, most large government information technology related projects have been given to private software firms in the past.
- Given all these and the fact that the GST regime is, at last, settling down, the government should only build on this stability, and not risk it.

Increase in FPI limit in Govt Securities

In News: In a move the RBI, in consultation with the Government, hiked the foreign portfolio investors (FPI) investment limit in Central government securities (G-Sec).

- FPI investment limit in Govt Securities has been hiked from 5 percent of outstanding stock currently to 5.5 percent in FY2019 and 6 per cent in FY2020.
- The FPI investment in state development loans (SDLs) has been left unchanged at 2 percent of outstanding stock of securities.

Foreign portfolio investment (FPI)

- It does not provide the investor with direct ownership of financial assets and is relatively liquid depending on the volatility of the market.
- Foreign Investors portfolios are managed by financial professionals. FPI is part of a country's capital account and shown on its balance of payments (BOP).

FDI (Foreign Direct Investment)

- A foreign direct investment (FDI) is an investment in the form of a controlling ownership in a business in one country by an entity based in another country.
- There are two routes by which India gets FDI.
- **Automatic route-** By this route FDI is allowed without prior approval by Government or Reserve Bank of India.
- **Government route-** Prior approval by government is needed via this route.
- Foreign Investment Promotion Board (FIPB) which was the responsible agency to oversee this route was abolished on May 24, 2017.

Government Security (G-Sec)

- It is a tradable instrument issued by the Central Government or the State Governments.
- Such securities are short term (usually called treasury bills, with original maturities of less than one year) or long term (usually called Government bonds or dated securities with original maturity of one year or more).
- In India, the Central Government issues both, treasury bills and bonds or dated securities while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs).
- G-Secs carry practically no risk of default and, hence, are called risk-free gilt edged instruments.

How G-Sec is issued?

- G-Secs are issued through auctions conducted by RBI. Auctions are conducted on the electronic platform called the E-Kuber, the Core Banking Solution (CBS) platform of RBI.

Treasury bills or T-bills

- These are money market instruments, are short term debt instruments issued by the Government of India and are presently issued in three tenors, namely, 91-day, 182-day and 364-day.
- Treasury bills are zero coupon securities and pay no interest.

RRB's under prompt corrective action plans

In News: Prompt corrective action framework for banks will also be applicable for regional rural banks.

- The National Bank for Agriculture & Rural Development, which supervises RRBs, has directed them to initiate self-corrective action based on parameters such as Capital Adequacy.
- It largely follows the framework for bigger commercial banks.

Accordingly, RRBs will have to slow down business if

- Their capital adequacy falls below 9%
- Net non-performing assets ratio rises over 10% of total advances and
- Return on assets falls below 0.25%.
- The objective is to ensure financial soundness and functional efficiency of RRBs with statutory and regulatory compliance.
- NABARD also tightened its supervisory noose around RRBs and said that failure of treading the corrective path when required would attract harsher regulatory actions such as monetary penalties and issuing of show cause notices to the management.

Prompt Corrective Action (PCA)

- A prompt Corrective action is a qualitative tool introduced by the Reserve Bank of India under which direct action is taken on weak banks to ensure the financial health of a bank is maintained and it does not go bust.
 - It does so by putting some trigger points that will help in assessing, monitoring, controlling and taking corrective measures on troubled banks.
 - The parameters on which banks are judged for prompt corrective action are-
1. **CRAR or Capital to Risk Weighted Ratio:** It is a measure of bank's financial strength. If it is above 9% then the bank is considered as fit to handle any turbulence.
 - If it falls below 9%, then the bank is considered to be in danger zone and an alarm is raised for PCA.
 2. **NPA or Non-Performing Assets:** If the NPA percentage exceeds 6% -9% due to the bad loans then the bank is considered to be a troubled bank and is subjected to prompt corrective action.
 3. **Returns on Assets (ROA):** If the returns on assets fall below 0.25% then the bank is subjected to prompt corrective action.
 - It is calculated as $ROA = \frac{\text{Net Income}}{\text{Total Assets}}$.
 4. **Leverage Ratio:** The Tier 1 leverage ratio is the relationship between a banking organization's core capital and its total assets.

Regional Rural Banks

- RRBs are jointly owned by the central government, the state government where they operate concerned and sponsor banks in the proportion of 50 percent, 15 percent and 35 percent respectively.
- The objective is to increase credit flow to rural areas.

NABARD

- National Bank for Agriculture and Rural Development is the apex development financial institution in India.
- Headquarter- Mumbai; Established in July 1982 under NABARD Act 1981. Formed On the recommendation of B. Sivaraman Committee.
- It is a specialised bank for Agriculture and rural development in India. Rural Innovation Fund and Rural Infrastructure Development Fund have been set under NABARD.
- Important Functions-
 - Recommends about licensing for RRBs and Cooperative banks to RBI
 - Refinances the financial institutions which finance the rural sector.

Exploration Coal Bed Methane (CBM)

In News: The Cabinet gave its approval for amendment in Section 12 of the Oil Fields (Regulation and Development) Act, 1948 (ORD Act, 1948).

- Due to this amendment, relaxation is granted to Coal India Limited (CIL) and its subsidiaries for not applying for grant of license/lease under the PNG Rules, 1959 for extraction of Coal Bed Methane (CBM) under their Coal Bearing Areas.

Impact

- The decision is in line with the Government's initiatives of 'Ease of Doing Business'.
- It will expedite the exploration and exploitation of CBM, enhance the availability of natural gas and reduce the gap in demand and supply of natural gas.

- The increased development activities for exploration and exploitation of CBM gas reserves in-and-around the block will generate economic activities which in turn has potential to create employment opportunities in CBM operations and in the industries.

Coalbed methane (CBM)

- It is a form of natural gas extracted from coal beds. It is called 'sweet gas' because of its lack of Hydrogen Sulphide.
- Issues with the Hydrogen Sulphide-
- The presence of this gas is well known from its occurrence in underground coal mining, where it presents a serious safety risk.
- Coalbed methane is distinct from typical sandstone or other conventional gas reservoir, as the methane is stored within the coal by a process called adsorption.
- Adsorption is the adhesion of atoms, ions or molecules from a gas, liquid or dissolved solid to a surface. This process creates a film of the adsorbate on the surface of the adsorbent.
- The methane is in a near-liquid state, lining the inside of pores within the coal (called the matrix).
- The open fractures in the coal (called the cleats) can also contain free gas or can be saturated with water.

Hydrocarbon Exploration and Licensing Policy (HELP)

Four main facets of this policy are-

1. (a) Uniform license for exploration and production of all forms of hydrocarbon
 2. (b) An open acreage policy
 3. (c) Easy to administer revenue sharing model and
 4. (d) Marketing and pricing freedom for the crude oil and natural gas produced
- The uniform licence will enable the contractor to explore conventional as well as unconventional oil and gas resources including CBM, shale gas/oil, tight gas and gas hydrates under a single license.
 - The concept of Open Acreage Policy will enable E&P companies to choose the blocks from the designated area.

Criticality of FDI in Manufacturing

Context:

- While the FDI flows in the manufacturing sector has already been lacklustre, it is further slowing down now.
- This is a cause of concern if India needs scale-up its economy and create more jobs for its people.

status of FDI in India

- **Policy** - FDI limits were eased across sectors in mid-2016 to allow foreign firms to own 49% in a venture through the direct route.
- Notably, an even greater stake was allowed if the investment venture had access to state-of-the-art technology.
- However, most of the partnerships that are currently in the pipeline are in the nature of technical collaborations – with little in terms of FDI.
- **Stats** - Flows into the industrial and manufacturing space have picked up pace in lately, and was estimated to be \$17 billion in 2016-17 (double of 2011 level).
- But despite this, the amount netted by the manufacturing sector was still far less than the capital flow into the service sector (which continues to dominate).
- Notably, sectors like FMCG (where regulations are relatively less important) has netted a fair bit of the FDI into well established companies.
- But more foreign capital is needed in sectors like defence to boost our technical expertise and bring jobs to the skilled and unskilled workers.
- Insufficient infrastructure, rigid labour laws and an unstable regulatory environment are the probable reasons that hinder manufacturing FDI flows.

Why is FDI critical for the country?

- If India is to really scale up its GDP growth and ensure jobs-creation, it is necessary to grow its manufacturing sector.
- But capital available with local industrialists is limited, which makes it critical for India to attract more FDI in manufacturing.
- In this backdrop, multiple sectors have been slacking in attracting the needed FDI to help boost the economy and ensure jobs and progress.

- **Defence** - Events like our recent DefExpo generating considerable interests among major defence players around the world.
- But despite this, there hasn't been much in terms of FDI flows into the sector.
- This poor state of affairs is indeed partly due to the lack of sufficient orders from the government, which is by default the major defence buyer.
- **Pharmacy** - It is also unfortunate that sectors such as pharmaceuticals aren't attracting the global players despite India's large pool of science graduates.
- Pharma sector had seen a decline in FDI flow and pulled in less than \$1 billion each in FY16 and FY17, lower than the \$1.5 billion in FY15.
- **Automobiles** - In the automobiles sector too, just \$1.6 billion came through in FY17 compared with \$2.6 billion in FY16.
- This is despite India's abundantly cheap labor and a big home market.

FDI and BoP

- FDI is also an important factor in the "Balance of Payments" (BoP) equation that is critical to ensure the stability of the rupee.
- Also, of the total capital inflow of \$240 billion in the 3 previous financial years, FDI along accounted for 55% - (rest came from debt and portfolio equity).
- This is a big reversal over the trend in the previous 10 years when FDI accounted for less than 30% of the inflows.
- However, in the December quarter, FDI flows weakened though economists believe it could be a error.
- Nevertheless, with the price of crude oil now nudging \$70, there is a real chance the basic BoP becoming negative in the FY19.

Basics:

- FY - is the abbreviation for "Financial Year" (April 1st - March 31st)
- BoP = "Net FDI Inflow" minus "Current Account Deficit"

Current Account Deficit (CAD):

- **CAD** = "Current Account Outflow" minus "Current Account Inflow"
- **Current Account Outflow** = "Outward remittances by foreign nationals in India" + "Profit Repatriation by Foreign Firms in India" + "Cost of Imports"
- **Capital Account Inflows** = "Inward remittances by NRIs from abroad" + "Repatriated Profits of Indian Firms Abroad" + "Cost of Exports".

Government's Plan on Loan Write-off

In News: Union government had written-off the NPA's from books of public sector banks.

NPA's recovery in India

- India ranks 103rd in the world in bankruptcy resolution, with the average time taken to resolve a case of bankruptcy extending well over four years.
- Banks in India are able to recover on an average only about 25% of their money from defaulters and also been lenient in collecting their dues from defaulting borrower.

About the idea of write-off

- A write-off is technically different from a loan waiver in which the borrower is exempted from repayment.
- This does not mean banks will manage to collect the dues from defaulting borrowers.
- Banks prefer to never have to write off bad debt since their loan portfolios are their primary assets and source of future revenue.
- However, loans that cannot be collected or are unreasonably difficult to collect reflect very poorly on a bank's financial statements and can divert resources from more productive activity.
- Banks use write-offs, which are sometimes called "charge-offs," to remove loans from their balance sheets and reduce their overall tax liability.

Government's decision

- Non-performing assets (NPAs) worth Rs.2.41 lakh crore have been written off from the books of public sector banks between April 2014 and September 2017.
- Since the banks were able to recover only 11% of the distressed loans worth Rs.2.7 lakh crore within the stipulated time, the rest had to be written off as per regulations.
- The government, however, clarified that the defaulters will have to pay back the loans, though they were written off.

need behind this move

- Instead of classifying sour loans as troubled assets and taking action to recover them, banks have often chosen to hide such assets using unethical accounting techniques.
- Reserve Bank of India has been stepping up efforts to force both private and public sector banks to truthfully recognise the size of bad loans on their books.
- This caused the reported size of stressed assets to increase manifold in the last few years.
- Many large corporations, as well as smaller enterprises, have been admitted to undergo liquidation under the IBC so that the proceeds can be used to pay back banks.
- As of now the quick resolution of bad loans will free resources from struggling firms and hand them to the more efficient ones.

Impacts of Poor Work Environments

In News: Recent studies has revealed that depression and stress are increasing among employees in private sector.

findings of the study

- Two recent studies have found that depression, anxiety and stress prevail among 43-46 per cent of employees in India's private sector.
- The harmful side effects of "management toxicity" are affecting more and more Indians.
- Some one-eighth of the 800,000 suicides across the world annually are literate Indians potentially employed or employable.
- India is the world capital for diabetes, and cardio ailments are affecting more and more Indians in their thirties.

Causes

- Demanding work schedules, high pressure on Key Performance Indicators linked to higher perquisites, and the always-on mobile phone syndrome are the top three culprits.
- Improper sleep, relationship issues, poor eating habits, lack of exercise, lifestyle issues such as EMI troubles and peer pressure to maintain luxurious lifestyles complete the list.
- Unhealthy workplaces diminish employee engagement, increase turnover, and reduce job performance, while driving up health insurance and healthcare costs.

contributing factors

- For white collar workers the stress at work is intangible and doesn't get measured which results in an ever-higher physical and psychological toll.
- An empirical studies found that long work hours are associated with adverse health including cardiovascular disease, diabetes, and disability.
- Working overtime was associated with a 61 per cent higher injury rate.
- There are also various evidence which shows significant positive mean correlations between overall health symptoms and hours of work.

measures needs to be taken

- Employees must comprehend what constitutes health risks in their work environments and choose their employers based on the stress-related dimensions of work.
- Employees need to learn how to say "No" when it is right to say so and to adhere to time management principles.
- Employers will need to determine the costs of their toxic management practices in terms of both direct medical costs and indirect costs.
- Respective governments' needs to take action on the externalities created when enterprises retrench people who were physically and psychologically damaged at work.
- Societies also need social movements to advocate human sustainability and better work environments are as important as environmental sustainability.

India's Currency Practices – US Signals Caution**Context:**

- US Treasury Department's recent semi-annual report has warranted India to be placed on the 'Monitoring List' for currency practices.
- The move is largely unjustified as RBI interventions were on account of a surplus capital account and not for undervaluing the Rupee.

India intervention in foreign exchange market

- India has been frequently intervening in foreign exchange markets through RBI – which means that it is purchasing more foreign exchange lately.
- **The Concept** - RBI pumps in Indian Rupee and buys foreign currency from the international markets – which increases rupee supply internationally.
- This reduces the demand for rupee and thereby reduces the rupee exchange rate, which helps in arresting any upswing in rupee value.
- It is to be noted that a strong currency would make exports costlier and create losses for export dependent local businesses.
- Contrarily, when there is a big depreciation of rupee, India's imports will become expensive and lead to domestic inflation.
- In such a scenario, the RBI sells its foreign exchange reserves and drains out rupee liquidity internationally, which will push the exchange rates upwards.
- Thus, the interventions are buffer mechanisms in RBI's arsenal to ensure that the currency neither gets overvalued nor gets undervalued.
- **Current Stats** - Net annual purchases of foreign exchange reached \$56 billion in 2017, which is equivalent to 2.2% of the GDP.
- These interventions were to ease a strong Rupee Rally (appreciation) in the backdrop of a massive inflow of FDI and portfolio investments.
- But despite these intervention, rupee appreciated by over 6% against the dollar and by more than 3% on a real effective basis in 2017.
- Significantly, India's Forex reserves have been continuously rising (presently \$424.86 billion) due to frequent intervention since 2013.
- **Regulations** - Value of free-floating currency isn't supposed to be tampered with except in exceptional cases (rapid fluctuations), because appreciation and depreciation are balancing mechanisms in international trade.
- IMF would've usually deemed the currency of countries that undertake such interventions as undervalued, but it has refrained currently as India has a 'Current Account Deficit' (CAD) that is as high 1.5% of its GDP.
- Notably, RBI maintains that the value of the rupee is broadly market-determined and that interventions are only when there is undue volatility.

US report say

- India had a significant bilateral goods trade surplus with the US, which totals to \$23 billion in 2017.
- US has 3 criterions based on which it placing a country in the 'Monitoring List' for currency practices. They are -
- Bilateral trade surplus of over \$20 billion with the US
- Frequent interventions in the Forex Market
- IMF's contention of that the currency is being undervalued
- Hence, as India meets 2 of the 3 stated aspects, the US Treasury Department has warranted placing India on the aforementioned "Monitoring List".
- Notably, 5 other countries namely - China, Germany, Japan, Korea and Switzerland are already on the list.
- The US has maintained that the list is to aid in monitoring and combating unfair currency practices and encourage policies to address trade imbalances.

US move

- India does indeed have a trade surplus with the US, but unlike China, it still has a large trade deficit overall – which implies that Rupee is still undervalued.
- A recent assessment by the IMF has also held that the rupee is actually moderately overvalued and 'closely aligned to its fair value over the long term'.
- The accumulated foreign exchange reserves were largely due inflows into the capital markets and hence India doesn't qualify as a currency manipulator.
- Also, RBI is projected to merely purchase 0.6% of GDP as Forex, which is well below the IMF ceiling (2% of GDP) for being labelled a currency manipulator.

Way forward

- RBI's forex reserves now covers only 11 months of imports, which is actually below pre-2008 (global financial crisis) level of maintaining a 14 month buffer.

- Also, the Current Account Deficit (CAD) is set to rise to 1.9% of the GDP.
- More significantly, share of portfolio investments has jumped to 120% of forex reserves from pre-crisis level of 70% - which calls for jacking up reserves.
- US listing has currently caused the rupee to fall sharply by 29 paise against the US dollar to close at 65.49 in one day.
- However, forex dealers don't expect a sharp fall as the RBI then props up the rupee by selling dollars from its reserves.
- Hence, experts opine that RBI will continue with its interventionist approach at appropriate times, despite being placed on the US watch list.

INTERNATIONAL AFFAIRS

US Congressional Hearings

Context:

- In the wake of Cambridge Analytica issue, Facebook CEO Mark Zuckerberg's congressional testimony gains significance.
- It is essential in this context to understand what US congressional hearings are all about.

US congressional hearing

- A congressional hearing involves members of the two houses, the Senate and the House of Representatives.
- They collect and analyse information on various matters of interest to the polity and the country.
- The legislative hearings are to do with policy measures.
- The oversight hearings, on the other hand, monitor government programmes.
- Besides, Congress holds investigative hearings into suspected wrongdoings by public officials and by private citizens.
- More recently, the senate intelligence committee held hearings on alleged Russian meddling in the 2016 presidential elections.
- The congressional hearings are conducted by committees.

all about the Committees

- **Committee** - A committee is usually a panel of chamber members.
- It is tasked with developing legislation, holding hearings and conducting oversight.
- Each committee has its own jurisdiction.
- Depending on the type of committee, they are either elected by the chamber, or appointed by the Speaker.
- The system is similar to the Indian parliamentary committees but far more powerful.
- **Structure** - There are 20 active Standing Committees in the House of Representatives and 16 in the Senate.
- There are also six joint committees.
- In addition, the House has a Permanent Select Committee on Intelligence.
- The Senate has four Special committees, including one on intelligence.
- Committees, on occasions, have joint hearings, like they did for Zuckerberg's testimony.
- **Composition** - A committee could typically have between a dozen and 40 members.
- Every committee has an all-powerful chair drawn from the majority party in the chamber.
- The chair decides which proposals the committee will consider first, and which can be pushed back. This is usually a political decision.
- The minority party appoints a shadow chair.

Way of proceedings

- **Subjects** - A committee receives many proposals for hearings from several quarters, including from two chambers' members.
- But it is decided by assessing its importance to the nation, to specific political and other lobbies, and to the political leadership.
- It also decides if the issue fits in with its own goals and the political message that it wants to send out.
- **Nature** - Almost always the hearings are open to the public.

- Open hearings, covered extensively by the media, are seen as a way to rally public support for or against an issue.
- But committees have the power to “close” a hearing for reasons
 - of national security
 - of protecting the privacy and reputation of an individual
 - of securing law-enforcement operations
 - if the witness is to reveal information that is protected by law
- **After hearing** - The reports are generally published and become a matter of public record.

Rights do witnesses

- The witnesses enjoy certain rights by way of protections granted to them by the Constitution.
- Witnesses may refuse a committee's order to attend the court by citing the right to free speech, assembly, or petition.
- They enjoy protection against self-incrimination.
- Several committees provide witnesses the right to have their counsel present during testimony.

Indian parliamentary committee system

- **Nature** - The Indian system is modelled on the British parliamentary committee system.
- However, unlike the US and British systems, India does not have a system of public hearings.
- Also, in India, all proceedings are closed to the media.
- **Committees** - There are two kinds of committees in India.
- The Standing committees include financial committees, department committees, business advisory committees, etc.
- The ad hoc committees are appointed for a specific purpose when needed.
- One type of ad hoc committee is the joint parliamentary committee.
- The most high-profile of the JPCs have been investigative in nature.
- E.g. the JPC on Bofors, Harshad Mehta Stock Exchange scam, and the 2G spectrum case.
- The JPCs have summoned and questioned experts, government officials and others.
- Refusing summon from a JPC constitutes contempt.

India - Azerbaijan and NSTC

Context:

- India's External Affairs Minister recently made a visit to Azerbaijan.
- Improving logistics is a key for bilateral trade, and here is how NSTC (North South Transport Corridor) could play a significant role in this regard.

India-Azerbaijan relation

- Azerbaijan is a strategically located, \$170-billion economy with substantial oil reserves.
- It however ranks low on India's diplomacy index.
- It supports Pakistan's claim on Kashmir, to the extent of calling for “reduction of Indian excesses in India occupied Kashmir”.
- This is a cause of concern and needs focus.
- The period 2000-2010 saw a few senior ministers reaching out through various delegations and platforms to Azerbaijan.
- Despite these, it never really figured even in the second orbit of India's foreign policy outreach.

trade scenario

- Bilateral trade between India and Azerbaijan has been rather different from political diplomacy.
- Trade between the two has shot up almost 10-fold from 2005 to 2017.
- This jump in bilateral trade coincided with the opening of the Baku-Tbilisi-Ceyhan (BTC) oil pipeline to the Mediterranean port.
- Opened in 2007, this where Indian oil companies have been buying substantive quantities of crude oil from.
- ONGC Videsh is an investor in BTC.



Future potential

- Naturally, the bilateral trade between the two countries has largely been hydrocarbon-centred.
- And India is a minor exporter of anything worthwhile (rice, beef and tea are some of the key items exported to Azerbaijan).
- Azerbaijan is looking to diversify and reduce its dependence on hydrocarbons.
- Three sectors that have substantial potential for bi-lateral trade are food processing, pharma and technology.
- In this backdrop, India can play an enabling role in partnering it for the same.

NSTC

- North South Transport Corridor (NSTC) is a multi-modal network of ship, rail, and road routes.
- It is for facilitating freight movement between India, Iran, Afghanistan, Armenia, Azerbaijan and Russia.
- The objective of the corridor is to increase trade connectivity between major cities such as Mumbai, Moscow, Tehran, and Baku.
- The route bypasses the Suez Canal and will ensure Indian products reach St. Petersburg in Russia in just 14 days.
- At present, this is a 42-day journey, skirting North Africa and Europe.
- Once the Iran-Azerbaijan leg of the NSTC is completed, Indian ports can be linked with Azerbaijan via Iran (Chabahar Port).
- It could provide a smoother logistics experience for suppliers.
- The new route could reduce distance and costs by 40% and 30% respectively.
- It could go a long way in reducing logistical complexity between India and Azerbaijan.

Chemical attacks at Douma in Syria

In News: On April 7, 2018, there was a chemical attack in Douma city of Syria in which many people lost their life.

Chemical weapons

- It is a toxic chemical in a delivery system such as bomb or artillery. The definition was expanded for the Chemical Weapons Convention (CWC).
- It seeks to limit availability of chemicals that can be used as tools of mass destruction while allowing member states to retain rights to use some of these chemicals for peaceful purposes such as riot control.

Nerve gas

- It is a compound that acts by incapacitating the mechanism within the body responsible for the conduction of nerve impulses.
- This is usually done by blocking the action of acetyl choline esterase — a compound that catalyses the breakdown of the neurotransmitter acetylcholine.
- When acetyl cholinesterase is prevented from performing its normal function of breaking down acetylcholine, muscles go into a state of uncontrolled contraction — a sign of paralysis or a seizure-like state.
- Death usually happens because paralysis extends to the cardiac and respiratory muscles.
- Nerve agents can also be absorbed through the skin.

Nerve gases Vs. Other chemical weapons

- They are among the most lethal.

- In the CWC list of chemicals under various degrees of manufacturing restriction, nerve gases are among the most restricted.
- When countries started to develop newer weapons to bypass these restrictions, they preferred nerve agents.
- That is how Novichok evolved: because restrictions are based on chemical formulae, newer molecules can bypass restrictions.
- Novichok is said to be 5-8 times more lethal than VX nerve agent and its effects are rapid, usually within 30 seconds to 2 minutes.
- Tear gas shells are frequently used for riot control is not restricted under the conventions.
- Of the 192 CWC signatories, Albania, India, Iraq, Libya, Russia, Syria, and the US declared possession.
- Albania, India, Libya, Russia and Syria declared completion of destruction of chemical weapons.
- The Chemical Weapons Convention defines a chemical weapon, which includes nerve gas, as anything specifically designed or intended for use in direct connection with the release of a chemical agent to cause death or harm in itself a chemical weapon.
- **Choking agents:** Fluid builds up in lungs, choking the victim. Examples include chlorine, phosgene, diphosgene and chloropicrin.
- **Blister agents:** Burns skin, mucous membranes and eyes. Causes large blisters on exposed skin. Blisters wind pipe and lungs.
- **Examples:** sulphur mustard, nitrogen mustard, phosgene oxime, Lewisite
- **Blood agents:** Cyanide destroys the ability of blood tissues to utilise oxygen, causing them to 'starve' and strangling the heart. Examples include hydrogen cyanide, cyanogen chloride, Arsine, VX.
- **Riot control agents:** Causes tears, coughing and irritation of eyes, nose, mouth and skin. Constrict airway and shut eyes. Tear gas and pepper spray are examples of such agents

Chemical Weapons Convention (CWC)

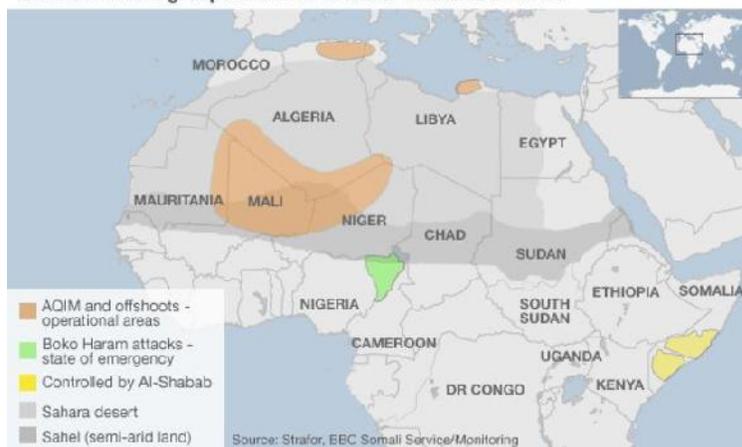
- The Chemical Weapons Convention (CWC) is an arms control treaty that outlaws the production, stockpiling, and use of chemical weapons and their precursors. The treaty entered into force in 1997. Currently, there are 192 countries signatories of the treaty.

Boko Haram - Nigeria's Nightmare

Context:

- 'Boko Haram' (a terrorist organisation in Nigeria) had recently attacked a couple of villages in northern Nigeria and killed more than a dozen people.
- The group also engages in regularly kidnapping school girls from the disturbed north-eastern towns of Nigeria – which is proving to be agonising.

Islamist militant groups and their areas of influence in Africa



history of Boko Haram's Rise

- **Cultural Riots** - The 2002 'Miss World pageant' was initially planned to be organised in the Nigerian capital city of Abuja.
- But the event was shifted to London due to security concerns arising out of religious tensions against the event.
- The pretext was that 'many Nigerian Muslims saw the event as an affront to their culture and perception of feminine modesty'.

- Large-scale rioting and violence was particularly intense in the northern towns and more than 200 people were killed.
- While the Boko Haram existed since the 1990s, it was during these riots that it gained prominence under the leadership of radical cleric ‘Mohammed Yusuf’.
- Based mainly based in northeast Nigeria, the group is also active in the neighbouring countries of Chad, Niger and Cameroon.
- **Ideology** - In the “Hausa language” that is commonly spoken in northeast Nigeria, Boko Haram literally means “Western education is forbidden”.
- The group despises anything that may be considered Western, including the established norms of liberal democracy.
- As a consequence, it considers the Nigerian state an enemy, and wants an Islamic state governed by the Quranic principles and Shariat.
- Significantly, in 2015, Boko Haram had pledged its allegiance to the ISIS.

How notorious has the group been?

- Boko Haram had frequently staged armed attacks and bombings since its early days, but it was only in 2009 that the international community took notice.
- **Violence** - In July 2009, Boko Haram carried out a spate of attacks on churches and government infrastructure and killed scores of policemen.
- Hundreds of civilians and more than 700 terrorists are said to have died in the clashes that followed between security forces and Boko Haram.
- While several top leaders including the organisation’s founder ‘Yusuf’ were said to have been assassinated, the group soon found a new leader in ‘Shekau’.
- In 2014 alone, Boko Haram was responsible for 6,644 deaths, which is even higher than Islamic State’s (IS) 6,073 during the same period.
- **Kidnapping** - UNICEF has recently stated that “Boko Haram” had kidnapped more than 1,000 children since 2013 and abductions continue unabated.
- Notably, the statement comes almost 4 years after 276 girls were kidnapped from a boarding school in a north-eastern town in Nigeria.
- More recently, in February this year, it was reported that nearly 110 girls were missing following an attack by the group in another north-east Nigerian town.

factors responsible for Boko Haram’s rise

- Rise of Boko Haram is partly due to the failure of the Nigerian government to improve the socio-economic conditions of the people in north-east Nigeria.
- While the north-east has historically suffered discrimination, discovery of oil in the south and the subsequent progress there has aggravated the situation.
- Notably, the north was under the rule of ‘Muslim Emeritus’ under British protectorate – much like our pre-independent princely states.
- While the Muslim majority north held on to its conservatism, the Christian majority south was under direct British rule and embraced western education.
- Hence, the south had progressed academically and managed better earning potential while the north had a large chunk of illiterate population.
- These demographic factors hence provide for a ripe ground that supports Boko Haram’s ideological propaganda and recruitment strategy.

Way Forward

- Nigeria, Chad, Cameroon, Niger and Benin (all that are threatened directly by Boko Haram) had joined to form a Multinational Joint Task Force (MNJTF).
- The force has existed since 1994, but its mandate was extended in 2012 to give it more teeth to take on multiple jihadist groups in the region.
- These efforts have succeeded in trimming the outfit’s influence by restricting its activities and geographical reach greatly.
- There are also reports of a new internal power struggle that is brewing within the organisation.
- Yet, despite all these, the organisation’s potency is still very menacing and needs concerted action to neutralise it.

DEFENCE/SECURITY AFFAIRS**Strategic Partnerships for Defence Manufacturing****Context:**

- Defence Secretary Sanjay Mitra had said at the recently held “DefExpo” that the Strategic Partner (SP) policy was still at a preliminary stage.
- Notably, there are fundamental flaws in the current Strategic partnership (SP) policy and it will definitely take a few more years for orders to commence.

Strategic Partnership (SP) Policy

- The intention of the “SP” policy is to promote the private sector to primarily manufacture – fighters jets, helicopters, submarines and tanks, in India.
- The partnership envisions facilitating technology transfer from a foreign ‘Original Equipment Manufacturers’ (OEM) to a local partner on agreed terms.
- This will aid Indian firms to access the technical knowhow on weapons manufacturing while also simultaneously boosting foreign investments.
- Notably, to bring a spread in skills among many firms, the policy mandates only one class of weapons to be manufactured by one local partner.
- The process designated to select a SP is long and arduous and nominated firms must demonstrate its financial and technical potency to be selected.

challenges

- It is a fact that even the most strong of Indian firms dont currently possess the capability to build sophisticated military hardware.
- For example, building a warship demands expertise not just in welding, fabricating, plumbing and wiring.
- More specifically, establishing a battle ready platform requires expertise in high-tech propulsion systems, environment management tools and sensors.
- Notably, public sector shipyards like Mazagon Dock and Garden Reach took almost 50 years to acquire the current level of expertise to build warships.
- Similarly, even Hindustan Aeronautics, which is the only Indian company capable of manufacturing fighter jets, had taken decades for the achievement.
- These public enterprises literally began with nuts and bolts and simple sub-systems, and then graduated to more complex systems.

Risk of partnerships

- In the urge to quickly build private sector capability, the SP policy seems to be demanding unrealistic technological capabilities from aspiring firms.
- Even with the best of intentions and handholding from foreign OEMs (foreign firms), Indian firms will be hard-pressed to build a modern fighter or frigate.
- SP projects require at least a 40% indigenisation, but the most costly components like propulsion systems and sensors will have to be imported.
- This implies that a large amount of fabrication and final integration has to be done in India to meet the 40% indigenisation target.
- All this would mean an undesirable dependence on the foreign partners to compensate for the slack by the local firms.

way Forward

- Aspiring Indian defence firms like the Tata group, L&T, started manufacturing relatively simple components and then graduated to sub-systems and systems.
- These firms seem to be on the right track and they can eventually graduate to manufacturing fully finished equipments.
- But the government needs to be realise that if this process of gradual evolution is rushed beyond a point, it will become counterproductive.

U.S. Missiles Light Up Damascus**Context:**

- U.S. has recently launched missiles against select locations in the Syrian capital Damascus – which risks escalating the conflict.
- Significantly, this was in response to the alleged chemical attack by the Syrian government forces against its own citizens in rebel held territories.

About attack

- U.S. president Donald Trump had threatened the Syrian government with the threat of military action if chemical weapons were used.
- In mid 2017, when there was a suspected chemical attack in Idlib province, the U.S. had fired 59 cruise missiles at a government airbase.
- Despite this, the government forces allegedly carried out another chemical attack recently on rebel control “Douma region” near Damascus.
- Consequently, the US in alliance with UK and France decided to launch an attack against selected targets to punish the Assad regime.
- Over 100 missiles were fired at three regime facilities to completely destroy Syria’s chemical weapons program.
- After the attack, the US has stated that its mission was a success and that it doesn’t intend to follow up with further attacks.

protocol

- While the use of chemical agents against civilians deserves harsh punishment, the manner in which the U.S. and its allies have acted raises serious questions.
- Significantly, Organisation for Prohibition of Chemical Weapons (OPCW) hasn’t even begun its investigation on the alleged chemical attack on Douma.
- The proper procedure would’ve been to wait for OPCW (inter-governmental watchdog) to probe the veracity of the alleged chemical attack.
- The US and its allies should’ve then approached the UN Security Council with requisite evidence and sought an approval for an assault.
- But contrarily, the US alliance seems to have acted merely on the basis of inputs from their intelligence agencies (which is a breach international law).

Risks Involved

- While Mr. Trump has already trumpeted that the US mission was a success, the statement seems to lack solid grounds.
- Notably, the previous US attack was also intended to dissuade Syria from using chemical weapons – which clearly has failed.
- Hence, if the Syrian regime was to resort to another chemical misadventure, the US would be forced to intervene again with more might.
- Such actions might drive the US more into the viscous Syrian entanglement and increase the risk of a direct conflict with Russian troops there.
- In fact, Russia has been strongly and consistently positioning itself behind Assad and the Syrian regime, which is a major worry.

way Forward

- The war is already 7 years old and more than 4 lakh people have died.
- There is no dispute that Mr. Assad is presiding over a monstrous military machine that has used brute force against his own people.
- But the Syrian maze is so complex that a sudden collapse of the regime would push the country into further chaos and make things worse.
- Significantly, more bombs and missiles would put the millions who currently live in the relatively stable regime held territories under risk.
- It is high-time that the West shifts from unilateral and coercive military action to aggressive multilateral diplomacy to end the unfolding misery.
- The only way out is for Russia and US to get to the negotiating tables for immediately stopping the violence and negotiating a long-lasting peace.

ENVIRONMENTAL AFFAIRS**Monsoon Prediction for Central Indian Region**

In News: The Indian Meteorological Department has recently released the monsoon forecast for this year.

- A study by independent meteorologists has predicted a decline in rainfall over the Central Indian region.

Findings

- Low Pressure Systems (LPS) usually bring rain to this area.
- But there is a declining trend in the number of these Low Pressure Systems (LPS).

- The region will witness a 45% decline in the frequency of LPS activity.
- About 50 years from now, the monsoon over central Indian region is expected to reduce.
- This could result in lesser rainfall in this heavily rain-fed agrarian belt.
- This is expected to be realised during the decades spanning between 2065 and 2095.
- The study also highlights a 10% increase in the instances of LPS forming over land.
- This would eventually lead to extreme rainfall over the North Indian plains.

Functioning of LPSs

- Low Pressure Systems (LPS) originate in the Bay of Bengal.
- They travel landwards in a southeast-northwest direction.
- It crosses Odisha, Andhra Pradesh, Telangana, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra and Uttar Pradesh.
- This region is known as the **core monsoon zone**.
- Most LPS pass by this region during the June to September monsoon season.
- This makes it a very crucial region to understand the monsoon.
- A new test-bed facility is being set up on the outskirts of Bhopal to study these key rain-bearing systems.

Long Period Average

- The country would experience a normal monsoon for the third successive year.
- South-west monsoon at 97% of the long period average (LPA) is expected.
- Long Period Average (LPA) is the average annual rainfall for the period 1951-2000.
- The LPA comes to about 89 cm of rain.
- Monsoon is considered normal if average rainfall is between 96% and 104% of the LPA.
- Anything less than 90% of the LPA is considered a deficient monsoon.
- The forecast of a normal monsoon enhanced the economic outlook.
- For farmers especially, this has given fresh expectations.
- This is the third year in a row to look forward to a high output for a variety of crops.
- However, it is not to be forgotten that fiscal realities have come in the way of realising higher farm incomes.
- The Centre has been supportive of higher returns through the Minimum Support Price mechanism.
- Moreover, additional bonuses have been announced by States such as Madhya Pradesh for procurement.

need for caution

- Government efforts have mainly helped only rice and wheat.
- This trend has led to a skew towards these crops.
- This is especially worrying from a water management perspective.
- As the above crops are heavily dependent on groundwater.
- With a normal monsoon, another year of good cropping is expected.
- But unremunerative prices will depress public sentiment.
- So it is vital for the Centre to arrive at a policy.
- Farmers should be given constructive advice on the ideal cropping mix.
- They should be helped to get the cost-plus-50% margin that the Centre has promised them.

water management for India

- Rainfall ranges from a few hundred millimetres or less in the northwest to more than a few thousand millimetres elsewhere.
- The long-term challenge for India is to make the most of the rainfall it receives.
- India notably uses more water to grow crops comparing to, say, China.
- Combined with distortions in procurement subsidies, water stress due to exorbitant use is inevitable.

Decline in Rainfall

- One of the main reasons for decrease in rainfall could be the large-scale decrease in the moist westerly winds.
- These winds, called monsoon circulations, travel from the Arabian Sea along India's west coast onto the mainland.

- In addition, these are observed to have shifted northwards from their normal track during their forward propagation.
- Climate change effect on the monsoon, especially over the core monsoon zone, is seen as inevitable.
- With the rise in global temperature, the atmosphere would have a much higher moisture holding capacity.
- But at a certain point this capacity would collapse, leading to extreme rainfall events and absence of consistent rainfall.
- Extreme rainfall events are already found to be increasing in recent years.

CAMPA funds cannot be used for civic or municipal purposes

In News: The Supreme Court pulled up the Centre for not using around Rs 90,000 crore assigned for environment restoration.

- The apex court also criticized the government for not utilizing this Compensatory Afforestation Fund Management and Planning Authority (CAMPA) fund for the right purpose.

Compensatory afforestation (CA)

- It refers to the afforestation and regeneration activities carried out as a way of compensating for forest land which is diverted to non-forest purposes.
- The Forest (Conservation) Act, 1980 provide that whenever a forest land is to be diverted for non-forestry purposes, the equivalent non-forest land has to be identified for compensatory afforestation and funds for raising compensatory afforestation are to be imposed.
- The act further requires many amendments such as non-forest land for compensatory afforestation etc.

CAMPA

- The ad hoc CAMPA (Compensatory Afforestation Fund Management and Planning Authority) body was created by the order of the Supreme Court on July 10, 2009.
- The ad hoc CAMPA was created as National Advisory Council under the chairmanship of the environment minister for monitoring, technical assistance and evaluation of compensatory afforestation activities.
- In the absence of permanent institutional mechanism more than Rs. 40, 000 crores have accumulated with the said ad-hoc Body i.e. CAMPA.

Compensatory Afforestation Fund Act 2016

- It established National Compensatory Afforestation Fund (NCAF) under the public account of India and State Compensatory Afforestation Funds under public accounts of states.
- These funds will receive payments for-
 - Compensatory afforestation
 - Net present value of forest (NPV)
 - Other project specific payments
- The National Fund will receive 10% of these funds, and the State Funds will receive the remaining 90%.
- The Act provides statutory status for two ad-hoc institution which are named as-
 - (a) National Compensatory Afforestation Fund Management and Planning Authority (CAMPA) for management and utilisation of NCAF.
 - (b) State Compensatory Afforestation Fund Management and Planning Authority (State CAMPA) for utilisation of State Compensatory Afforestation Fund.
- The act also provides for annual audit of the accounts by the Comptroller and Auditor General.

New pollution norms for Fertiliser industry

In News: New emission norms will be applicable to ammonia, ammonium nitrate and calcium ammonium nitrate, complex fertilisers and nitric acid plants.

- The industry emits major air pollutants such as particulate matter, gaseous NH₃, oxides of nitrogen, sulphur and carbon dioxide.

Background

- There are three categories of fertilisers manufactured in India- nitrogenous, phosphate and complex fertilisers (which includes nitrogen, phosphorous and potassium nutrients in different ratios).
- Depending on the type of fertiliser and the plant, the pollutants generated vary and thus, the need for different pollution norms.
- The new set of emission norms include limits for nitrogen oxides in ammonia and nitric acid plants, which were missing earlier.

- Norms have also been introduced for particulate matter, gaseous ammonia and total fluoride for Ammonium Nitrate, Calcium Ammonium Nitrate (AN/CAN) and complex fertiliser (NPK) plants.

Norms for old urea plants

- There are two kinds of plants, those commissioned before 1982 and those commissioned after.
- The emission norms for particulate matter from urea prilling towers continue to be 150 mg/Nm³ for older plants commissioned before 1982.
- On the other hand, the norms are 50mg/Nm³ for plants commissioned after 1982.
- Since almost 50 per cent of the plants in India were set up before 1982, it means that most of the urea plants will continue to run with relaxed norms in the coming years.

Banned use of Heavy metals

- The new set of norms has scrapped the limits for heavy metals (vanadium, arsenic and Chromium).
- Chromium-based chemicals that were used earlier as algacide in cooling water system of urea plant are not in use anymore.
- Similarly, vanadium and arsenic which were being used earlier in carbon dioxide removal process in ammonia plant has also been phased out.

Internal Climate Migration

Context:

- There is presently an increased internal migration across the world due to political and economic instability.
- Beyond this, the internal migration due to climate change is potential of getting to be a major concern for nations.

looming danger

- Some of the slow onset climate events would be droughts, effects from sea level rise and water shortages.
- These may certainly drive many more to leave their homes and move to safer places.
- Such migration may be a choice in the initial stages.
- However, as the stress becomes more severe, the decision to move may be forced.
- E.g. people are compelled to leave their island nations in the Pacific and Indian Oceans with gradual rise in sea levels
- These climate exiles are an ongoing process.
- Notably, it would likely increase out-migration over time.

vulnerability

- A recent report by the World Bank on internal climate migration highlights the possible migration reality.
- In Latin America, South Asia and Sub-Saharan Africa over 140 million people would be forced to move within borders by 2050.
- This would be as a result of slow onset climate events alone.
- In the worst-case scenario, about 40 million of these migrants would be in South Asia.
- This is the most populous of the regions studied, with a number of climate change effects anticipated.

South-Asia be affected

- South Asia is characterised by **rain-fed farmland** in large parts of the region.
- Variability in the **monsoons** and **warmer temperatures** is sure to lead to **crop failures**.
- This will lead to **migration** from the Gangetic plains and from the rice-growing northeast of Bangladesh and the inundated coasts.
- The numbers on forced internal migration in South Asia could increase six-fold between 2020 and 2050.
- This will continue to rise beyond 2050 without appropriate climate action.
- But even with inclusive development and climate-friendly scenarios, tens of millions would still be forced to migrate.
- This normally makes people **migrate to big cities**.
- However, those along the coast such as Mumbai, Chennai, Chittagong and Dhaka will themselves be vulnerable.
- **Storm surges** and other effects from **sea level rise** make these coastal cities unfavourable.

concerns

- The **poor** would be the worst affected by these slow onset events.

- Most of them would migrate out of rural areas to nearby urban settlements such as **cities and the peri-urban surroundings**.
- Such “**hotspots**” of in and out migration would be stressed for natural resources, public services and livelihoods.
- In India, the areas between Chennai and Bengaluru could be the potential spots.
- In India, there are already signs of **unplanned and frontier-led growth** in peri-urban areas.
- Planning that ignores the **ecosystem services** provided by local natural resources generates further problems for the vulnerable.
- The implications of internal migrations will significantly affect **development** in these areas and the lives of vulnerable people.

Way Forward

- **Policy** - Understanding migration patterns, getting socioeconomic data on migration and appropriate planning are essential.
- Current climate modelling methods are not accurate at high resolutions for local decision-making.
- Policies to reduce GHG emissions are of utmost urgency.
- **Cities** - The peri-urban areas, expected to be hotspots, already have many problems.
- These include water shortage, waste management, nutritional deficiency, limited services and poor infrastructure.
- Thus, integrating internal migration with ongoing development planning is vital.
- **Ecosystem** - Ecosystems, part of the natural resources in peri-urban areas, ought to be protected as “special ecological zones”.
- This is crucial to ensure that as urban settlements expand, they don’t spoil the ecosystem services.
- **Social** - Ignoring issues of social justice and equity in adaptation can lead to serious governance failure.
- Skill building, job training and education and job opportunities for locals and migrants thus have to become a focal point.
- Rights for those who are forced to migrate would be fundamental in these preparations.

MISCELLANEOUS

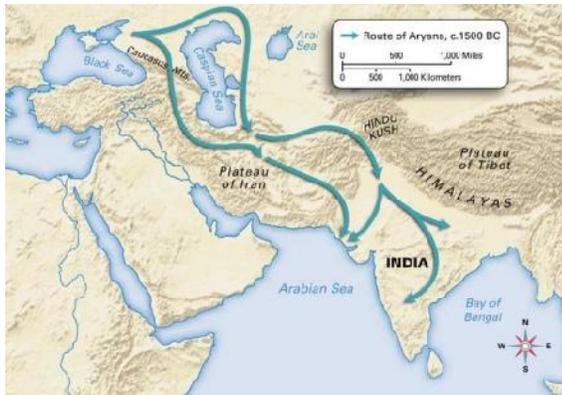
Pre-Historic Migrations in India – Tracing the DNAs

Context

- A recent genetic research on pre-historic samples has revalidated the politically sensitive ‘Aryan Migration Theory’.
- But additionally, the current paper has also stressed the irrevocable genetic inter-connectedness of all modern-day individuals.

About The study

- A recent study titled ‘The Genomic Formation of South and Central Asia’ has published its analysis on the contented Aryan migration theory.
- While term “Aryan” has been consciously avoided, it has claimed that there was indeed some kind of migration into India in around the 2000 BCE.
- “Ancient DNA” from 612 individuals in Central and South Asia were observed and a population influx into the region was claimed to be perceptible.
- Significantly, the timing of this influx is said to perfectly coincide with the terminal phase of the “Indus Valley Civilisation” (IVC).
- The study states that Steppe pastoralists around the “Volga and Don Rivers” in Russia moved towards India and came in contact with IVC populations.
- Indications at multiple sites highlight that the migrants mixed with the southern population and produced a distinctive mixture of ancestry.



various population mixes

- The research proceeds with the understanding that that present-day South Asians have descended from a mixture of two highly divergent populations, namely - Ancestral North Indians (ANI) and Ancestral South Indians (ASI).
- With that viewpoint, it has worked to trace the complex genetic mixing that took place in various ways to create the ANI and ASI.
- The study has claimed to have deciphered 3 separate population groups that intermixed to form ANI and ASI. They are:
- **Ancient Ancestral South Indians (AASI)** – They were the South Indian hunter-gatherers. Ex: Onge (indigenous Andamanese people)
- **Iranian Agriculturalists** - Pastoralists who lived near the ‘Zagros Mountains’ around 8000 BCE and had know the Indian subcontinent.
- **Steppe Pastoralists** - Loosely referred to as the ‘Aryans’, these people are said to have inhabited the vast Central Asia grasslands.
- The study has asserted that the initial IVC folks were a mix of the indigenous AASI population and the Iranian Agriculturalist population.
- Later, the Steppe pastoralists (Central Asians) are said to have moved southwards and mixed with the IVC population.
- Further, the people from IVC are said to have moved further south to merge with the indigenous AASI to form the Ancestral South Indians (ASI).
- During the same time, the mixture between the Steppe people and the Indus Valley people is said to have create Ancestral North Indians (ANI).
- Later, the ANI and ASI continued to mix with each other to create almost the entire ancestry of South Asian population (except some secluded groups).

significant pointers

- **Castist Bias** - A strong connection had also been found between the Steppe pastoralists and the priestly castes (brahmins), and cultures of North India.
- 10 out of 140 current Indian population groups that were studied were found to have a higher amount of Steppe ancestry than Indus Valley ancestry.
- Signficant among these were the ‘Brahmin-Tiwari’ and ‘Brahmin-UP’ groups and Bhumihars - all being the traditional custodians of early sanskritic texts.
- More importantly, the general enrichment in Steppe ancestry was distinctive of the north Indian populations and was not found in south Indian groups.
- **Conclusions** - It can be hence be stated that, the ANI are related to Europeans, central Asians, Near Easterners, and people of the Caucasus.
- Contrarily, the ASI descend from populations that are not related to any present-day populations outside India.
- While ANI and ASI were very distinct in their origins, they are said to have mixed dramatically in India over the centuries.
- Resultly, everyone in mainland India today is a mix, albeit in different proportions of ancestry with other populations.
- Therefore, no Indian can claim to be genetically pure and any such conception is a fallacy driven by socio-political situations.

essence of the research

- The current study is the 1st to have co-analysed ancient individuals and the present day individuals and is claimed to be path-breaking by the researchers.
- Essentially, the study shows that there are no “pure” people anywhere — except perhaps in some very isolated and remote places like Andamans.
- We are all mixed and almost all parts of the world have seen repeated mass migrations that have deeply impacted their demography.
- Hence, the genetic studies should be liberating in a way because it should make us aware that we are all interconnected.

criticism against the study

- The study makes the assumption that there was a possible migration and then proceeds to establish the evidence gathers into this assumption.
- While this is indeed one of the standard research methodologies, some have claimed that analysing migratory trends by this method is faulty.
- Additionally, the study worked with genetic data from the peripheral sites of the IVC as data from regions like Harappa are yet to be released.
- But the DNA at sites like Harappanare likely to have formed the core of IVC, and not having analysed them is a big drawback.
- The study is silent about the pre-IVC population in the Indus valley, and seems to be assuming a near absence of humans in the region before 3000 BCE.
- Also, the influence of Mesolithic and Neolithic populations in the Indian sub-continent seems to the genetic pool hasn't been probed sufficiently.
- Improvements in the DNA analytical techniques have greatly aided the decipherment of historic migrations not just in India but around the world.
- Recently, it was established that Europe went through two major mass migrations that changed their demography.
- Also, the Americas before the European arrival in the 15th century is said have been populated by four distinct migrations from Asia.
- On these lines, the findings about South Asia are just one part of the series of prehistory revelations that has been ushered in by DNA research.

INSHORT**Power to withdraw a case**

- Recently, the Haryana government announced its decision to withdraw cases relating to violence during the Jat agitation of February, 2016.
- The power to withdraw criminal cases against individuals or entities is enshrined in law and vested with the state government through its public prosecutor.
- It is based on the principle that since every crime is a crime against the state, the state has the responsibility to prosecute and ensure punishment for the criminal.
- The power to withdraw criminal cases is vested with the public prosecutor or assistant public prosecutor under Section 321 of the Criminal Procedure Code.
- According to the statute, at any stage before the judgment, the prosecutor can decide to withdraw prosecution against one or all offenders in a case.
- The withdrawal of cases, however, is subject to the court giving its consent.
- Even after a case has been withdrawn by a state government and received the consent of the court concerned, it can be challenged for a judicial review under Article 226 of the Constitution.
- Courts have held that every member of the society has the locus standi to oppose or challenge withdrawal in a criminal case, particularly in case of corruption and criminal breach of trust or cheating.

Protecting heritage along the Hoogly River

- IITKharagpur has initiated a pilot project to protect the rich cultural heritage of the cities and towns along the Hoogly River.
- The project would focus on five former trading posts and garrison settlements near Kolkata along the Hooghly river.

- The **five trading posts and garrison settlements** bear traces of Portugese (**Bandel**), Dutch (**Chinsurah**), British (**Barrackpore**), French (**Chandernagore**), and Danish (**Serampore**) presence, as well as India's own rich culture.
- Among the top priorities of the project is the conservation of centuries-old buildings, which are mainly private houses.
- The project is being jointly funded by the Arts and Humanities Research Council, UK, and the Indian Council for Historical Research.
- The project aims to draw up a Heritage Management Strategy and an hour-long documentary film among its other efforts to preserve the collective history.
- An annual Hoogly Heritage Day is also being planned.

Online dashboard to monitor public grievances on real time basis

- Union Minister of State, Ministry of Personnel and Public Grievance launched an online Dashboard.
- It was developed by Department of Administrative Reforms and Public Grievances (DARPG) and also will be the nodal department for the same.
- It will monitor public grievances on real time basis and periodically review progress of systemic reforms.
- This will enable concerned Ministries/Departments to monitor implementation of these reforms.

Coal Bed Methane (CBM)

- The Cabinet Committee on Economic Affairs approves Exploration and Exploitation of Coal Bed Methane (CBM) from areas under Coal Mining Lease allotted to Coal India Limited (CIL) and its Subsidiaries.
- Coal Bed Methane (CBM) is an unconventional form of natural gas found in coal deposits or coal seams.
- CBM is formed during the process of coalification, the transformation of plant material into coal.
- CBM is one of the cleanest burning fossil fuels.
- The gas is considered to be sweet, meaning it has minimal to no additional gases or chemicals.
- CBM is different from sour gas which contains Hydrogen Sulfide (H₂S).
- CBM referred to as an unconventional resource referring to the method in which the gas is stored in the earth, and the impact this has on how it is produced.
- CBM is stored within the molecular structure of the coal and is held in place by the pressure of the overlying rock and, in many cases, by water circulating through the coal seam.
- To produce this gas, the pressure must be reduced in the coal seam before the gas can flow through existing fractures within the coal seam up to the pipeline.

TadobaAndhari Tiger Reserve

- The reserve spreads across the Vidarbha region in eastern Maharashtra.
- One of the most significant reserves in central India, the Reserve is said to be hosting more than 50 tigers.
- Andhari Wildlife Sanctuary is part of the reserve.
- The Tadobha National Park is Maharashtra's oldest and largest National Park.
- Tadoba Lake is the crucial perennial water source for the region.
- It represents Southern Tropical Dry Deciduous Teak Forests in the Tiger habitat.
- The word 'Tadoba' is derived from the name of God "Tadoba" or "Taru," which is praised by local tribal people of this region
- While "Andhari" is derived from the name of Andhari river that flows in this area.
- Teak is the prominent tree species in the forest region.
- It is a mega-biodiversity site with large surrounding forest area and thus has a long term conservation value and also a gene bank of wild relatives of the cultivated species for future use.

Pharma waste threatens world's rivers

- River systems around world are coursing with over-the-counter and prescription drug waste harmful to the environment.
- Drug waste dumped into rivers driven some species to the brink of extinction.
- The amount of pharmaceutical effluence leaching into waterways could increase by two-thirds before mid-century.
- A large number of drugs found in the environment have been detected in nature at levels dangerous for marine life.

- The drugs include analgesics, antibiotics, anti-platelet agents, hormones, psychiatric drugs, anti-histamines.
- Hormonal drugs, for examples, have notoriously induced unnatural changes in fish and amphibians.
- European Union and the US Environmental Protection Agency have identified Diclofenac, an anti-inflammatory and pain-relief drug, as an environmental threat.
- Pollution levels are likely to be substantially higher in much of Latin America, Africa and Asia where—on average—less than a quarter of waste water is treated.

PashuChikitsakMahasangh

- The secretary of Department of Animal Husbandry, Dairying and Fisheries (DADF) under Ministry of Agriculture and Farmer's Welfare inaugurated the website of PashuChikitsakMahasangh.
- The website was dedicated to **Veterinarians of the country**.
- It is to be developed as an effective platform for sharing of knowledge and developing a database in the field of veterinary sciences in the country.
- PashuChikitsakMahasangh is a registered body formed as apex organization of State Veterinary Associations.
- It is to work for the welfare of the veterinarian's working in Government service sector.

Swaziland

- The President of India became the **first visiting Head of State** to address the Parliament of the Swaziland.
- India and Swaziland signed two agreements — on health cooperation; and on visa waivers for those travelling on official and diplomatic passports.
- Swaziland is a small, **landlocked** kingdom in the southern Africa.
- It is the smallest country in the Southern hemisphere.
- It is a predominantly rural country surrounded by South Africa and Mozambique.
- Hlane Royal National Park and Mkhaya Game Reserve are the wildlife attractions in the country.
- Mkhaya is one of the best places on the continent to see both **black and white rhino** and Hlane is home to big cat – the lion.

Eco-friendly aircrafts

- Air transportation's impact on global warming is estimated at around five percent through CO2 emissions and other substances, including nitrogen oxide and water vapor.
- The number of air passengers is expected to almost double by 2036 to 7.8 billion per year, according to the International Air Transport Association's (IATA) projections.
- Meanwhile, the airline industry aims to cut its CO2 emissions in half by 2050 from 2005 levels.
- Some airlines are beginning to look at electric-powered aircraft as a way to balance both the growth and environmental sustainability.
- Electric planes are cost-effective and much quieter.
- They don't need long runways & could be used at some smaller airports close to city centers.
- One of the biggest hurdles will be the battery storage technology.

Sentinel Wrap

- Sentinel Wrap is a transparent patch that can detect if food has gone bad, by monitoring the presence of harmful pathogens in real time.
- It can be incorporated directly into food packaging to signal E coli and Salmonella contamination.
- If a pathogen is present in the food or drink inside the package, it would trigger a signal in the packaging that could be read by a smart phone or other simple device.
- The test itself does not affect the contents of the package.
- It would be cheap and easy to mass produce, as the DNA molecules that detect food pathogens can be printed onto the test material.
- The same technology could also be used in other applications, such as bandages to indicate if wounds are infected, or for wrapping surgical instruments to assure they are sterile.

Defense Investor Cell

- Defense Investor Cell is set up by department of defense production, Ministry of Defense.
- The cell is to directly interact with all interested investors with regard to potential investment and queries related to policy and projects handled by the MoD.
- The roles and responsibilities of the cell are

1. To act as investment promotion and facilitation agency for all investments in Defense Sector.
2. To facilitate in process of acquisition of licenses.
3. To facilitate availability of public testing infrastructure.
- The cell will initially have officers on areas related to Aerospace, Electronics, Naval and Land systems.
- It will initially provide the following platforms:
 - a. Query Based System to address the online queries.
 - b. Platform for Start-ups to show case their technologies and seek potential partners.
 - c. Physical setting of the Investor Cell Defense.

International Energy Forum (IEF)

- Prime Minister of India will inaugurate the IEF Ministerial Meeting in India.
- International Energy Forum (IEF 16) is hosted by India and co-hosted by China and Korea.
- The theme of this event is 'The Future of Global Energy Security: Transition, Technology, Trade and Investment'.
- IEF16 is the largest gathering of Energy Ministers from across the globe, industry leaders and heads of key international organizations who will debate the future of global energy.
- It aims to focus on how global shifts, transition policies and new technologies influence market stability and future investment in the energy sector.

International Energy Forum

- The International Energy Forum (IEF) consists of 72 member countries, aims to foster greater mutual understanding and awareness of **common energy interests** among its members.
- The Member Countries are signatories to the IEF Charter, which outlines the framework of the global energy dialogue through this inter-governmental arrangement.
- Its member countries are accounting for around 90% of global supply and demand for oil and gas.
- IEF is unique because it comprises not only countries of the IEA and OPEC, but also other major players outside of IEA and OPEC, including Argentina, China, India, Mexico, Russia and South Africa.
- The Forum's biennial Ministerial Meetings are the world's largest gathering of Energy Ministers.
- The IEF and the global energy dialogue are promoted by a permanent Secretariat in Riyadh, Saudi Arabia.

Index of Economic Freedom

- Index of Economic Freedom is published by Heritage Foundation, an American think-tank.
- The Index covers 12 freedoms – from property rights to financial freedom – in 186 countries.
- The Index of Economic Freedom documents the positive relationship between economic freedom and a variety of positive social and economic goals.
- Economic freedom is measured based on 12 quantitative and qualitative factors, grouped into four broad categories of economic freedom:
 1. Rule of Law (property rights, government integrity, judicial effectiveness)
 2. Government Size (government spending, tax burden, fiscal health)
 3. Regulatory Efficiency (business freedom, labor freedom, monetary freedom)
 4. Open Markets (trade freedom, investment freedom, financial freedom)
- India moved up to the 130th spot, up from 143 in 2017.
- India's overall score increased by 1.9 points, led by improvements in judicial effectiveness, business freedom, government integrity, and fiscal health.
- Economic freedom is the fundamental right of every human to control his or her own labor and property.

Mahatma Phule

- Prime Minister paid tributes to Mahatma Phule on his birth anniversary recently.
- Phule was India's first Dalit reformer who offered a systematic theory of caste.
- In the 19th century, Jyotiba Phule was the most radical opponent of untouchability and the caste system as he called for the complete demolition of its oppressive structure.
- The Maharashtrian reformer and his wife Savitirao Phule opened the **first-ever school for Dalit girls** in 1848 in Pune.
- **Gulamgiri (slavery)** is one of the 16 books written by him which was dedicated to the African-American movement to end slavery.

- Phule led the foundation of **SatyashodhakSamaj** (‘Seekers of Truth’) in 1848 in a bid to attain equal social and economic benefits for the lower castes in Maharashtra.

Rare sculpture of Rudrama Devi’s ‘last battle’ discovered

- A sculptural slab carved in granite that has a life-size portrait of Kakatiya warrior queen Rudrama Devi was discovered by the Archaeological Survey of India (ASI).
- It was discovered in the sanctum sanctorum of Trikuta temple at Bekkallu village in Siddipet district of Telegana.
- The discovery has unraveled the mystery of her death who was killed during a war by her own subordinate chief kayastha king Ambadeva somewhere near Warangal.
- The portrait sculpture is a first of its kind that displays a fierce fighting scene between Rudrama Devi and Ambadeva.
- The Kakatiya dynasty was a South Indian dynasty whose capital was Orugallu, now known as Warangal in the State of Telegana.
- Rudramadevi was one of the very few women to rule as monarchs in India and promoted a male image in order to do so.

Guidance to increase support for breastfeeding

- World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF) issued a new 10-step guidance to increase support for breastfeeding in health facilities recently.
- Health facilities provide the immediate health system platform to help mothers initiate breastfeeding within the first hour and breastfeed exclusively for six months.
- Breastfeeding all babies for the first 2 years would save the lives of **more than 8, 20,000 children under age 5 annually**, noted a release issued by the WHO.
- Key features of the Guidelines include
 1. Hospitals should have a written breastfeeding policy in place, required staff competencies.
 2. Hospitals should also have an antenatal and post-birth care, including breastfeeding support for mothers.
 3. It recommends limited use of breast milk substitutes, rooming-in, responsive feeding.
 4. Finally it stresses upon support when mothers and babies are discharged from hospital and also educating parents on the use of bottles and pacifiers.
- **MAA – Mothers’ Absolute Affection**, a nation-wide program for promoting breastfeeding is in place under the Ministry of Health and family welfare, in India.

Green Trains for Green India

- As per estimation, approx. 4,000 MT of human waste is discharged from train coaches every day.
- Indian Railways has provided about 1, 25,000 bio-toilets in its coaches till March 2018.
- With the proliferation of bio-toilets in 60% coaches commensurate human discharge in open, has been eliminated.
- “Bio-Toilet project” of Indian Railways is an innovative & indigenous development of technology.
- This technology is first of its kind being used by any railroad in the world for **On-board accelerated digestion of human waste**.
- The human waste discharged in the bio-toilets is acted upon by a colony of **anaerobic bacteria** that convert human waste mainly into water and small amount of bio-gases.
- The gases escape into atmosphere and waste water is discharged after chlorination onto the track.
- It was developed jointly by Indian Railways’ Engineers & DRDO’s scientists.
- It is one example where the technology developed for defence applications has been utilized for civilian purpose.

Indian Regional Navigation Satellite System 1I

- Navigation satellite IRNSS-1I was put in orbit by the Indian Space Research Organization’s (ISRO) PSLV-C41 rocket.
- The navigation satellites are meant for giving precise information of position, navigation and time of objects or people.
- The satellites will form the fleets of NavIC (Navigation with Indian Constellation).
- NavIC is being dubbed as India’s Own GPS.

<p>IRNSS, India's answer to Global Positioning System, will cover a radius of 1,500km with India at the centre. Here is where India stands in a comity of space-faring nations</p>		<p>No. of satellites 35 (20 now in orbit)</p> <p>First launch October 2000</p> <p>Area of coverage global</p> <p>Lifetime of each satellite 12 years</p> <p>Precision 10m for public and 10cm for military</p>
<p>GPS</p> <p>Country US</p> <p>No. of Satellites 31</p> <p>Coverage Global</p> <p>First satellite launch 1978</p> <p>Lifetime of each satellite 10 years</p> <p>Precision 5m</p>	<p>GALILEO</p> <p>Region European Union</p> <p>No. of satellites 40 (10 in orbit now)</p> <p>First launch 2011</p> <p>Area of coverage Global</p> <p>Lifetime of each satellite 12 years</p> <p>Precision 1m for public and 1cm for military</p>	<p>IRNSS</p> <p>Country India</p> <p>No. of satellites 7(5 in orbit)</p> <p>Area of coverage Radius of 1500km</p> <p>First satellite launch 2013</p> <p>Lifetime of each satellite 12 years</p> <p>Precision 20m for civilian, 10m for military</p>
<p>GLONASS</p> <p>Country Russia</p> <p>No. of satellites 24</p> <p>Coverage Global</p> <p>First satellite launch October 1982</p> <p>Lifetime of each satellite 10 years</p> <p>Precision 5m to 10m</p>	<p>BEIDOU</p> <p>Country China</p> <p>Has two separate satellite constellations- limited test system and full-scale global navigation system</p>	

- The satellites were built by a consortium of six Indian companies led by Alpha Design Technologies Ltd., Bengaluru.
- They have a civilian and a restricted military/security application.
- Like all other IRNSS satellites, IRNSS-1I will also carry two payloads
 1. Navigation payload former to transmit signals for determining position, velocity and time.
 2. Ranging payload for determining the frequency range of the satellite.
- Each satellite has a life span of 10 years.
- The system was planned to consist of 7 satellites (A,B,C,D,E,F,G) with 2 substitutes (H and I).
- Out of 7 satellites A, B, F, G will be in geosynchronous and C, D, E will be in geostationary orbit.
- IRNSS1H, was unsuccessful as the satellite did not come out of its heat shield.
- While IRNSS1I will replace IRNSS1A as its three imported rubidium atomic clocks failed while in orbit.

Aihole

- Aihole is western chalukyan site that is situated in Karnataka.
- It was built between 450 and 650 C.E. that is situated on the banks of the river Malaprabha with the Meguti hill overlooking it.
- It was known in ancient India as **Aryapur or Ayyavole** and was probably the earliest capital of the Chalukyas.
- For two centuries it was at the centre of temple building.
- There are over a hundred temples in Aihole, **all marking the shift from rock-cut temple architecture** to a form where stone blocks are placed on top of one another.
- The oldest temple in Aihole is the Lad Khan temple.
- The Aihole Inscription is a great source for reconstructing the history of the period and it records the achievements of Pulakesi II, especially his victory against Harshavardhana, the ruler of Northern India.



- Monuments belonging to all the three religions –Hinduism, Buddhism and Jainism are found here.
- Badami and Pattadakal are other important chalukiyian sites in its vicinity.

Farm Distress

- According to a new study, giving direct income support (DIS) to farmers may be a better option than the price deficiency payment (PDP) scheme or higher minimum support price (MSP) to address farm distress.
- DIS is easier to implement, more transparent, equitable and crop-neutral.
- The study was not in favor of higher MSPs which are based on cost plus pricing as they distort market seriously.
- The study was based on working paper authored by economist at the Indian Council for Research on International Economic Relations (ICRIER).
- ICRIER is an autonomous, policy-oriented, not-for-profit, economic policy think tank.
- ICRIER's office is located in the institutional complex of India Habitat Centre, New Delhi.

Himalayan Yak

- The Himalayan yak (*Bosmutus*) is a large wild bovid native to the Himalayas.
- It is the lifeline of pastoral nomads in high altitudes of the Indian Himalayan region.
- Yaks provide nomads milk, fiber and meat.
- The long hair of yak has water-resistant properties and can be a good packing material.
- According to IUCN Red list the yak is in the vulnerable category.
- It is facing the threat of gradually rising temperatures in the region.
- Yak is accustomed to very cold temperatures and can survive up to minus 40 degrees but finds it difficult when the temperature crosses 13 degrees.
- Yak is susceptible to heat stress as it can efficiently conserve its body heat during cold weather conditions but has minimal body mechanism to dissipate heat by way of sweating.
- Yak rearing needs to be preserved as this is the only source of livelihood for nomads.

- Yak rearing is an eco-friendly livelihood for nomads who migrate to higher altitudes during summer and return to lower altitudes at about 3000 meters above sea level during winters.
- In addition to climate-related factors, there is a reduction in grazing areas and degradation of pasturelands due to various developmental activities as well.

New technique developed to monitor coastal landforms

- Indian Scientists have developed a remote sensing technique that uses satellite data to delineate between various coastal landforms like beaches, mangroves and marshes.
- This method can help monitor and understand impacts of natural disasters as well as human activities on coastal ecosystem.
- Distinguishing different landforms in coastal region remains a challenge due to their low lying nature, and absence of clear-cut boundaries between various landforms.
- Scientists have used **Object-Based Image Analysis** to demarcate various landforms such as ridges, marshes, mangroves etc. surrounding the Krishna delta present on East coast of India.
- This new technique deploys parameters like tone, texture, shape, context, proximity to the sea and height derived from satellite images for classification of landforms.
- Combining the values of these parameters, a total of 11 landforms were given their peculiar characteristics and were differentiated.

Probiotic Yeast Strain

- Humans face phosphorus deficiency despite consuming phosphorus-rich food because of the inability of human body to absorb it.
- Scientists at National Chemical Laboratory, Pune, have identified a yeast strain that can **improve absorption of phosphorus and make other vital minerals bioavailable**.
- Phosphorus is one of the vital minerals for all living beings including plants.
- Livestock and humans exhibit deficiency of phosphorus and other minerals because humans and non-ruminant animals lack an enzyme **called phytase that converts phytate into free phosphorus**.
- NCL researchers have identified the yeast strain called *Saccharomyces cerevisiae* which can effectively dephosphorylate the phytate to free phosphorus and also possess the probiotic properties.
- Probiotics are live bacteria and yeasts that are good for your health, especially your digestive system.

Pollution and Alzheimer's disease

- Children and young adults living in polluted megacities are at significantly increased risk of developing Alzheimer's.
- The scientists found heightened levels of the two abnormal proteins in the brains of young urbanites with lifetime exposures to fine-particulate-matter pollution (PM2.5).
- Alzheimer's is a irreversible, progressive, degenerative brain ailment that affects memory, behavior and thinking.
- It is the most common form of dementia in the elderly and accounts for 60 to 80 per cent of dementia cases.
- India Ageing Report 2017 states that the elderly population is growing at a faster rate of 3% may up the burden of Alzheimer's in India, as the disease primarily occurs in patients over the age of 65.
- This new finding of affecting the younger generation is a precaution to the Government, Policy Makers and General Public.

Gender gap in India's research scenario

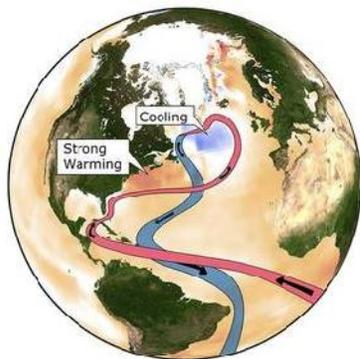
- The data from the HRD ministry says that 21,000 more male PhD candidates enroll for research work than women do in India.
- Similarly, in the subsequent years, the gender gap continued as with increasing number of total enrolments, the number of male PhD candidates was also higher in 2015-16, and 2016-17.
- The data also reveals that maximum PhD candidates are enrolled in state public universities, followed by institutions of national importance.
- According to the All India Survey on Higher Education (AISHE) 2016-17 report, there were more instances of women dropping out from hard sciences particularly after completing their post-graduation (PG).
- The report was released by the Human Resource Development Ministry in starting of this year.
- It also stated that women were also not pursuing a doctorate while more men did their doctorate even in courses where they were outnumbered by women at the PG level.

AlterEgo

- AlterEgo is a silent-speech device developed by researchers at MIT.
- The device uses electrodes **to read the neuromuscular signals** from the user's internal speech organs when they "say" words in their head.
- Our brains send tiny electrical signals to our speaking muscles, which AlterEgo's sensors on the face and jaw detect.
- AlterEgo interprets 'silent speaking' and when necessary, sends feedback to the user via audio others can't hear.
- It is tested by using it in controlling devices, solving math problems, assisting chess and go players, assisting memory by pulling up stored information.

Atlantic Ocean circulation

- Global warming is likely slowing the main Atlantic Ocean circulation, which has plunged to its weakest level on record.
- It could make for more extreme weather across the Northern Hemisphere, especially Europe.
- It could also increase sea level rise along the U.S. East Coast.



Observed temperature change since 1870 (°C)

- Warmer water lessens the amount of cooling and makes it harder for the water to sink and turn over.
- Ice sheets and glaciers in Greenland are melting and the fresh water is pouring into the area where the water turns over, making it less salty, less dense and therefore less likely to sink.
- There's also more rain and snow in northern areas and more evaporation in southern areas, altering the flow.

India Tourism Development Corporation (ITDC)

- India Tourism Development Corporation (ITDC) signed a MoU with Hyderabad based firm for developing a Mega Tourism Destination project at Bhairav Lanka in Kakinada, East Godavari District of Andhra Pradesh.
- This is the first of its kind project for the state owned ITDC, which got preferred against several private contenders.
- ITDC has been the prime mover in the progressive development, promotion and expansion of tourism in the country.
- It came into existence in October 1966.
- The Corporation is running hotels, restaurants at various places for tourists, besides providing transport facilities.
- The Ashok Institute of Hospitality & Tourism Management of the Corporation imparts training and education in the field of tourism and hospitality.
- Broadly, the main objectives of the Corporation are:
 1. To construct, take over and manage existing hotels and market hotels, Beach Resorts
 2. To provide transport, entertainment, shopping and conventional services
 3. To produce, distribute, tourist publicity material
 4. To render consultancy-cum-managerial services in India and abroad

iDex (Innovation for Defense Excellence) scheme

- Prime Minister launched the iDex, Innovation for Defense Excellence scheme in the DefExpo 2018.

- The scheme will set up innovation hubs particularly for the defense sector across the country.
- The scheme wishes to incubate ideas and provide support through infrastructure for defense related start-ups.
- During the DefExpo, in order to boost defense production in the country, the Prime Minister welcomed the move of establishing two defense industrial corridors in Tamil Nadu and Uttar Pradesh.
- Additional information is that Foreign Direct Investment in defense sector in India currently permits foreign companies to own 49% of Indian units.

NPA and High Level debt

- ASSOCHAM said that it may take at least 3 quarters before the twin balance sheet problem to get resolved.
- Twin balance sheet problem refers to the stress on balance sheets of banks due to non-performing assets (NPAs) or bad loans on the one hand, and heavily indebted corporate on the other.
- A recent report by CARE Ratings ranked India at fifth on the list of countries with highest Non-Performing Assets (NPAs), and is on top spot among the BRICS nations.
- The Non-Performing asset of India stands at 9.9 %.
- Leading corporate houses and companies accounted for approximately 77 per cent of the total gross NPAs from domestic operations for the banks.
- The Associated Chambers of Commerce & Industry of India (ASSOCHAM) is a not for profit organization, facilitating reach of India to all businesses around the globe, for wanting to do business with India.

World Bank Report

- The WB released its bi-annual **South Asia Economic Focus report** for 2018 titled 'Jobless Growth?' recently.
- In its previous South Asia economic focus reports, it had focused on backlash of globalization, tepid investment growth, and fading global tailwinds in the South Asian context.
- The WB report said there is an addition of 750,000 jobs in India per percentage point of GDP growth.
- Female employment rate dropped by 5 per cent per year in India in 2005-2015, whereas male employment rate decreased very little.
- Exports growth is the key to employment growth in India.
- Though India has grown faster than before past 2005, the report says that job growth has rather reduced in the reference period 2005-2015.
- The WB has put 2017-18 growth estimates for India at 6.7 %.

Albania's Wetlands and Pelicans

- The Dalmatian pelican is back with a flourish in the Divjaka Lagoon in western Albania.
- It is one of the most important wetlands in the Adriatic basin that is key for migratory wildlife and is a breeding area for the pelican.



- The International Union for Conservation of Nature (IUCN) has included the Dalmatian pelican (*Pelecanus crispus*) on its red list
- About 80 % of its breeding sites in Europe have disappeared.
- The basic feed of the Pelicans depleted by the night time fishermen with their nets and electric lamps.

All India Tiger Estimation 2018

- All India Tiger Estimation, which is conducted every four years since 2006, is underway.
- The exercise will be hi-tech, and also will more accurate and precise than ever before.
- The estimation will be conducted by National Tiger Conservation Authority (NTCA) and Wildlife Institute of India.
- The assessment will use Android phone-based application and desktop version of M-STripES (Monitoring System for Tigers-Intensive Protection and Ecological Status) for collecting, archiving and analyzing data.
- The Tiger Estimation exercise is the world's largest wildlife survey effort in terms of coverage, intensity of sampling and quantum of camera trapping.
- Camera trap and Pugmark tracing are the common survey methods used.
- Visibility of animals, Type and state of habitat, Animal behavior are the factors that affect the accuracy of the process.

World Haemophilia Day 2018

- QutubMinar will be lit up with red lights to raise awareness about an inherited bleeding disorder called haemophilia.
- World Hemophilia Day is an international observance held annually on April 17 by the World Federation of Haemophilia.
- This year theme is "Sharing Knowledge Makes us Stronger"
- Haemophilia is a genetic disease where the body's ability to make blood clots is impaired.
- In this case blood does not clot automatically when they get injured or even during a surgery leading to excessive bleeding.
- The only treatment is to give the missing clotting factor to the patients, which can be extremely expensive.

Plastic Waste Management (amendment) rules

- The Ministry of Environment, Forest and Climate Change has notified the Plastic Waste Management (Amendment) Rules 2018.
- The rules lay down the phasing out of Multilayered Plastic (MLP), which are "non-recyclable, or non-energy recoverable, or with no alternate use."
- Multi-layered plastics (MLP) are the shiny cover in which many ready-to-eat snacks and chips, as well as mouth-fresheners and tobacco products are sold.
- The amended Rules also prescribe a central registration system for the registration of the producer or importer or brand owner.
- The centralized registration system will be evolved by Central Pollution Control Board (CPCB) for the registration of the producer, importer and brand owner.

Small Hydro power Projects

- The Ministry of New and Renewable Energy (MNRE) is the nodal agency for promoting small hydro power projects.
- A major **roadblock** in converting the hydro power potential (an estimate of 20,000 MW of power in the country) to reality has been in terms of **testing of the hydro turbines that generate the electricity**.
- The turbines can be tested for their efficiency in real conditions only after they are installed.
- Even if there is a need for improvement it can't be done once the machine is installed.
- In order to overcome this hurdle, the Ministry has set up a dedicated fully automatic **SCADA-based hydraulic turbine research and development laboratory** at the Alternate Hydro Energy Centre (AHEC) at the Indian Institute of Technology, Roorkee.
- The laboratory will act as a design and validation facility.
- It also can conduct research on hydro turbines and other hydro mechanical equipment conforming to national and international standards.

DARPAN-PLI App

- Minister of Communications launched the DARPAN-PLI App recently.
- It will help in collection of premium for Postal Life Insurance and Rural Postal Life Insurance policies at Branch Post Offices anywhere in India, with online updation of the policies.
- Department of Posts has launched Digital Advancement of Rural Post Office for a New India (DARPAN) Project.
- The project aims at connecting all 1.29 lakh Rural Branch Post Offices in the country to enable them to do online Postal and Financial Transactions.

- The Hand-held devices are installed under DARPAN Project SIM connectivity and solar power backup at all Branch Post Offices.
- It will ensure improvement in the quality of Postal services being offered in remote rural areas.
- Postal Life Insurance is the oldest Life Insurance in the country.
- Rural Postal Life Insurance, in fact, is meant for anyone who has a rural address, for instance rural migrant workers.

UN ECOSCO Elections

- India has won an election to a crucial non-governmental organization committee in the United Nations.
 - The U.N's Economic and social council focuses on advancing the three dimensions of sustainable development — economic, social and environmental.
 - The Committee on Non-Governmental Organizations is a standing committee of ECOSOC.
 - Its main tasks include consideration of applications for consultative status and requests for reclassification submitted by NGOs and consideration of quadrennial reports submitted by NGOs in General and Special categories.
 - India was also elected to the Commission on Population and Development, Commission for Social Development and Commission on Crime Prevention and Criminal Justice.
1. **Commission on Population and Development**- the Commission is to assist the Council by arranging for studies and advising the Council on population issues and trends, integrating population and development strategies and population and related development policies and program.
 2. **Commission for Social Development**- the Commission's purpose was to advise ECOSOC on social policies of a general character and, in particular, on all matters in the social field not covered by the specialized inter-governmental agencies.
 3. **Commission on Crime Prevention and Criminal Justice** - The Commission acts as the principal policymaking body of the U.N. in the field of crime prevention and criminal justice.
- The other functional commissions of the ECOSCO are Statistical Commission, Commission on the Status of Women, and Commission on Narcotic Drugs, Commission on Science and Technology for Development, United Nations Forum on Forests.
 - India was also elected by the Council to the Executive Board of the United Nations Development Program (UNDP), United Nations Population Fund (UNFPA), and United Nations Office for Project Services (UNOPS).

Atal Tinkering Lab (ATL)

- Atal Innovation Mission is paying tribute to the late Dr. B.R. Ambedkar by hosting its nationwide Atal Community Day Initiative on 14th April, 2018.
- Atal Tinkering Labs, under the Atal Innovation Mission of the NITI Aayog, were envisioned as innovative maker spaces, setup across India, in every school, accessible to every child.
- The **ATL Community Day initiative** is an effort to spread awareness as well as engage the local communities in the neighborhood of an Atal Tinkering Lab.
- The Annual Community Day was held across India, over the course of April 13 – 16, with the larger theme of Ambedkar Jayanti.
- Atal Tinkering labs are equipped with modern technologies to help navigate and impart crucial skills in the age of the Fourth Industrial Revolution.

World Heritage day

- Every year, 18th April is celebrated worldwide as World Heritage Day to create awareness about Heritage among communities.
- It is also called as International Monument and Sites Day.
- Theme 2018: Heritage for Generations.
- World Heritage Sites will celebrate World Heritage Day by undertaking various activities to foster fruitful dialogue between generations.
- In India, National Rail Museum, New Delhi is also celebrating World heritage day.
- Indian Railways are the proud owner of 04 UNESCO World Heritage Sites viz. Darjeeling Himalayan Railway, Nilgiri Mountain Railway, Kalka Shimla Railway and Chattrapati Shivaji Maharaj Terminus (CSMT), Mumbai.
- In 1982, the International Council on Monuments and Sites (ICOMOS) announced, 18 April as the International Monument and Sites Day approved by the General Assembly of UNESCO in 1983.

Geomagnetic imprinting

- According to a new study, sea turtles use the Earth's magnetic fields to navigate back to the area where they were born decades earlier.
- The new study used loggerhead turtle genetics to investigate their travels.
- Geomagnetic imprinting is the **ability of turtles to learn their home beach's distinctive magnetic signature.**
- The turtles can perceive both the magnetic field's intensity and its inclination angle.
- Inclination angle is the angle that the magnetic field lines make with respect to the Earth's surface.
- The variation in Earth's magnetic field around the nesting area seems to really predict genetic differentiation much better than geographic distance.
- The current study is based on genetic data, not experimental evidence.

4TH WEEK OF APRIL

POLITY, GOVERNANCE AND PUBLIC POLICY

Law Commission on BCCI

In News: The Law Commission of India has recommended some changes with regard to BCCI recommendations

- **Public body** - Board of Control for Cricket in India (BCCI) should be declared a public body.
- The cricket board, as an entity, is permitted by the state to represent the country at the international stage.
- The ICC (International Cricket Council) recognises BCCI as the 'official' body representing India.
- It exercises 'state-like' powers in the regulation of cricket.
- Given these, it should logically come under the definition of 'state.'
- **RTI** - It should be brought under RTI Act's purview for scrutiny by any citizen.
- The board and all its member cricket associations should be brought under the Right to Information law regime.
- **NSF** - The BCCI virtually acts as a National Sports Federation (NSF).
- Thus, the Ministry of Youth Affairs & Sports website should explicitly mention BCCI in the list of NSFs.
- This would automatically bring it within the purview of the RTI Act.

Need for the change

- **Functions** - The BCCI is a private body that needs no financial help from the government.
- The SC also ruled in 2005 that the BCCI could not be termed an instrumentality of the 'State' under Article 12.
- However, subsequent developments have increasingly implied the public character of BCCI's functioning.
- **Rights** - The board's monopolistic activities, directly and indirectly, affect the fundamental rights of stakeholders.
- These include citizens, players, and other functionaries.
- A private citizen should be able to move the highest court against the BCCI for any violation of fundamental rights.
- **Concerns** - The board is currently veiled from public scrutiny.
- It enjoys an environment of opacity and non-accountability.
- There are concerns of corruption and other forms of malpractices in the board.
- It affects the general public's opinion on one of the most popular sports played in India.
- It has thus been felt for quite some time to make BCCI more transparent and accountable.

way forward

- The central government should consider seriously the recommendation of the Law Commission.
- The Supreme Court's intervention led to the constitution of the Justice R.M. Lodha Committee some time back.
- It recommended sweeping reforms in the board's structure and the rules governing its administration.

- Implementing these reforms at both national and State levels could impart greater transparency in BCCI's functioning.
- It could lead to an overhaul of cricket administration in India and restore faith in the board and the sport.

Simultaneous Elections

Context:

- The proposal for holding simultaneous elections to the centre and the states has gained traction in recent times.
- But there are many practical difficulties and democratic challenges that needs recognized before proceeding forward.

Simultaneous elections

- A draft white paper was released recently by the Law Commission of India recommended holding of simultaneous elections to the Lok Sabha and the Assemblies, possibly in 2019.
- It suggests amending the Constitution to realize this objective.
- The commission says simultaneous elections were held in the country during the first two decades after Independence up to 1967.
- Dissolution of certain Assemblies in 1968 and 1969 followed by the dissolution of the Lok Sabha led to the disruption of the conduct of simultaneous elections.

Key recommendations

- The leader of the majority party be elected as PM or the CM by the entire House (Lok Sabha or Assembly) for stability
- In case a government falls mid-term, the term of the new government would be for the remaining period only
- A no-confidence motion against the government should be followed by a confidence motion



- It recommends that simultaneous elections may be restored in the nation by amending the Constitution, Representation of the People Act of 1951 and the Rules of Procedure of the Lok Sabha and Assemblies.
- Former Supreme Court judge Dr.B.S.Chauhan is the chairman of the present 21st Law Commission.

political developments in this regard

- **Advantages** - Simultaneous elections to the Lok Sabha and State Assemblies is said to have the benefits of saving poll expenditure considerably.
- It would also help the ruling parties to focus on governance instead of being put constantly in electioneering mode.
- **The Developments** - The BJP led government at the Centre has been talking about the need for simultaneous elections for some time now.
- The Union Law Commission has sought the opinion of the public, political parties, academicians and other stakeholders on the proposal.
- The Commission has also released a document outlining the amendments that may be required in the Constitution and electoral laws for achieving the same.
- While the final draft will be put out after the views of the public are incorporated, the present outline itself holds very significant provisions.
- **Envisioned Provisions** - Among the possible recommendations mentioned in the outline, there is a proposal for “constructive vote of no-confidence”.
- I.e. while expressing lack of confidence in one government, members of the legislature will have to repose trust in an alternative.
- Towards this end, even a temporary waiver of anti-defection law is being considered to help in forming a stable alternative government.
- However, critics hold that such provisions for stabilising governments could be considered even now without simultaneous elections.
- **Political Motivation** - Observers believe that voters would tend to prefer the same party at the centre and the state if elections are held simultaneously.

- In this backdrop, it is to be noted that PM Modi has clearly emerged as the primary pole at the centre with no potent alternative in sight.
- Hence, sceptics believe that BJP's zeal for simultaneous elections is driven by this situational advantage – which it seeks to capitalise on across states.

Synchronisation of electoral cycles

- The primary challenge is regarding the termination of existing legislatures to align it with the parliamentary election cycle.
- This would be difficult to execute as palpable political repercussions are bound to crop up on the timing and modalities of dissolution.
- Additionally, this would undermine the federal polity and representative democracy that India has cherished since independence.
- The Law Commission has suggested an alternative to this by indicating its openness to embrace 2 distinct electoral cycles into which states are clubbed.
- I.e. to align elections for one set of states elections with the central and the rest will face elections 30 months later (mid-way through Lok Shaba's term).
- The decision on which states are to be clubbed together is to be decided based on the proximity of the state legislature's current tenure with that of the parliamentary elections.
- Overall, there are multiple difficulties involved in the process and detailed debates and deliberations are needed before proceeding further.

Education – The Primary Component of Wealth

Context: A World Bank study titled “The Changing Wealth of Nations 2018” has asserted that national wealth calculations need a comprehensive review.

- It stresses that educational attainments is the most significant component, as opposed to mere financial wealth.

About the study

- Investment in education is well recognised as the major or primary investment for most families in the world – one that also ensures sustained returns.
- Acquisition of education is indeed acquisition of wealth, but despite education's criticality, it isn't prominently discussed in wealth discussions.
- While there has been considerable research on the prevalent monetary inequality, even data on educational attainment across nations is scarce.
- **The Study** - The World Bank's recent study based their estimates on household survey data from 143 countries, over the past 2 decades.
- Additionally, the study has estimated the share of education in the total wealth at about 64% - which makes it the primary determiner of richness.
- Significantly, this will almost completely contradict the conventional notion of wealth as a “value of financial plus non-financial assets minus their liabilities”.
- This might hence make the notion of “Rice - getting – richer” and “poor – getting – Poorer” less sellable.
- **New Dimension** - Education as an important wealth has been known for centuries, and there has been extensive documentation on the same.
- But WB's study suggests that education is the “greatest wealth of all” by assigning it a massive 64% share in the total net – which is unprecedented.
- Hence, the study is indeed path-breaking and further debates and discussions are needed to refine the context better.

SC judgements on Master of Roster and Impeachment

Context: In recent times, the master of roster controversy has emerged in the Supreme Court.

- This issue is focussed on Chief Justice of India's absolute power on the judicial administration.
- Opposition parties in the 'RajyaSabha' have moved a “motion to remove” CJI Deepak Mishra.

significance of master of roster

- Master of Roster is a judge appointed by the SC to list out the allocation of cases to different judges, for preventing two different benches from hearing the same kind of case.
- The Roster will allow for effective case management, by allocating similar cases to judges with more experience.

- Last year, the SC through few judgements, formalised the “convention” that the CJI is *Sui generis* (unique) and hence the master of roster.

Background

- Earlier in 2017, four senior most judges of the SC had blamed the present CJI for selectively allotting cases to preferred benches.
- In response to that, the CJI published a new subject wise roster for allocation of cases.
- This allocation, did little to pacify the judges as the CJI allocated most important public litigations matters to himself.
- Following this, a verdict responded to the criticism by declaring that the CJI is only a first among the equals as a judge.
- But the bench also agreed that no one, even the fellow judges of SC can question the powers of CJI as the court’s top administrator.
- Final judgement confirmed that the CJI’s dominance over the roster was necessary to protect the SC from anarchy.

concerns of judgements

- There is a deterioration in the unwritten and righteous custom that the law of the land is supreme.
- Concentration of immense powers on a single person is harmful for the nation and is also against the principles of democracy.
- The issues triggering these judgements are also concerning as the cases were relating to allegations of a conspiracy to bribe SC judges.
- Previous norms of pronouncing sensitive judgements by consulting with collegium also will get affected as the CJI will solely decide on cases as well as judgements.

problems in higher judiciary

- Higher Judiciary in India has been going through a tumultuous time currently with multiple issues plaguing its work.
- **The problems** - There is an ongoing strain between the government and the judiciary over judicial appointments.
- 4 senior judges of the ‘SC collegium’ had publicly dissented against the CJI by voicing concerns over CJI’s unilateral allocation of cases to benches.
- Recently, as many as 6 major parties from the opposition benches had moved a motion for the removal of CJI – thereby accentuating the crisis.
- **Removal** - RajyaSabha rules **prohibit the revelation of details** about the motion before it is admitted and hence exact content is not known.
- Their main charge against the CJI is speculated to be “the accusations regarding the selective assignment of cases to Benches of his choice”.
- The aggrieved parties have perceived that the CJI is misusing his discretionary power to distort judicial outcomes in multiple cases.
- Significantly, even in the midst of all this, CJI had earlier asserted his position as the ‘master of the roster’ – stressing his prerogative in allocation of cases.

CJI’s prerogative to allocate cases

- Collegium system was put in place by the Supreme Court to enable a plurality of consultation for judicial appointments (among senior-most judges).
- Those arguing for a consultative approach for allocating cases have been drawing parallels from this established framework.
- The counter argument is that, allocation of cases is a routine function and can’t be equated with the process for new appointments.
- Irrespective of the legal framework, the CJI could’ve averted the crisis by having held informal consultation with his collegium to ease tensions.

Historical analysis

- The Constitution specifies the grounds and method for removal of a judge of the High court or Supreme Court. According to it, a judge shall be removed
 1. only by an order of the President,
 2. after the presentation of an address by each house of Parliament,
 3. supported by a special majority,
 4. in the same session and
 5. on the grounds of proved misbehaviour or incapacity.

- The Constitution also empowers Parliament to make a law to regulate the procedure for the presentation of the address to the President, and the investigation and proof of the misbehaviour or incapacity of the judge.
- Till 1968, Parliament did not enact such a law.
- During this time, the procedure for removal of judges of the higher judiciary involved MPs submitting the notice of motion for removal to the Speaker.
- Speaker discussed the matter with parliamentarians concerned, and examined available material to ensure that there was a prima facie case.
- If there was a case, the issue was brought to the notice of the chief justice of the High Court concerned or the Supreme Court.
- The Speaker maintained secrecy around the issue. Parliamentary records suggest that during this time three such notices were brought before the Speaker.
- And in one of these cases, the judge concerned voluntarily resigned.
- In 1964, Parliament for the first time attempted to lay down the procedural modalities for the removal of a judge.
- A bill empowering the President to order an investigation into the allegations of misbehaviour or incapacity of a judge was introduced in the Lok Sabha.
- A joint committee of both houses was constituted to examine the proposed legislation.
- The panel was of the opinion that to maintain the independence of the judiciary, Parliament should be the forum where proceedings against a judge should be initiated.
- executive should be kept out of the investigation at all stages. The committee proposed a four-step process.
- The first step was a numerical safeguard — the notice of a motion for removal had to be signed by at least 100 MPs of Lok Sabha, or 50 MPs of Rajya Sabha.
- In the second step, the Lok Sabha Speaker or Rajya Sabha Chairperson was granted discretionary power to admit or reject a notice after consulting legal experts and studying the available material.
- In case the notice was accepted, the third step would require the constitution of a committee to investigate the grounds for the removal of a judge.
- And finally, based on the report submitted by the committee, either Parliament would consider the motion against the judge or dismiss it.
- The 1964 Bill lapsed following the dissolution of the Third Lok Sabha (1962-1967), and a version of the Bill similar to the committee's recommendation was passed by the Fourth Lok Sabha in 1968.

Impeachment of CJI: constitutional provisions

- The use of word impeachment is not constitutionally valid in case of judges. Impeachment is only mentioned in constitution for the president.
- For the judges or CJI this is by an order of the President
- **CJI** like other judges of SC & HCs can be impeached on the ground of proved misbehaviour or incapacity under Article 124(4).
- There is **no specifically any provision** in the Constitution that deals with the **impeachment of the CJI**.
- “Proved misbehaviour or incapacity” is mentioned in **Article 124(4)** of the Constitution.
- It is the ground for impeachment of a **Supreme Court judge**.
- The CJI is only the first among equals.
- Hence, the CJI too, like other judges of the SC and HCs, can be impeached on this ground.

impeachment procedure

- The **Judges (Inquiry) Act, 1968** contains details of the process.
- The **motion** is to be signed by 50 members of Rajya Sabha or 100 members of Lok Sabha.
- If it is admitted, an **inquiry committee** will probe the charges.
- It will consist of an SC judge, a Chief Justice of an HC and a distinguished jurist.
- If the charges stand proven, the motion is to be presented to each House of Parliament.
- It has to be passed by a **majority** of the House **and 2/3rds** of those **present and voting** in the same session.
- Even if the charges are proved, the Parliament is not bound to remove the judge.
- Finally, the **President** will issue the **order removing the judge**.
- **Judge's Right** - The particular Judge has the right to be heard.

- However, this is not available at the time of admission of the motion.
- During the inquiry, the judge has the full right to defend.

complexity

- Impeachment process is **neither entirely political nor entirely judicial**.
- It is a fine and judicious blend of the two.
- Admission of the impeachment motion, constitution of inquiry committee, and its findings are in the nature of judicial processes.
- But the adoption of the motion by Parliament is certainly a political process, as members do vote along party lines.
- The complexity of the impeachment process has ensured that no judge has been removed so far.

Role of the PO's

- The presiding officer may admit or refuse to admit the motion.
- But the PO should not ideally take over the role of the inquiry committee.
- The Presiding Officer is not supposed to mechanically admit any motion.
- It means that the requisite number of members having signed the motion is not the only criteria.
- “Proved misbehaviour” is the ground for the removal of a judge.
- But it is the job of the inquiry committee to give a finding on whether the charges are proved.
- But again, the charges could sometimes be prima facie totally without substance.
- In that case, the PO has the right to block the motion at this initial stage itself.

‘proved misbehaviour’

- The **Constitution does not define** ‘incapacity’ and ‘proved misbehaviour’.
- The misconduct of a judge is to be proved outside Parliament before a non-parliamentary committee.
- The **Judges (Inquiry) Bill, 2006**, defines ‘proved misbehaviour’:
 - wilful or persistent conduct bringing dishonour or disrepute to the judiciary
 - wilful or persistent failure to perform the duties of a judge
 - wilful abuse of judicial office, corruption, lack of integrity or committing an offence involving moral turpitude
- The **Judicial Standards and Accountability Bill, 2010**, proposed to widen the definition of misconduct.
- Under this, ‘lack of integrity’ included rendering judicial decisions for collateral or extraneous reasons.
- Giving judgements or any other acts that have the effect of subverting the administration of justice.
- The failure to furnish a declaration of assets and liabilities or wilful giving of false information was included within ‘misbehaviour’.
- The **Supreme Court** itself has laid down that misbehaviour is a wider term.
- Therefore, if, due to a judge’s conduct, the **judiciary’s credibility has suffered**, it can be considered ‘**Misbehaviour**’.

Rejection of current motion

- The Vice-President is not duty-bound to give reasons. However, in this case, M Venkaiah Naidu has given detailed reasons.
- He has said that misbehaviour has not been proved. There was little merit in any of the charges laid for impeachment.
- The **charges** are said to have been based on mere **suspicion and assumption**. He says the signatories themselves are unsure of the reliability of the charges.
- He has considered the implications for **judicial independence** if an investigation is ordered on unreliable charges.
- **Ruling** - He cited one of the earlier Supreme Court ruling in this regard.
- Accordingly, Speaker (or Chairman) has to act with utmost care, circumspection and responsibility.
- Seriousness of the imputations, nature and quality of the records have to be kept in mind.
- The effect on public administration of justice and independence of the judiciary are also to be considered.
- The main charge against CJ Misra is that he misused his control over the roster.
- Cases were assigned selectively with a view to influence their outcome.

- But the question is whether impeachment is an option in the **absence of concrete material** to establish this charge.
- Evidently, the Opposition is divided on initiating impeachment proceedings.

Other options

- The opposition is now planning to approach the Supreme Court.
- If that happens, ideally, the CJI should not hear the matter or constitute the Bench to hear it.
- In fact, no judge who is in line to be CJI in the future should sit on the Bench.
- The principle of “no one shall be a judge in his own case” should be strictly adhered to.

Rejection of CJI's Impeachment

- It is also wholly within the power of the Rajya Sabha Chairman (Vice-President) to decide whether to admit it or not.
- If the motion gets admitted, a parliamentary enquiry would be constituted, and the report will then be discussed on the floor of the concerned house.
- If there is any adverse finding, then the removal motion will have to be put to vote and be passes with a 2/3rd majority of the present and voting.
- **Contrasting Views** - Some argue that commissioning a parliamentary enquiry would imperil the independence of the judiciary.
- But others vouch that the constitution has ingrained such a procedure (with sufficient checks) to ensure accountability.
- If admitted, the motion will indeed be a black mark on judiciary's reputation, but if turned down, it would be a case of suppressing opposition's voices.
- Hence, the Rajya Sabha Chairman will have to weigh both these options and take a nuanced stand on whether to admit or reject the motion.

Concerns with the rejection of this motion

- For the first time in Indian history, an impeachment motion was rejected at the admission stage.
- This decision was taken by the Presiding Officer of the Rajya Sabha, also the Vice president of India.
- His decision is alarming as the PO has to remain impartial during the conduct of the house.
- It is also distressing that he took the sole decision, instead of letting the inquiry committee decide upon the merit of the case.

ECONOMIC AFFAIRS

Challenges to India's Economic Aspirations

Context: Some projects have touted India to grow at high rate of above 7% in the coming years due to some positive economic indicators.

- But these seem to ignore the role of the present favourable external circumstances and other inherent risks within the domestic economy.

favourable indicators

- While demonetisation precipitated in the Indian growth rate dipping below 6%, it has now recovered to about 7%.
- Going ahead, India is projected to grow at 7% in the current year and become the world's fastest growing economy (overtaking China).
- Additionally, the Indian economy's foundations have also been strengthened in the last few years on multiple fronts.
- Inflation has moderated to around the 4-5% range and trade balances with the rest of the world have improved.
- The current account deficit has come down to about 1.5% of GDP.
- Forex Reserves with the RBI has swelled to a comfortable \$420 billion.
- Moreover, despite political compulsions, central government has curtailed budget deficits considerably, albeit a minor target slip.
- While these figures paint a dynamic and optimistic picture of the economy, there are significant vulnerabilities that deserve attention.

concerns

- **Investment** - For sustaining high growth, the economy need to continuously add to its “production capacity” through new investment flows.

- Productive investment is money that is spent for building roads, ports and other public infrastructure, factories, and workforce quality enhancement.
- India is seeing a sharp decline in the rate of investments in recent years which has come down from 34% of GDP in 2014 to 30% currently.
- More strikingly, the current investment rate is the lowest in about 15 years.
- This makes it incompatible with the aspired high growth rate of 7-8%.
- **Industrial Production** – The industrial sector is a highly critical engine for growth in the Indian context.
- But this has shown weakness lately.
- Manufacturing grew by 6% in 2016, but plummeted to an abysmal 2% following demonetisation.
- The subsequent recovery has not been that encouraging.
- **Banks** - Banking finance plays a significant role in the economy, particularly in the context of small and medium sized enterprises and agriculture.
- Mounting NPAs has created enormous stress in the sector, which has affected the ability of bankers to lend out to businesses, which is hurting the economy.
- Notably, the pace of lending has come down significantly from 2014-16, when it grew at 10% to the present growth rate of a mere 6%.
- Also, the proportion of NPAs to the gross outstanding loans has doubled during the same period from 5% in 2015 to 10% currently.
- **Fiscal Statistics** - While the majority focus has always tended to be on the Central budget, the many states have displayed little fiscal discipline.
- The combined Fiscal Deficit of the centre and all states accounts for as large as 6.5% of GDP.
- Moreover, India's overall sovereign debt is a whopping 70% of GDP, which has not come down considerably in recently years.
- This is in contrast with a number of other emerging market economies that had reduced their sovereign debt considerably over the past 5 years.

potential risks

- **Inflation** - While policy measures have helped control inflation, the decline in inflation has largely been driven by extraneous factors.
- Food and energy prices are important components of the 'Consumer Price Index' (CPI) and decline in their prices has brought inflation down.
- If prices of these commodities increase in future, it would be difficult for the RBI (through its monetary policy actions) to keep inflation under control.
- **Imports** - The prices of "Oil, gold and coal", which constitute almost 50% of total imports in India, has declined considerably in recent years.
- Hence, the bettering of India's trade balance is more a reflection of extraneous factors (decline in prices of imports), rather than increase in exports.
- Additionally, lower oil prices have also benefited the Central budget as it has helped in reducing fuel subsidies and has bolstered fiscal prudence.
- But the prices of the critical import commodities could increase anytime and end up constraining the trade balance.

growth projections failed to capture

- While some claim that growth numbers are being tampered to project an optimistic economic outlook, it would be a stretch to affirm these.
- But one can argue that there is a genuine difficulty for statisticians to quantify the numerous variables and its potential impact on GDP.
- Also, initial estimates are based on formal sector projections, which get revised subsequently as the information from the informal arenas comes in.
- It is to be noted that both demonetisation and GST had largely affected the informal businesses in the short term, which needs to be accounted for.
- Hence, while the projections may be academically correct, there is a need for considerable caution.

Falling Apparel Exports

Context: India's apparel exports have dropped about four per cent for the year 2017-18.

- An early resolution is needed to prevent a crisis particularly when global demand has picked up.

Significance of Indian Apparel exports

- Apparel exports has been growing steadily, it contributes 4% of GDP and account for nearly 15% of India's total exports.
- The textiles and apparels industry is one of the largest employers of women and helps in creation of jobs for skilled and semi-skilled labours.
- It also has a world market share of 4.4% and has potential to increase up to 8%.

Prevailing issues in Indian apparel export

- Global apparel market is most competitive, faster growth of exports from Bangladesh and Vietnam concerns Indian exports.
- The apparel manufacturing and exporting units are facing a funds crisis due to delays in processing of refund of taxes.
- Duty drawback was initially curtailed and later reduced after the implementation of GST in July 2017.
- While the Union increased the duty drawback understanding the woes of exporters, States who pay major share of duty drawback are yet to rebate the taxes.
- This funds crunch has pushed the apparel manufacturers and exporters to increase the costs up to 5% which has led to loss of market and thereby decreased exports.

Way forward

- The flow of funds to the manufacturing and exporting units has to be eased.
- State component of the GST refunds have to be released quickly to avoid losing markets further which will directly affect the labour intensive sector.
- Better infrastructure and smoother policies with less paperwork will help to compete with these countries and improve apparel exports.

A2 Milk and Indian Native Cattle

Context: Across the globe there is a growing interest in consuming A2 milk which has created an unnecessary hype in India.

difference between A1 and A2 milk

- Milk contains two major groups of proteins namely, caseins and whey proteins.
- The A1/A2 status of cattle is determined by the two alleles for beta-casein gene i.e. A1 and A2.
- Cattle may be homozygous for one type of protein (A1A1 or A2A2), or heterozygous (A1A2).
- A1A1 cattle would produce only A1 milk, A2A2 would produce only A2 milk and A1A2 cattle would produce milk with both A1 and A2 beta - caseins.

speculations around A1 & A2 milk

- Some reports indicate that A1 protein has negative health effects like heart disease, Type 1 diabetes, autism, inflammatory response and digestive discomfort etc.
- Researches to find the "cause and effect" relationship between A1 proteins and the reported non-communicable diseases have been inconclusive.
- Gastrointestinal effects of A1 in animals are positive but evidence from human experiments remain limited.
- Symptoms of digestive discomfort could also be due to lactose intolerance, which is different from allergy due to milk protein.
- Despite the lack of conclusive scientific evidence from human studies, several players have started marketing A2 milk with claims that it is natural, better, and free from negative effects.

concerns for native breeds in India

- National Bureau of Animal Genetic Resources (NBAGR), have confirmed that Indian indigenous cows and buffaloes produce A2 milk.
- The high-yielding native milk breeds of India produced around 94%-100% of A2 milk.
- But recent studies reported exotic breeds which were the source of A1 milk are being used for cross breeding of cattle

measures taken to conserve native cattle

- It should be understood that shift to A2 milk is unnecessary in India as native cattle breed naturally produces A2 milk.
- NBAGR is currently implementing a project entitled "Delineating Beta Casein Variants in Indian Cows and Potential Health Implications of A1A2 Milk".
- The bureau and few private companies are offering a service for genotyping of A1/A2 allele from milk or blood samples in cattle species at nominal cost.

- The government is also taking steps to conserve native breeds of every region with help from local people and private players.
- Private dairies are also working on improving the productivity of desi breeds by better breeding, better farm and feed management and better animal health.

Becoming a Defence Manufacturing Hub

Context: The four-day DefExpo India took place recently in Chennai.

- India's ambitious objective of being a defence manufacturing hub demands a lot more efforts.

stated aims

- The DefExpo has ambitiously positioned India as an emerging defence manufacturing hub.
- It places it as an exporter of defence systems and components.
- Such an objective seems uncertain to be achieved in the near future.

uncertainty

- It's because India is the world's top importer of arms.
- It accounted for 12% of total global arms imports during 2013-17.
- It spends around 30% of total defence budget on capital acquisitions.
- 60% of defence-related requirements are currently met through imports.
- It does not even figure among the top 25 arms exporters.

Criticality of indigenisation

- About 62% of India's arms imports in 2013-17 originated in Russia, 15% in the US and 11% in Israel.
- India is the largest customer for the Russian and Israeli defence industries and the third-largest for the French.
- Significantly, India's imports from the US jumped around 500% between 2008-12 and 2013-17.
- India's rising imports of arms is in sharp contrast to China.
- China reported a 19% drop in overseas purchases between 2008-12 and 2013-17.
- It accounts for 4.6% of the global arms export market.
- With this, it has emerged the fifth-largest exporter of arms.
- Given this high level of dependence, indigenisation of defence procurement is critical for strategic reasons.

measures taken

- **Private sector** - 'Make in India' focuses on increasing indigenous defence manufacturing and becoming self-reliant.
 - The resultant private participation in defence sector has helped foreign OEMs (Original Equipment Manufacturers).
 - They have entered into strategic partnerships with Indian companies.
 - It has leveraged opportunities in the domestic as well as global markets.
 - **Duty exemption** - The preferential treatment given to DPSUs in excise and customs duty has been discontinued.
 - This is to create a level playing field for all Indian industries (public and private).
 - **Indigenisation** - The Defence Procurement Procedure 2013 was amended with effect from April, 2016.
 - This was to encourage indigenous design, development and manufacture of defence equipment.
 - India's focus on indigenous manufacturing is paying off.
 - Evidently, the ministry of defence over the last 2 years unveiled several products manufactured in India.
 - These include
 - the HAL Tejas light combat aircraft
 - the composite Sonar dome
 - a portable telemedicine system for the Armed Forces
 - penetration-cum-blast and thermobaric ammunition specifically designed for Arjun tanks
 - a heavyweight torpedo called Varunastra manufactured with 95% locally sourced parts
 - medium range surface to air missiles
 - **Defence deals** - The Defence Acquisition Council under the ministry of defence has cleared many defence deals.

- Deals worth over Rs 820 billion under the “buy and make” and “buy Indian” categories were cleared.
- **FDI** - 100% FDI is allowed in the defence sector.
- Of this, up to 49% is under the automatic route.
- FDI above 49% is permitted through the government route.
- This is done on a case-by-case basis where it is likely to result in access to modern technology.
- **Budget** - The government increased the defence budget by around 5.9% for 2018-19.
- Accounting for around 12% of total government expenditure, it is around 7.8% more than the last year's budget.
- **Industries** - It is planned to develop two defence industrial production corridors.
- Formulating an industry-friendly military production policy is also under consideration.
- An industry-friendly “defence production policy 2018” to promote domestic production by the public sector, private sector and MSMEs is also underway.
- **Foreign trade policy** - It provides guidelines for engaging with Indian missions abroad.
- It facilitates exports of indigenously developed defence systems.
- In an unprecedented move, India recently called in all its 44 defence attaches from missions abroad.
- It aimed at tapping the potential for defence exports and strengthening the interface between the government and industry.
- The measures have contributed to increasing defence manufacturing and exports.

Way Forward

- India has still a long way to go, to become a defence-manufacturing powerhouse.
- The government should place large orders with defence public sector undertakings (DPSUs) with proven skills.
- Private-sector defence players who have tie-ups with global players for technology transfers should also be roped in.

Fugitive Economic Offenders Ordinance

In News: The President recently promulgated the Fugitive Economic Offenders Ordinance.

- Passage of Fugitive Economic Offenders Bill was delayed due to disruptions in the Parliament.

key features

- The ordinance seeks to confiscate properties of economic offenders who have left the country to avoid facing criminal prosecution.
- **Offender** - A fugitive economic offender is a person against whom an arrest warrant has been issued for committing offence like
 - counterfeiting government stamps or currency, cheque dishonour for insufficiency of funds
 - money laundering
 - transactions defrauding creditors
- A fugitive economic offender is one who has left the country to avoid facing prosecution, or refuses to return to face prosecution.
- **Provisions** - The provisions of the ordinance will apply for economic offenders with following conditions:
 - who refuse to return
 - persons against whom an arrest warrant has been issued for a scheduled offence
 - wilful bank loan defaulters with outstanding of over Rs.100crore
- It provides for confiscating assets even without a conviction.
- It also provides for paying off lenders by selling off the fugitive's properties.
- Such economic offenders will be tried under Prevention of Money Laundering Act (PMLA).

procedure

- **Application** - A director or deputy director, appointed under the PMLA, 2002, may file an application.
- This is to declare a person as a fugitive economic offender.
- It can be filed before a special court, designated under the 2002 Act.
- It will contain the reasons to believe that an individual is a fugitive economic offender.
- Besides, it will have information about
 - the whereabouts of the offender

- list of properties believed to be proceeds of a crime for which confiscation is sought
- list of benami properties or foreign properties for which confiscation is sought
- list of persons having an interest in these properties
- **Court** - Upon receiving the application, the special court will issue a notice to the individual.
- It requires the person to appear at a specified place within 6 weeks.
- If the person appears at the specified place, the special court will terminate its proceedings under the provisions of the Bill.
- **Property** - Property belonging to the offender may provisionally be attached without the prior permission of the special court.
- This is, provided that an application is filed before the court within 30 days.
- **Appeals** against the orders of the special court will lie before the high court.

concerns

- A series of instances with absconding offenders has pressurised the government to take immediate action.
- They include liquor baron Vijay Mallya's, IPL commissioner Lalit Modi, diamond merchants Nirav Modi and MehulChoksi.
- Government agencies have attached the diamond merchant duo's assets in India.
- But an American court has disallowed the sale of their assets in other jurisdictions.
- It's because India is yet to pass a model law mooted by the UN for cross-border insolvency cases.
- It is not clear whether this ordinance can make up for this shortfall.
- The ordinance route reflects the urgency to react to recent offences.
- But the government needs to present a coherent vision about its plans to bring back those fugitives who have already got away.
- The government has to plug many more legal loopholes in the whole system.

Fallouts of RBI's Tightening Regulatory Grip

Context: In the coming weeks, many banks in India are expected to report weak results.

- This is expected on account of the fact that there is a progressive tightening of rules for rules in dealing with bad loans.

RBI steps regarding NPAs

- There is a palpable economic slowdown in the last couple of years and many borrowers are unable to repay their debts.
- As bad loans piled up, a progressive tightening of rules was unleashed by RBI to address the NPA problem since 2015.
- Incidentally, this has effectively curtailed the discretion of banks and borrowers to reach a negotiated settlement – which is prolonging resolutions.
- Historically, any loan that has seen a default of over 90 days is classified as a bad loan in India and procedures to deal with them has largely been lenient.
- But rules had to be tightened, as there has been a reluctance to address the issue head-on because of pressure from influential borrowers and PSU banks.
- This tightening of rules has meant stumping up of more cash, lower profits, and restrictions on the ability to lend more.

Specific tightening measures

- The new insolvency law that come into force in 2016, and growing outrage against instances of corporate fraud have left banks bleeding.
- In February, RBI did away with several schemes such as Strategic Debt Restructuring (SDR), which allowed banks to grant extra time to borrowers.
- Rules to classify a loan as 'bad' or a 'Non-Performing' was tightened to mark even a day's slippage – which got all stakeholders worried.
- But despite these concerns the banking regulator (RBI) has stayed firm in its dictacts by holding that the sanctity of debt agreements needs to be restored.
- Many have argued that this approach would cramp lending by banks at a time when most indicators show that growth is on the upswing.

hurting growth

- The RBI Governor RaghuramRajan had stated in unambiguous terms that clean up definitely deserves higher priority for fixing the economy.

- There seems to be consensus to this view among all of RBI's higher ranking officials and their policy direction is clear.
- Hence, RBI is consciously overlooking the fact that credit supply in the economy is reducing, which will definitely have consequences for growth.
- Notably, RBI has publicly acknowledged that its lax attitude towards bad loans in earlier, is what has led to the current NPA burden of Rs.8.9 lakh crores.

lessons from elsewhere

- Most other economies have also resorted to tighter banking regulations to tide over the bad loans problem.
- A tougher operational environment has inevitably led to conflicts between the banking regulator and the owners (It is predominantly PSUs in India).
- Some tensions in this regard are already visible between the RBI and Government, but there have also been some positive spin-offs too.
- A palpable behavioural change has been observed among some borrowers as promoters fear an aggressive bank takeover if they fail to service their debts.
- Notably, post the 2008 financial crisis, banks in the West have also been subject to rigorous standards and changes of rules.

Way forward

- A system that doesn't disrupt the economy, but still delivers for it – and rules need modifications to suit situations.
- And when risk-taking increases, it must not be at the expense of the resilience of banks to any future downturn in the economy.
- For policymakers, balancing growth imperatives with regulations is a difficult choice to make as it requires political stamina to pursue long timelines.
- Ridding banks of bad loans and cleaning up balance sheets are a very critical that requires prudent and active policy engagements to tide the cliff.
- In India's case there is a greater risk of budgetary allocation being pumped in for aiding public banks during distressing times.
- Hence, solving the entire mesh of issues hinges not only on financial sector practices but across all economic domains.

INTERNATIONAL AFFAIRS**India's Oil Diplomacy**

Context: Global oil demand is rising amidst rivalries in oil producing Islamic countries.

- In this scenario India has taken some smart moves to meet the energy demands.

significance of Arab nations

- The Arab Gulf Monarchies such as UAE, Saudi Arabia, Kuwait, Iran, Iraq, and Yemen have major supply of oil in the globe.
- The major markets for oil supplies from the Arab/Persian Gulf countries are China, India and Japan.
- Iraq is India's largest supplier of oil, overtaking Iran and even Saudi Arabia.
- Sectarian Shia-Sunni and civilizational Arab-Persian-Israeli rivalries dominate the oil politics of this neighbourhood.
- With the discovery of shale oil/gas, North America and parts of Europe are relatively immune to influence by oil producing Arab nations.
- The US is expected soon to become the largest producer of oil and gas in the world.
- Apart from this, Russian oil and gas contribute to meeting energy demands in Europe and across Eurasia.
- OAPC nations are preoccupied in dealing with a resurgent Iran, which is presently free from western led international sanctions.
- Iran has also sought to change the balance of power in the Arab world, challenging Saudi pre-eminence.

pressures of oil producing nations on India

- In 1973, Organization of Arab Petroleum Exporting Countries (OAPEC), led by Saudi Arabia, announced an oil boycott of countries like Canada, Japan, the Netherlands, the US and the UK.

- OAPEC considered these nations to be pro-Israeli, and it also demanded India to close the Israeli Consulate or face an Arab oil boycott.
- A cash-strapped India found itself in a desperate economic situation, as oil prices rose rapidly from \$3 to \$ 43 per barrel.
- But India emerged relatively unscathed, due to developments like oil supplies from the Soviet Union.
- Also, the discovery of “Bombay High” oil and gas assisted India’s stability.

India’s oil diplomacy all about

- India has wisely stayed away from any participation in this rivalry, by handling relations with the Arab Gulf States and by making use of oil rich western neighbourhood.
- India’s primary interests lie in the safety and welfare of the over 7 million Indians living in Arab Gulf countries.
- Due to this, India continues its emphasis on ties with Saudi Arabia, the UAE and Oman, amidst taking efforts for a sustained co-operation with Iraq (which is India’s largest oil supplier).
- Indian companies have started investing significantly in exploration of shale gas in South America and in USA.
- Apart from this India is also preparing to develop storage capacity of petroleum in the event of any cut off of oil supplies due to regional tensions.

Concerns with Rohingya Refugee Repatriation

- **Context:** Myanmar has claimed that it has begun repatriation of the Rohingya refugees.
- Bangladesh government has concerns over the measures taken by Myanmar government in this regard.

status of Rohingya refugees

- Facing persecution in Myanmar, Rohingyas have for years been fleeing to neighbouring countries, especially Bangladesh.
- UN reckons there were already 200,000 refugees in Bangladesh before the mass flight in August 2017, with about 700,000 refugees at present.
- Bangladesh has been at the forefront in aiding and providing food and shelter for the refugees and trying to create the conditions in Myanmar for their safe return.

concerns with Myanmar’s action

- Earlier this year, Myanmar and Bangladesh agreed to complete voluntary repatriation of the refugees in two years.
- Following this, Myanmar set up two reception centres and a temporary camp near the border in Rakhine to receive the first arrivals.
- Myanmar has also announced the repatriation of a Muslim family after they were scrutinized by immigration and health officials, were also provided with relief materials, but these measures are yet to be implemented absolutely.
- Bangladesh has rejected the repatriation claims of the Myanmar government, as there is no proof of the family’s departure from Bangladesh nor arrival in Myanmar.
- Apart from this National Verification Cards (NVCs) which was announced as part of the Myanmar’s effort to register Rohingyas is only seen as a temporary measure instead of offering them citizenship.

measures needs to be taken

- Myanmar has to improve the conditions for voluntary, safe, dignified and sustainable return of refugees.
- Apart from physical infrastructure and logistical arrangements Myanmar has to recognise the rights of Rohingyas.
- International community also needs to put more pressure on Myanmar to take back their own people and ensure their safety.

Commonwealth Heads of Government Meeting

In News: The Commonwealth Heads of Government Meeting (CHOGM) was held recently in London.

Commonwealth grouping

- It is a group of nations of mostly former British colonies.
- It is now a 53-nation grouping.
- The present Queen Elizabeth II is the head of CHOGM.

latest summit

- The meeting came with hopes of a “re-energised Commonwealth”.
- The summit was held in the U.K., the founder State, after 32 years.
- Besides, Queen Elizabeth II attended the summit.
- She has skipped the meeting often in the last few years owing to her health.
- Also, the present meet took place amidst Britain’s exit from the EU.
- All these led to hopes of reviving the grouping as Commonwealth 2.0.
- **India** - Mr. Modi was the first Indian PM to attend CHOGM in a decade.
- Some of the earlier summits were skipped over bilateral differences.
- It was widely expected that India would step up to play a leadership role.
- It was seen to be helping chart a future course for the Commonwealth.
- Prince Charles’s visit to Delhi to invite Indian PM bolstered that belief.

Outcome

- The outcome of the meet was largely against the expectations.
- CHOGM again failed to make a case for its relevance in the 21st century.
- **Head** - It was announced that Prince Charles would ‘succeed’ his mother as the head of the Commonwealth.
- This has ignored calls by members for the position to be more democratically shared or rotated.
- **China** - There were statements on the Blue Charter on Ocean Governance and on the Commonwealth Connectivity Agenda for Trade and Investment.
- This could together counter China’s Belt and Road Initiative.
- But there was little by way of a road map to achieve the goals.
- **Immigration** - Britain PM Theresa May apologised for her Home Office’s threat to deport thousands of immigrants.
- They were brought as manual labour in the 1940s on the ship Empire Windrush from the Caribbean.
- But she failed to convince most members of the Commonwealth that Britain would reverse its present policies on immigration.
- **Trade** - The U.K.’s hard line on Indian “illegals” prevented the signing of a bilateral agreement on immigrant “returns” with India.
- This was in regard to return of illegal Indian migrants within a month of their being detected by authorities.
- This indicates that post-Brexit London is likely to welcome trade in goods from the Commonwealth, but not services.

way forward

- The Commonwealth remains a great platform for development aid, democratic values and educational opportunities.
- But its relevance is put to test with increasing call for democracy within the grouping.
- It needs to adopt a more egalitarian and inclusive attitude to its next generation of Commonwealth citizens.
- Only this can ensure the sustainability and credibility of this grouping.

Risks in Shale Gas Extraction

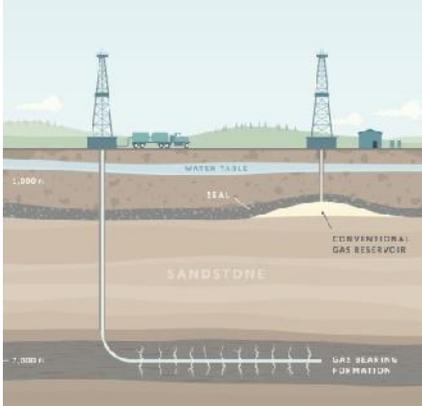
Context: Fracking is the technique used for extracting hydrocarbon resources from ‘shale reservoirs’ by drilling deep horizontal wells.

- But there is considerable evidence to suggest that this method is detrimental to the environment, and governments need to exercise restraint.

shale reservoirs

- Apprehensions that fossil fuels will be depleted by 2050 have been challenged by some experts who’ve argued that there are still vast unexplored reserves.
- Among the reserves that count for augmenting energy supplies is ‘shale gas’ and ‘shale oil’ both of which are estimated to be abundant underground.
- Hydrocarbons are conventionally found at about 1,500 m depth, but shale gas and oil are usually found at depths of about 2,500-5,000 m.
- They are classified as an unconventional hydrocarbon source and their extraction requires deep vertical drilling followed by horizontal drilling.

- **Pioneers** - In the U.S., shale gas has been commercially exploited for two decades, and which has caused their fuel costs to drop considerably.
- Shale discovery has also benefitted the US politically, as it effectively destroyed the clout of “Organisation of the Petroleum Exporting Countries” (OPEC).
- Similarly, if India commercially exploits shale deposits, it could meet its ever-increasing energy demand, and decrease its fuel import bills.



fracking

- Unlike conventional reservoirs, porosity of shale is very less – which therefore gives out little flow output after merely perforating (opening) the well.
- Hence, to increase the porosity of the reservoir and facilitate flows, the reservoir rock is fractured by using ‘hydraulic fracturing’ (fracking).
- In this method, high volumes of water mixed with certain chemicals are pushed down the well, to break the rocks and release the trapped resource.
- Fracking has proved to be an economically viable tool in extracting shale gas.
- **India’s case** - The government introduced a policy on shale gas and oil in 2013, permitting national oil companies to engage in fracking.
- Under the first phase, shale gas blocks were identified in Andhra Pradesh, Arunachal Pradesh, Assam, Gujarat, Rajasthan and Tamil Nadu.
- However, environmental groups have strongly criticised this move, which they say will have adverse environmental impacts.
- Notably, countries like Germany and France and subnational governments like Scotland have banned fracking.

environmental risks of fracking

- Fracking consumes large amounts of water (about 1.5 crorelts/well) and is bound to impact irrigation and other local requirements.
- Additionally, this water is mixed with as much as 260 chemicals and pumped into the reservoir at high pressure to create cracks in the rocks.
- The US experience shows that as many as 260 chemicals were used, of which 83 have been identified to pose a risk to human life and environment.
- The disposal of the water used for fracking is another big challenge as such vast quantities has to be reprocessed before draining them out.
- Further, about 25-90% of the fluid that is pumped in is lost within the reservoir and is not retrieved back.
- This unrecoverable volume hence puts the nearby underground water sources at a high risk of contamination – some cases have already been documented.
- Fracking also has other impacts such as increased air emissions (including greenhouse gases) and seismic activity – as recognized by some EU studies.
- While some do contest the risks of fracking, the evidence currently seems to be pointing otherwise, which hence calls for a rethink.

UN ECOSCO Elections

- India has won an election to a crucial non-governmental organization committee in the United Nations.

- The U.N's Economic and social council focuses on advancing the three dimensions of sustainable development — economic, social and environmental.
 - The Committee on Non-Governmental Organizations is a standing committee of ECOSOC.
 - Its main tasks include consideration of applications for consultative status and requests for reclassification submitted by NGOs and consideration of quadrennial reports submitted by NGOs in General and Special categories.
 - India was also elected to the Commission on Population and Development, Commission for Social Development and Commission on Crime Prevention and Criminal Justice.
1. **Commission on Population and Development**- the Commission is to assist the Council by arranging for studies and advising the Council on population issues and trends, integrating population and development strategies and population and related development policies and program.
 2. **Commission for Social Development**- the Commission's purpose was to advise ECOSOC on social policies of a general character and, in particular, on all matters in the social field not covered by the specialized inter-governmental agencies.
 3. **Commission on Crime Prevention and Criminal Justice** - The Commission acts as the principal policymaking body of the U.N. in the field of crime prevention and criminal justice.
- The other functional commissions of the ECOSOC are Statistical Commission, Commission on the Status of Women, Commission on Narcotic Drugs, Commission on Science and Technology for Development, United Nations Forum on Forests.
 - India was also elected by the Council to the Executive Board of the United Nations Development Program (UNDP), United Nations Population Fund (UNFPA), and United Nations Office for Project Services (UNOPS).

ENVIRONMENTAL AFFAIRS

Policy stumble in Prevent Stubble Burning

Context: Crop residue burning poses an environmental and health hazard.

- Hence, the Centre's policy for mitigate the crisis needs cautious evaluation.

government initiatives

- Each acre of paddy generates about 2-3 MT (metric tonnes) of residue, which needs to be managed in a short window of about three weeks.
- Otherwise, the farmer has to burn the residue (to get rid of them) in order to clear the field for sowing the next crop.
- **Schemes** - The Centre has allocated Rs 1,050 crores to the states where crop residue burning poses a pollution hazard.
- Additionally, union agricultural ministry is also implementing a scheme for mechanisation to ensure proper 'crop residue management'.
- Currently, the most cost-effective and beneficial way to manage the residue is to use the "zero-till sowing machine" called Happy Seeder.
- Hence, the mechanisation scheme is targeted at manufacturers and envisions a supply of about 26,000 seeder machines to the market within 2 years.

challenges

- **Magnitude** - High-powered tractors and skilled personnel are required to operate Happy Seeders effectively, both of which are currently in short supply.
- In addition to this, there are merely 2,000 Happy Seeders that are currently in use – which makes it a herculean task for the scheme to achieve its targets.
- **Scheduling** - The current cropping pattern in priority states like Punjab is that paddy is sown in "July-October" season and wheat is sown in November.
- The residual paddy stubble (of the July sowing) is what is burned in November (winter smog time) to clear the field for the Wheat.
- If the wheat crop is mechanically sowed by using Happy Seeder, then there is no need for clearing the crop residue (seeding can be done in un-cleared fields).
- But, to employ "Happy Seeder" effectively for the November wheat crop, the field needs to be levelled using a laser leveller before the July paddy is sown.
- Also, the last watering of the paddy crop has to be timed according to the date of paddy harvest, which must coincide with the date of wheat sowing.

- Such demanding timelines could be a big stress on the farmers due to the highly uncertain parameters under which they work.
- **Confidence Building** - Firstly, the farmers have to be convinced that their yields will not suffer due to the use a Happy Seeder.
- For this, farmers will have to be shown field demonstrations by employing Happy Seeders and reaping the same tonnage of produce.
- But sadly, such demonstrations were undertaken on sufficient scale in the current crop cycle, which is nearing its end.
- The government also needs to recognize that it is a big risk to push farmers to mechanised seeders without sufficient field data.
- If employment of mechanised seeders sees a drop in crop yield, farmers might revert to stubble burning and become non-receptive to future advances.
- **Bureaucracy** - Even the operational guidelines for the mechanisation scheme aren't ready and there is every indication that it is doomed to fail.
- Even the scheme's draft seem to be a merely refurbishment of a pre-existing scheme for the overall promotion of mechanisation in agriculture.
- Funding is spread over two years with the condition that funds will lapse if they are not utilised in the year for which they were allocated.
- While the scheme is completely centrally funded, its implementation (a big challenge) lies with the states - these calls for better policy level coordination.
- **Other Challenges** - Very few people in this system have ground-level experience of working on the new zero-till machines.
- Blistering television commercials and programs as envisioned under the scheme are also unlikely to nudge farmers to take up mechanisation.
- Rather, a peer-to-peer campaign could be considered, for which a corpus of information harbingers need to be commissioned at the village level.

Plantations are Forests: Forest Survey

Context: The latest "Forest Survey of India" report has changed the calculation method for India's forest cover to include plantations on private lands.

- This is not just naive but also deceptive and runs the risk of seeing conservation funds being diverted to satiate private interests.

resent change in the classification

- It is common knowledge that private plantations of teak, eucalyptus and poplar are undertaken to earn incomes.
- Such plantations can't be substitutes for natural forests with their wildlife and immense biodiversity.
- Natural forests have multiple ecosystem functions, none of which can be provided by commercial plantations.
- Classifying tree plantations as forests is hence a fallacy that ignores the reams of research and evidence which show otherwise.
- Hence, there is suspicion that the move is intended to aid private profits by relaxing restrictions and siphoning off conservation funds.

ecological conservation scenario

- Data shows that there is a clear increase in average global temperatures due to the rising levels of carbon dioxide in the atmosphere.
- Frequency of heat-waves, floods, droughts, and unseasonal rainfall is also increasing – all of which are thought to be the effects of global warming.
- Protecting and restoring natural forests (not plantations) is one of the best ways to mitigate climate change.
- Some argue that private funds can be mobilised by classifying plantations as forest, but they seem to be ignoring the ecological cost of such a move.
- Besides, more than \$7 billion of public "Compensatory Afforestation Fund" (CAF) is lying unused currently – which needs to be used up effectively.

WayForward

- Multiple peasant and tribal communities have for long worked for the conservation of their neighbourhood forests.

- Tribal claims of ownership over the use of sustainable forest resources have now been legally recognized by under the “Forest Rights Act of 2006”.
- Bettering the implementation of the act and strengthened cooperation with grassroots institutions are vital to further conservation efforts.
- Governments should consider devolving afforestation funds to the gram sabhas and build a sustained movement for conserving forests.

Draft Coastal Regulation Zone (CRZ), 2018

In News: The draft Coastal Regulation Zone (CRZ), 2018 was recently released by the Ministry of Environment and Forests (MoEF).

key features

- **HTL** - The High Tide Line (HTL) shall be demarcated by the National Centre for Sustainable Coastal Management (NCSCM).
- This shall be reckoned as a universal standard for the HTL for all regulatory purposes under notification, 2018.
- **Hazard line** - Hazard line mapping will be carried out by Survey of India.
- However, the Hazard Line has been delinked from the CRZ regulatory regime.
- It shall be used only as a tool for Disaster Management and planning of adaptive and mitigation measures.
- CRZ along the country has been placed in four categories:
- **Category I (CRZ -I)** - Areas that are ecologically sensitive and important, areas between the Low Tide Line and High Tide Line.
- **Category II (CRZ -II)** - Areas that have already been developed up to or the shoreline.
- **Category III (CRZ -III)** - Areas that are relatively undisturbed and those which do not belong to either Category I or II.
- **Category IV (CRZ-IV)** - Coastal stretches in the Andaman and Nicobar Islands, Lakhadweep and small islands, except those designated as CRZ I, CRZ II and CRZ III.
- **CRZ** - CRZ limits on land along the tidal influenced water bodies has been proposed to be reduced.
- It would be reduced from 100 meters or the width of the creek to 50 meters or the width of the creek, whichever is less
- **NDZ** - A No Development Zone (NDZ) of 20 meters has been proposed.
- This will be stipulated for all Islands close to the main land coast and for all Backwater Islands in the main land.
- **CRZ-III** - For CRZ-III areas, two separate categories have been proposed.
- These are CRZ-III A and CRZ-III B.
- CRZ-III A comprises areas that have population density of 2161 per sq km as per 2011 Census.
- These will have NDZ of 50 meters from the HTL as against 200 meters stipulated in the CRZ Notification, 2011.
- CRZ-III B comprises rural areas with population density of below 2161 per sq km as per 2011 Census.
- CRZ-III B areas shall continue to have an NDZ of 200 meters from the HTL.
- **Procedure** - The procedure for CRZ clearances has been simplified.
- Delegations for recommending/according CRZ clearances to the projects/activities have been made at various levels.
- Only such projects/activities, which are located in the CRZ-I & IV areas, shall be dealt with for clearance by the MoEFCC.
- For all other project activities in CRZ-II/III areas, clearance would be at the level of the CZMA (Coastal Zone Management Act).
- **Floor Space Index** - As per CRZ, 2011 Notification, for CRZ-II areas, Floor Space Index (FSI) had been frozen at 1991 Development Control Regulation (DCR) levels.
- In the Draft CRZ, 2018 Notification, it has been proposed to de-freeze this.
- Permitting FSI for construction projects, as prevailing on the date of the new Notification is proposed.
- **Tourism** - Temporary tourism facilities have been proposed in Beaches.
- These include shacks, toilet blocks, change rooms, drinking water facilities etc.

- Such temporary facilities are also proposed to be permissible in the No Development Zone (NDZ) of the CRZ-III areas.
- These will be taken up on the seaward side of the roads where there is a National or State Level Highway passing through the NDZ.
- On the landward side, Resorts/Hotels and other tourism facilities have been proposed to be permitted.
- These will however be subject to the extant regulations of the concerned State.
- **Mangroves** - The draft proposes some compensatory measures in cases where roads are constructed through mangroves.
- A minimum 3 times the mangrove area affected/ destroyed during the construction shall be taken up for compensatory plantation.
- **Mining** - Regulated limestone mining will be permitted.
- This will be subject to strict Environmental safeguards, in areas adequately above the height of HTL.
- This would be based on recommendations of reputed National Institutes in the Mining field.

concerns with the draft

- **Fisherfolk** - There are concerns that the draft has opened up fragile inter-tidal areas to real estate agents.
- It seems to be favouring the large-scale industry at the cost of fishing communities.
- This will affect how common areas used by fisherfolk are managed.
- **CRZ**- A major change pertains to the CRZ limits on land along “tidal influenced water bodies”.
- The proposed limit has been reduced from 100 metres to 50 metres or the width of the creek, whichever is less.
- This dilution will help builders and could make the coast more vulnerable to development.
- **Authority** - The draft seems to have shifted some of the powers already vested with the MoEF.
- It makes the National Centre for Sustainable Coastal Management (NCSCM) the final authority to lay down standards for HTL.
- Earlier the demarcation was carried out by one of the agencies authorised by MoEF, on recommendations of the NCSCM.
- Also, only those projects located in CRZ-I and CRZ-IV shall now require MoEF clearance.
- All other projects shall be considered by Coastal Zone Management Authorities (CZMAs) in the states and union territories.
- These are perceived as a dilution of regulation and control over the coastal areas.
- **Hazard Line** - The 2011 notification placed a lot of importance on the hazard line.
- The 2018 notification takes away the protection that the hazard line could provide.
- The hazard line has been delinked from the CRZ regulatory regime.
- It, instead, merely states that the hazard line should be used as a tool for disaster management.
- This means that one can build in these areas after preparing an environment assessment report.
- It has to just state that certain precautions have been considered.
- **Bifurcation of CRZ-III areas** - CRZ-III areas have now been divided into two categories.
- The accuracy of data that is used for classification is being questioned.
- As per 2011 Census [data], only state-wise population density is available.
- So the process of narrowing down to the coastal region population is unclear.
- Revenue records are not available of how many people live in some of the CRZ-III areas.
- Some of these common areas are used by fisherfolk to dry fish and park their boats.
- Opening these up would affect their livelihood related activities.
- **Strategic projects** - The draft allows for construction of roads and roads on stilts, “by way of reclamation in CRZ-1 areas”.
- This can only be in exceptional cases for “defence, strategic purposes and public utilities”.
- This is to be recommended by the CZMA and approved by the Ministry.
- However, it does not explicitly state what strategic projects are.
- **Implementation** - As per the National Green Tribunal, it has been 7 years since the deadline set by 2011 notification to submit CZMPs has passed.
- It is delayed due to opposition from fisherfolk, and some states have requested an extension.

- Given this, the fact that the new draft would come into force once the states update their CZMPs seems flawed.

Way Forward

- There is Coastal Zone Management Programmes (CZMP) framed to the CRZ Notification, 2011 by the respective States/UTs.
- These have to be revised now by the States/UTs as per the provisions of the CRZ, 2018 Notification.
- This has to be approved by the Ministry of Environment, Forest & Climate Change.
- Only after this process, the relaxations/amendment proposed in the CRZ Notification, 2018 shall come into force.

High Tide Line (HTL)

- HTL is generally the line of intersection of the land with the water's surface at the maximum height reached by a rising tide.
- For the purposes of notification, HTL means the line on the land up to which the highest water line reaches during the spring tide.

Floor Space Index (FSI)

- Floor Space Index is also known as the Floor Area Ratio (FAR).
- It is the ratio between the area of a built up area to the area of the plot (land) on which a building stands.

Adapting with Coal

Context: Despite the loosing sheen for coal as a power source, it is unavoidable at least for few decades.

- Given this, the new methodology of power generation with coal gains significance in environmental perspective.

How is coal's importance at present?

- Coal, as a source of energy, is firmly becoming out of favour.
- The climate change considerations have contributed to this change.
- Most countries have plans to phase out coal in the next few decades.
- India has officially announced that it would not set up any new coal-fired power plants after 2022.

Why is coal unavoidable now?

- There is rapid increase in power generation from renewable sources like wind and solar.
- But still, over 60% of India's electricity is generated in thermal power plants.
- It is estimated that coal would continue to be the mainstay of India's energy mix for at least three more decades.

How should it be dealt with?

- Efforts are on to ensure that pollution emanating from coal is at least reduced a bit in these intervening years.
- A variety of "clean coal technologies" is being deployed or experimented with.
- The modern "super-critical" power plants also emit lesser pollutants.

How do thermal power plants work?

- Most thermal power plants burn coal to generate heat.
- The heat is used to convert water into steam.
- The pressure of the steam is then used to move turbines that produce electricity.
- The quality of coal is an important factor in deciding the efficiency of the plant.
- It refers to the amount of electricity generated per unit of coal burnt.
- It also takes into account the waste that is released.
- Typically, coal power plants release a lot of carbon dioxide (CO₂), a dangerous greenhouse gas.

What is the complexity?

- Coal is cheaply available in India in very large quantity.
- But it is not preferred due to the high ash and low energy content.
- Burning coal in the conventional pulverised mode results in the release of a lot of fly ash.
- This is a major contributor to air pollution and a health hazard too.
- Several techniques in place to capture fly ash, after it is produced, are not very efficient.

- Alternatively, coal is passed through an extensive “pre-processing” process called “washing”.
- The aim is to remove some of the ash content before it is burnt.
- This has also not been very effective.

What is the new finding?

- A new, more effective way of managing the problem ensures that the ash is removed as chunks from the reactor bed itself.
- Also, the procedure reduces the formation of CO₂.
- It instead generates synthetic gas (syngas).
- This is a mixture of clean fuel gases like carbon monoxide and hydrogen, as by-products.
- These can then be put to a variety of uses.

How does it work?

- A well-known coal gasification technique is used.
- Here, coal is only partially burnt with a very limited supply of oxygen.
- It is done in the ‘bubbling fluidized bed gasification reactor’.
- At about 100°C, all moisture from the coal is drained out.
- At higher temperatures (300°C - 400°C), gaseous fuels trapped inside coal are released.
- These include gases like nitrogen, methane and a mixture of many other hydrocarbons.
- At temperatures 800-900°C, the carbon in the coal starts reacting with oxygen in the air.
- It also reacts with the steam supplied along with air.
- It then forms carbon monoxide (CO), hydrogen and carbon dioxide (CO₂).

How does it help?

- Controlling the amount of air and steam ensures that significant amounts of carbon monoxide (CO) and hydrogen (H₂) are formed.
- By this way, production of CO₂, which is a greenhouse gas, can be minimized.
- Careful systematic studies have been conducted to arrive at the regime of operation, air to coal and steam to coal ratios.
- It has been found that the addition of steam becomes **favourable in the case of high-ash Indian coals**.
- In fact, this technique can be extended to produce syngas of high calorific value.
- This can be done by enhancing the oxygen content in the oxidizer.
- Besides, adding biomass, like rice husk along with Indian coal imparts catalytic effect.
- It improves the gasification performance significantly.

What is the way forward?

- The process would improve the attractiveness of Indian coal for use in power plants.
- It could help significantly in the transition period to renewables.
- Existing power plants will have to replace their traditional reactors with gasification reactors for this.
- In Indian coal mine mouths, such gasification reactors can be established to take care of rural power needs.

National Clean Air Program (NCAP)

- The Ministry of Environment, Forest and Climate Change (MoEFCC) released a concept note on the National Clean Air Programme (NCAP) recently.
- The NCAP aspires to overcome the deficits of the ongoing government initiatives targeted towards air pollution control.
- The NCAP was conceived as a detailed strategy to ensure that cities across the country meet specified air quality norms.
- It lays down a comprehensive strategy framework for enhanced management of air quality.
- It also, for the first time, plans to set up pollution-monitoring stations in rural areas.
- It envisions setting up 1,000 manual air-quality-monitoring stations and automatic stations.
- The document highlights lack of indigenous studies establishing the correlation between exposure to air pollution and human health.
- A high-level apex committee and working group has, therefore, been constituted under the Indian Council of Medical Research and the MoEFCC to overcome this deficit.

Star rating of Garbage-Free Cities

- The 1st regional workshop on star rating of garbage- free cities was inaugurated recently.
- It was organized by the Ministry of Housing and Urban Affairs (MoHUA) in collaboration with the New Delhi Municipal Council (NDMC)
- Along with the annual SwachhSurvekshan activity, the star rating of garbage free cities will create a healthy competition among the cities to achieve the goals of cleanliness and 100% solid waste management.
- The 7-star rating is innovatively designed on a SMART (Single metric, Measurable, Achievable, Rigorous verification and Targeted towards outcomes) approach.
- It is the first-of-its kind rating tool for assessing cleanliness of cities and towns in India.
- The system, based on 12 parameters, builds on the spirit of healthy competition among cities and the aspirations of cities to progress towards higher standards of “Swachhata” and its sustainability.
- Strengths of star rating protocol -
 1. Outcome-based tool rather than process based
 2. Designed to enable cities to gradually evolve into a model (7-star) city
 3. At the 7-star level, components of 3R (Reduce, Reuse, Recycle) are incorporated.

Hope spots

- In 2013 Andaman and Nicobar Islands and Lakshadweep islands were named as the "hope spots".
- This recognition was given by the International Union for Conservation of Nature (IUCN) and Mission Blue, an organization involved in the study of oceans.
- A Hope Spot is any special place that is critical to the health of the ocean—Earth’s blue heart.
- It is an area of an ocean that needs special protection because of its wildlife and significant underwater habitats.
- The two groups of islands are the first places in India to have been added in the list of global hope spots.

Groundswell Report

- World Bank released the **Groundswell: Preparing for Internal Climate Migration** report recently.
- It examines the impacts of internal or in-country migration due to slow onset climate change events.
- Sub-Saharan Africa, South Asia and Latin America could see more than 140 million people move within their countries’ borders by 2050 due to climate change impact.
- The report is the first to look at such possible population distributions within countries.
- It estimates that up to 86 million people could be displaced in Sub-Saharan Africa, 40 million in South Asia, and 17 million in Latin America.
- These regions are the major climate “hot spots” and account for 55% of the developing world’s population.
- The shift will likely involve the poorest people from the poorest countries moving in large numbers from rural regions to increasingly overburdened urban areas.
- The report says that without prior planning, such dramatic swells of migration could lead to major disruption and instability.
- The World Bank urged cities to prepare infrastructure, social services and employment opportunities ahead of the predicted influx.



Biodiversity Conservation and Rural Livelihood Improvement Project (BCRLIP)

- BCRLIP aims at conserving Biodiversity in selected landscapes, including wildlife protected areas/critical conservation areas while improving rural livelihoods through participatory approaches.
- Development of Joint Forest Management (JFM) and eco-development in some states are models of new approaches to provide benefits to both conservation and local communities
- The project intends to build on these models and expand lessons to other globally significant sites in the country.
- It will strengthen linkages between conservation and improving livelihoods of local communities that live in the neighbourhood of biodiversity rich areas-as well as to enhance the local and national economy.
- The Project was negotiated with the World Bank on 2011.
- The Project would be implemented by the Forest/Wildlife Department of the respective State Government.
- The Conservation and Survey Division in the Ministry of Environment & Forest would be overseeing and coordinating the Project at the country level.

Sunderbans

- The Sunderban Reserve Forest, with mangrove forests and creeks, is likely to be declared a Ramsar Site soon.
- The Indian Sunderbans comprise almost 43% of the mangrove cover in the country according to a 2017 Forest Survey of India report.
- Sunderbans is one of the ten biosphere reserves which are a part of the World Network of Biosphere Reserve (WNBR), based on the UNESCO Man and the Biosphere (MAB) Program list.
- It is also home to about 100 Royal Bengal tigers.
- It is already a World Heritage Site.
- Other than threats such as climate change, sea level rise, widespread construction and clearing of mangrove forests for fisheries is posing a danger to the sunderbans.

Plastic eating enzyme

- Scientists have created a mutant enzyme that breaks down plastic drinks bottles by accident.
- The breakthrough could help solve the global plastic pollution crisis by enabling for the first time the full recycling of bottles.
- The new research was spurred by the discovery in 2016 of the first bacterium that had naturally evolved to eat plastic, at a waste dump in Japan.
- PET – or polyethylene terephthalate – is the most common plastic used for soft drinks bottles.
- This is because it is lightweight, shatterproof, easy to mould and colour and cheap to produce.
- PET in a different form is also used in clothing, where it is called polyester.
- The estimated recycling rates for PET bottles vary significantly around the world, from 31% in the US, to 48% in Europe, 72% in Japan and 90% in India, where rag pickers collect the bottles to sell to waste traders.
- The finding will help in promoting this year's Earth Day theme "End Plastic Pollution".

Agasthyamala

- The Agasthyamala Biosphere Reserve, established in 2001, is spread across the States of Kerala and Tamil Nadu.
- It is located in the southernmost end of the Western Ghats that hosts one of the most diverse ecosystems in peninsular India.
- It constitutes an important biogeographical hotspot within the Western Ghats.
- It includes three wildlife sanctuaries - Shendurney, Peppara and Nayar, as well as the KalakadMundanthurai Tiger Reserve.
- The Reserve contains moist forests, tropical wet evergreen and deciduous rainforests, plains and grasslands, nourished generously by several rivers.
- Slender loris is found in this region.
- It was included in the Man and the Biosphere program of UNESCO.
- The Agasthyamala Biosphere Reserve was brought under the Biodiversity Conservation and Rural Livelihood Improvement Project, a program assisted by World Bank.

Vulnerable reefs of Japan

- Reefs that lie off the coast of western Japan are devastated by unusually cold water.

- They are some of the world’s most northerly coral reefs.
- Survey of the reefs shows that there is a widespread bleaching, with between 90 to 100 per cent of spots affected.
- The devastation is thought to be the result of unusually cold water temperatures in the area this year, partly produced by the meandering of the Kuroshio Current.
- The Kuroshio is a warm current in the northwestern Pacific Ocean.
- The currents unusual movement away from the area brought up cold water from the depths.
- The phenomenon results in lower water temperatures, changes the locations of fishing grounds and even affects ship navigation.
- Corals make up less than one percent of Earth’s marine environment, but are home to more than 25 per cent of marine life

Irrawaddy dolphin

- The population of Cambodia’s river dolphin, Irrawaddy Dolphin, is growing for the first time in decades.
- The Irrawaddy dolphin lives in both salt- and freshwater, and is found in a few locations in South and Southeast Asia.
- Cambodia is home to the largest population of Irrawaddy dolphins, which can also be found in,

Myanmar	Ayeyarwady River
India	Chilka Lake
Laos	Mekong River
Thailand	Songkhla Lake
Indonesia	Mahakam River

- The Irrawaddy dolphins are known for their bulging foreheads and short beaks once swam through much of the Mekong River.
- However, in recent decades have been limited to a narrow stretch from central Cambodia to its northern border with Laos.
- The population was in steady decline since the first census was taken in 1997, dropping from 200 that year to 80 in 2015 due to habitat loss and destructive fishing practices.
- Now, the number of dolphins in the Mekong has increased from 80 to 92 in the past two years.
- It is listed in Appendix I of the Convention on International Trade in Endangered Species (CITES) as well as the Convention on Migratory Species (CMS).

INSHORT

National Council on India's Nutrition Challenges

- The first meeting of the National Council on India's Nutrition Challenges was held recently in New Delhi.
- The Council was set up under POSHANAbhiyaan which is the apex body to formulate overall policies, guide and monitor all nutrition based schemes.
- The mandate of the Council is:
 1. To provide policy directions to address India’s Nutrition Challenges through coordinated inter-sectoral action
 2. To coordinate and review convergence among ministries
 3. To review programmes for nutrition on a quarterly basis
- The Council will submit its report to the Prime Minister every 6 months.
- The annual targets set under POSHANAbhiyaan beginning 2017-18 are as below.

S.No	Objective	Target
1.	Prevent and reduce stunting in children (0-6 years)	By 5% @ 2% p.a.
2.	Prevent and reduce under-nutrition (underweight prevalence) in children (0-6 years)	By 5% @ 2% p.a.
3.	Reduce the prevalence of anemia among young Children(6-59 months)	By 9% @ 3% p.a.
4.	Reduce the prevalence of anemia among Women and Adolescent Girls in the age group of 15-49 years	By 9% @ 3% p.a.
5.	Reduce Low Birth Weight (LBW).	By 5% @ 2% p.a.

Advanced Landing Grounds (ALG)

- Fighters, helicopters and transport assets have been deployed at the Advanced Landing Grounds (ALG) as part of the on-going IAF exercise 'Gaganshakti-2018'.
- ALGs are **short prepared or unprepared airstrips** close to the borders in the valleys, which have limited rail or road connectivity due to challenging terrain.
- ALGs located strategically offer an opportunity for swift mobility of troops and equipment close to our Northern and North Eastern borders.
- The challenges faced by pilots in landing at these ALGs are unpredictable weather, undulating terrain, narrow corridor of manoeuvrings and short runway lengths.
- A large number of ALGs have been operationalized and are being utilized for conducting **Inter Valley Troop Transfers (IVTT), Special Heliborne Operations, Air Landed operations** and **Special Operations**.

International SME Convention-2018

- The First Ever International SME Convention-2018 is to be held in New Delhi.
- It is a platform for intensive business discussion, progressive interaction and trade association between progressive entrepreneurs from all over the world.
- It also offers a special focus on business and trade opportunities in India for International Entrepreneurs.
- The theme is "Business beyond Borders".
- The platform facilitates exchange of relevant business partnerships and trade opportunities for India's Best Small and Medium Enterprises.
- It is organized by The Ministry of Micro, Small & Medium Enterprises and India SME Forum.
- India SME Forum is India's largest Small & Medium Business Movement which was founded in May 2011.
- Some of the focused sectors are Agro Based, Aviation, Biotechnology, Chemicals, Cold Chain, Construction, Consumer Electronics, Defense Manufacturing, Electrical Equipment & Machinery, Exploration & Mining, Food Processing, Gems & Jeweler, Leather & Footwear, Logistics, Machinery & General Mfg, and Tourism & Hospitality.
- Together the MSMEs constitute a single largest employer after the Agriculture sector in India.

Fin whale hunt

- Iceland resumes the controversial fin whale hunt after two-year pause.
- Iceland and Norway are the only nations that openly defy the **International Whaling Commission's 1986 moratorium** on hunting whales.
- Both the countries issue their own quotas.
- Iceland whaling season starts from June this year.
- The fin whale is the planet's second largest animal after the blue whale.
- They have a distinct ridge along their back behind the dorsal fin, which gives it the nickname "razorback."
- The International Union for Conservation of Nature declared it an endangered species in 1996.
- The most recent tallies date back to the early 2000s, putting their number at approximately 53,000.

Drug Delivery

- Indian scientists have developed a new way for precise delivery of anticancer drugs.

- The method uses a dual-purpose magnetic metal-organic framework of nanoparticles.
- A team of researchers at the Indian Institute of Technology, Guwahati has used magnetite and incorporated it into metal-organic frameworks for delivering anticancer drugs.
- Magnetite is readily accepted by human body and it breaks down easily, which are also approved for clinical practice by the U.S. Food and Drug Administration.
- The existing drug carriers are unable to carry a large amount of medicine to cancer cells.
- They also tend to release the drug from external surface before they can reach the cancer cells which decreases their effectiveness and efficiency.
- Due to magnetic properties, nanoparticles can also be used to convert their electromagnetic energy to heat thereby destroying the cancer causing cells.
- Metal-organic frameworks have a large surface area and many pores that can be effectively used to control the rate and the location of drug delivery.

Worm-like robots

- Scientists have developed a soft, worm-like robot that changes shape in response to its surroundings.
- It can slip through narrow crevices to search for survivors in the rubble left by an earthquake or bombing.
- It is composed of ultrathin deformable sensors, actuating electronics and temperature-sensitive artificial muscle that can adapt to the environment.
- The robot's movements are similar to that of an inchworm or caterpillar.
- Potential applications range from surgery and rehabilitation to search and rescue in natural disasters or on the battlefield.

Lyrid meteor shower

- The annual Lyrid meteor shower is set to reach a peak.
- The Lyrid meteor shower is one of the oldest known meteor showers
- They are caused by the Earth's annual trip through a cloud of dust and debris left behind by the comet C/1861 G1 Thatcher.
- It is classified as a medium-strength shower.
- A meteor shower happens when Earth passes through the path of a comet.
- When this happens, the bits of comet debris create streaks of light in the night sky as they burn up in Earth's atmosphere.
- Bits of debris which enter Earth's atmosphere are called meteors.
- A meteorite is a solid piece of debris from an object, such as a comet, asteroid, or meteoroid which survives its passage through the atmosphere to reach the surface of a planet or moon.

Food wastage

- A report in the journal PLOS ONE gives a figure about the wastage of food in United States of America.
- Americans waste nearly 1, 50,000 tons of food per day, amounting to about one pound (422 grams) per person.
- The Fruits and vegetables made up 39 percent of total food waste, followed by dairy, meat and grains.
- The amount of land used annually to grow food that ends up in the garbage in the United States is 30 million acres, or seven percent of total US cropland.
- Some 4.2 trillion gallons of irrigation water gets wasted.
- Items least likely to be thrown out included salty snacks, table oils, egg dishes, candy and soft drinks.
- Food waste corresponded to harvests produced with the use of 780 million pounds of pesticide and 1.8 billion pounds of nitrogen fertilizer, annually.
- Food wastage is directly and indirectly related to resources wastage, greenhouse gas emissions and food security issues.

Gurusaday Museum

- Gurusaday Museum, a cultural institution in Kolkata that preserves rare artifacts from undivided Bengal is running out of funds.
- It is a National Treasure House of the tribal arts and crafts of undivided Bengal and India.
- The museum was founded by the Bengal Bratachari Society, an organization started by Dutt to promote the region's folk art and culture.

- It was started with his personal collection of artifacts from undivided Bengal.
- This museum was intended to act as a connect with the heritage of indigenous art from this part of the subcontinent.
- Presently it has a rich collection of over 3300 exquisite exhibits of folk arts and crafts.
- It reflects the rural life and presents the picture of art and social traditions, religious beliefs, practices and motifs, aesthetic assimilation and cultural influences in undivided Bengal as well as in India.

Stone Age surgery

- The Scientists say primitive humans may have been practicing their veterinary skills.
- The evidence lies in a hole in the skull of a Stone Age cow that was likely made by humans about 5,000 years ago.
- The puncture does seem to represent the earliest known example of veterinary “trepanation” the boring of a hole into the skull.
- The cow skull comes from an archaeological site in western France, inhabited by a Stone Age community between 3,400 and 3,000 B.C.
- Whether the hole was an operation to save the cow or practice for surgery on humans, was not clear.

Nature’s clock goes out of sync

- A study published in PoNAS has revealed that climate change has thrown biological timings of various species into disarray.
- The timings are crucial to maintain ecosystems.
- Bees, for example, have to be around flowers at the same time when they bloom for there to be successful pollination.
- For species dependent on others, this presents potential catastrophe.
- The study of 88 species found that the average species is moving apart from others by around six days each decade.
- An example cited was of the Eurasian sparrow hawk in the Netherlands, which often missed out on food because its prey, the blue tit, arrived six days earlier.

Map of the day**Gujarat**

- It has the longest coastline in the country.
- Gujarat has become the first state in the country to come with a solar policy in 2009, with a view to give boost to the solar energy sector.
- In order to boost agricultural growth and to further improve it, the state government celebrated 2014-15 as krishivikasvarsh.

Haryana

- The major irrigation projects in the state are Western Yamuna Canal System, Bhakra Canal System and Gurgaon Canal System.
- Giving practical shape to the lift irrigation system for the first time in India, Haryana has raised water from lower levels to higher and drier slopes through the Jawaharlal Nehru Canal Project.
- The state is among the beneficiaries of the multipurpose Sutlej-Beas project, sharing benefits with Punjab and Rajasthan.

Champaner-Pavagadh Archeological Park

- The park is located in the Panchmahal district of Gujarat.
- It was inscribed as the World Heritage Site in 2004.
- The city of Champaner was founded during the time of the Rajput king VanrajChavda of the Chavda dynasty in the 8th century.
- The archaeological park comprises Hindu and Jain temples and several mosques, along with citadels, a palace, military structures and stunning water installations.



- Most of the temples date back to 14-15th centuries, with the oldest from 10th century which is the Shaivite Lakulisa temple.
- The park may derive its name from the
 1. Pavagadh hill that is made of reddish-yellow coloured stones, one of the oldest rock formations found in the country.
 2. Pigmentation of the igneous rocks of the Pavagadh Hill is often compared to the 'champak' flower or that resemble the flames of fire from which it derives the name Champaner for the town.
- The most interesting feature of the city is its water installation system which is why it is also called as the 'city of thousand wells'.

Indian Science, Technology and Engineering Facilities Map (I-STEM)

- The government green signaled the project Indian Science, Technology and Engineering Facilities Map (I-STEM).
- It is a national portal that will facilitate college, institution and research organizations to check, reserve and have easy access to even expensive research equipment and facilities anywhere in India.
- The Centre for Nano Science and Engineering (CeNSE) at the Indian Institute of Science, Bengaluru created the portal.
- It is in the process of collating information about scientific and research equipment and facilities available at academic institutions and research organizations across the country.
- The institutions and organizations that have the equipment and facilities will provide access to researchers for both academic and non-academic work through an online reservation system.
- The centre is trying to replicate the Indian Nano electronic Users Programme (INUP) model at CeNSE and IIT Bombay that has been in operation since 2008.

New method for faster typhoid diagnosis

- Indian scientists have developed a rapid and accurate method for diagnosis of typhoid.
- The significance of the method is that it requires minimal blood quantity, besides being accurate and potentially cost-effective.
- Blood-culture based diagnosis of enteric fever, used at present, is time-consuming and requires skilled practitioners and costly instruments.
- The method, according to the study, has the potential for clinical use due to its high detection levels and ability to identify cells which can cause disease in a quicker turnaround time.
- Typhoid Fever is a gastrointestinal infection caused by Salmonella enterica typhi bacteria.
- It is transmitted from person to person through the fecal-oral route where an infected individual passes the infection to another person when handling food and water.

Exploded Asteroid

- A European team of researchers analyzed the composition of diamonds locked up in rocks left scattered in the Nubian desert of northern Sudan after an asteroid dubbed 2008 TC3 crashed into Earth.
- The asteroid that was exploded in Earth's atmosphere in 2008 was a fragment of a Solar System planet that existed billions of years ago.
- They concluded the precious stones must have formed at pressures that could only have existed on a long-lost Mars- to Mercury-sized planet.

- The parent planet was about as large as Mars or Mercury, and was formed in our Solar System’s first 10 million years before being shattered to pieces.
- These are the smallest two planets in our Solar System, which was forged some 4.6 billion years ago.
- This finding boosts the theory that today’s Solar System planets were forged from the remains of tens of large “proto-planets”.

Air pollution chokes the world

- According to the annual State of Global Air Report long-term exposure to air pollution contributed to an estimated 6.1 million deaths across the globe in 2016.
- More than 95% of the world’s population is breathing unhealthy air, with India and China jointly contributing to over 50% of global deaths attributed to pollution.
- India topped China for early deaths from outdoor air pollution with 1.1 million in 2016.
- Air pollution was the fourth-highest cause of death among all health risks globally, coming in below high blood pressure, diet and smoking.
- India, Pakistan and Bangladesh have experienced the steepest increases in air pollution levels since 2010.

International Monetary and finance Committee (IMFC)

- Governor of Reserve Bank of India attended the recent 37th meeting of IMFC.
- The IMFC advises and reports to the IMF Board of Governors on the supervision and management of the international monetary and financial system.
- It meets twice a year, during the spring and annual Meetings.
- The Committee discusses matters of common concern affecting the global economy and also advises the IMF on the direction its work.
- At the end of the Meetings, the Committee issues a joint communiqué summarizing its views.
- These communiqués provide guidance for the IMF’s work program during the six months leading up to the next spring or annual Meetings.

IMFC Membership		
Chair (South Africa)		
Nationalities of current members:		
Algeria	Germany	Peru
Brazil	Iceland	Russia
Cameroon	India	Saudi Arabia
Canada	Indonesia	Switzerland
Central African Republic	Italy	United Arab Emirates
China	Japan	United Kingdom
Colombia	Korea	United States
Czech Republic	Netherlands	
France	Nigeria	

- There is no formal voting at the IMFC, which operates by consensus.
- The IMFC has 24 members who are central bank governors, ministers, or others of comparable rank and who are usually drawn from the governors of the Fund’s 189 member countries.

Swell Waves

- National Disaster Management Agency (NDMA) issued a high energy swell wave alert along the Indian Coastline.
- High energy swell waves, with heights between 2 m and 3 m and periods between 17-22 seconds are likely to be experienced in the seas around India.
- Swell waves are massive ripples that form on the sea due to winds.
- In a way it is the collections of waves produced by storm winds raging hundreds of miles out to sea, rather than the product of local winds along beaches.
- The low-lying coasts of Kerala and West Bengal are particularly vulnerable.

Exploding Ants

- Colobopsisexplodens were found by a team of researchers in the tiny state of Brunei.
- When threatened by other insects, worker ants can rupture the wall of their body, which leads to their death.
- In the process it releases yellow toxin from their glands that either kills or holds off enemies.
- They sacrifice themselves in such a fashion to keep their colony safe.

- The ant “explodes” by contracting its body until enough pressure is built up to tear the body wall, then the secretion exits with a small squirt or pop.
- Such a phenomenon is very rare in nature and only a handful of “social” insects – such as ants and bees – were known to sacrifice themselves in such a manner.

Conflict of interest

- Recently ICICI Bank and its CEO were at the centre of a conflict of interest controversy about a loan given out by the bank to a corporate group which had dealings with her relatives.
- Conflict of interest is a situation in which one is torn between one’s professional duties and one’s personal interests, in making a business decision.
- Conflicts of interest are at the heart of most corporate governance controversies at India Inc.
- Governance mechanisms such as independent directors on the Board, or a nomination and remuneration committee are put in place mainly to check such conflicts of interest.
- The realistic way to tackle it to insist on adequate disclosures.

Grandfathering clause

- In the latest budget, a grandfathering clause attached to the new section on long-term capital gains.
- A grandfathering clause in any new tax law allows people who made their decisions under the old law to continue to enjoy a concession, until the original timeframe for it runs out.
- Frequent changes to tax laws, can weaken public faith in the Government’s promises.
- Grandfathering provisions allow the Government to introduce changes to tax rules for the future, without renegeing on its past promises.

Khongjom battle day

- Manipur observed ‘Khongjom Day’ in commemoration of the Anglo-Manipur War of 1891 recently.
- The 1891 armed conflict was the last battle fought between the Kingdom of Manipur and the British Empire.
- Manipur lost the war and this marked the beginning of British rule in the then princely state.
- The Manipur government has been observing April 23 as ‘Khongjom Day’ every year.
- The battle was fought in Kheba Hill of Khongjom in Thoubal district.

Gram SwarajAbhiyan

- On the occasion of Ambedkar Jayanti, Prime Minister of India announced that a “Gram SwarajAbhiyan” would be organised starting from 14th April to 05th May, 2018.
- The campaign, undertaken is under the name of “SabkaSath, SabkaGaon, SabkaVikas”.
- It is to promote social harmony, spread awareness about pro-poor initiatives of government, and reach out to poor households to enroll them as also to obtain their feedback on various welfare programs.
- As a special endeavour during the Gram SwarajAbhiyan, saturation of eligible households or persons would be made under the seven flagship pro-poor programs in identified villages.
- The seven schemes are PradhanMantriUjjwalaYojana, Saubhagya, Ujala scheme, PradhanMantri Jan DhanYojana, PradhanMantriJeevanJyotiBimaYojana, PradhanMantriSurakshaBimaYojana and Mission Indradhanush.

Diu Smart City

- Diu Smart City has become the first city in India that runs on 100% renewable energy during daytime.
- It had been importing 73% of its power from Gujarat until last year.
- It has achieved this by two pronged approach
 1. Developing a 9 MW solar park
 2. Installing solar panels on the roof tops on government buildings thereby generating 1.3 MW annually
- Diu offers its residents a subsidy of Rs 10, 000-50,000 for installing 1-5KW roof top solar panels.
- Due to low-cost solar energy, power tariffs have been cut in residential category by 10% last year and 15% this year.

UNESCO/Guillermo Cano World Press Freedom Prize

- Egyptian photojournalist Mahmoud Abu Zeid will be awarded UNESCO’s Guillermo Cano Press Freedom prize-2018.

- The prize honors a person, organization or institution that has made an outstanding contribution to the promotion of press freedom anywhere in the world, and especially when this has been achieved in the face of danger.
- It was created in 1997.
- It was established on the initiative of UNESCO's Executive Board and is formally on the occasion of World Press Freedom Day, on 3 May.
- It is named in honour of Guillermo Cano Isaza, a Colombian journalist who was assassinated in front of the offices of his newspaper El Espectador in Bogotá, Colombia.

Novel device to rescue humans trapped in rubble

- Scientists have developed a light and portable sensor that can detect even the faintest signs of life.
- It could be used to rescue people trapped in rubble after an earthquake or bombing.
- The device is light and portable enough for first responders to hold in their hands or for drones to carry on a search for survivors.
- Current approaches include the use of human-sniffing dogs and acoustic probes that can detect cries for help.
- Drawbacks in these methods such as the limited availability of canines and the silence of unconscious victims.
- The researchers built the palm-sized sensor array from three existing gas sensors, each tailored to detect a specific chemical emitted by breath or skin: acetone, ammonia or isoprene.

Justice Rajesh Bindal Committee

- The Committee headed by Justice Rajesh Bindal submitted its report on legal issues related to inter country removal & retention of children.
- It recommended on addressing the problems of parents and children involved in such issues.
- The committee was appointed by Ministry of Women and Child Development.
- The Committee has recommended that the Government may establish an 'Inter Country Parental Child Removal Disputes Resolution Authority'.
- The authority has been envisaged to provide a one window solution in cases of inter country removal and retention of Children.
- the Authority may be chaired by a retired High Court Judge, with Members from Legal and Social sector background along with representatives from key Ministries.
- The Committee was also requested to study the draft of the International Child Abduction bill, prepared by the Law Commission.

Report on gender inequality

- According to the McKinsey Global Institute recent report Asia Pacific is not meeting its economic potential and one of the major reasons is gender inequality.
- \$4.5 trillion could be added to the region's combined annual gross domestic product by 2025 if targeted policies are formulated to achieve more women's equality.
- The report judged 18 economies in the region for gender equality in work and in society.
- On the work metrics, the Philippines was lauded for progress, followed by New Zealand and Singapore.
- India and Pakistan were judged furthest from gender parity in work.
- While there are fewer than four women globally in leadership roles to every 10 men, the ratio is only one in four in the Asia-Pacific region.
- On societal metrics, South and Southeast Asia offers a lot of potential for gender parity in digital and financial inclusion, while physical security and autonomy are considered greater worries.

Land Degradation Neutrality

- In the recently inaugurated Asia-Pacific Regional Workshop of the UN Convention to Combat Desertification (UNCCD), Union Minister for Environment has underlined the critical need to achieve Land Degradation Neutrality (LDN) by 2030.
- Land Degradation Neutrality (LDN) has been defined as 'A state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems.'
- LDN represents a paradigm shift in land management policies and practices.
- It is a unique approach that counterbalances the expected loss of productive land with the recovery of degraded areas.

- As land is fixed in quantity, there is ever-increasing competition to control land resources, which has the potential to cause social and political instability, exacerbating poverty, conflict and migration.

Ophioglossummalviae

- Ophioglossummalviae is a tongue fern whose size is just one centimeter.
- Indian researchers have discovered this world's smallest land fern in the Ahwa forests of the Western Ghats in Gujarat's Dang district.
- The fingernail-sized fern belongs to a group known as the adder's-tongue ferns, named after their resemblance to a snake's tongue.
- The plant's minuscule seeds (called spores) under a powerful electron microscope revealed it had a unique thick outer layer.

Villanueva solar plant

- The Villanueva Solar plant in Mexico is the largest solar park in Latin America.
- With 2.3 million solar panels in the arid northern state of Coahuila the Villanueva power plant is part of Mexico's push to generate 43% of its electricity from clean sources by 2024.
- Mexico became the first emerging country to announce its emissions reduction targets for the United Nations climate accord.
- The country ambitiously vowed to halve the emission by 2050.
- It is also the largest solar project in the world outside China and India

Use of fly ash in mosquito control

- Fly ash, a harmful byproduct of coal-based power generation, has found a new use in controlling mosquito.
- Scientists at Indian Council of Medical Research (ICMR) and Pondicherry University have successfully used fly ash as a carrier for Bacillus ThuringiensisIsraelensis (Bti), a bio-pesticide used for killing larvae of many insects.
- Bti formulation containing fly ash as carrier and carboxymethyl cellulose as additive to be effective against mosquito larvae.
- For successful application, Bti formulation needs an additive and a carrier.
- At present, Plaster of Paris and charcoal are used for this purpose.
- The new study has found that the use of fly ash as carrier material for can enhance chances of its ingestion.
- During 2016-2017, 169.25 million tons of fly ash was generated in India but only around 63 per cent was properly utilized in cement plants, ready mix concrete, road construction, brick manufacturing and other sectors.

5TH WEEK OF APRIL**POLITY, GOVERNANCE AND PUBLIC POLICY****Reducing the Areas under AFSPA**

In News: Ministry of Home Affairs (MoHA) has decided to reduce the central forces deployed under AFSPA Act in north-eastern states.

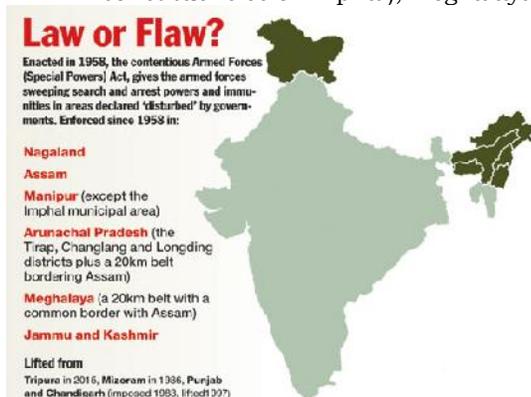
AFSPA Act

- Armed Forces (Special Powers) Act 1958, gives armed forces the power to maintain public order in "disturbed areas".
- It can be invoked in places where the use of armed forces in aid of the civil power is necessary.
- The causes could be differences or disputes between members of different religious, racial, language or regional groups or castes or communities.
- The Central or State/UT administration can declare the whole or part of a State or Union Territory as a disturbed area.
- MoHA would usually enforce this Act where necessary.
- Under this act armed forces can have the authority to prohibit a gathering of five or more persons in an area.
- They can use force or even open fire after giving due warning if they feel a person is in contravention of the law.

- If reasonable suspicion exists, the army can also arrest a person without a warrant.
- They can also enter or search a premise without a warrant, and ban the possession of firearms.

AFSPA in North-Eastern states

- The Act came into force in the context of increasing violence in the North-eastern States decades ago.
- They state governments clearly found it difficult to control.
- The Armed Forces (Special Powers) Bill was passed by both the Houses of Parliament.
- It was approved by the President in 1958.
- It became known as the Armed Forces Special Powers Act, 1958.
- It was effective in the whole of Nagaland, Assam, Manipur (excluding seven assembly constituencies of Imphal), Meghalaya and parts of Arunachal Pradesh.



recent decisions

- The Centre has revoked The Armed Forces (Special Powers) Act (AFSPA) from Meghalaya since April 1, 2018.
- Earlier the AFSPA was effective in 20 km area along the Assam-Meghalaya border.
- In Arunachal Pradesh the impact of AFSPA was reduced to 8 police stations instead of 16 police stations.
- The Ministry has also relaxed the Protected Area Permit (PAP) for foreigners visiting Manipur, Mizoram and Nagaland.
- The PAP will be valid for 5 years, but residents from Pakistan, Afghanistan and China will not be allowed to visit these areas.
- In 2017, the Home Ministry gave up its power and asked the Assam government to take a decision on continuing AFSPA in the State.
- Recently, Home Ministry has decided to reduce the number of central armed police force personnel deployed in the north-eastern States.

further plans

- In 2004, Union Government appointed a five-member committee headed by Justice B.P. Jeevan Reddy to review AFSPA, 1958.
- The committee submitted its report in 2005.
- Besides repealing the Act, it recommended that the Unlawful Activities (Prevention) Act, 1967 should be modified to clearly specify the powers of the armed forces and central forces.
- Union government is now considering a proposal to make AFSPA more operationally effective and humane by taking Jeevan Reddy committee's report.
- Government's recent moves also signify a willingness to reconsider the use of the special law as and when the ground situation improves.
- Thus, as of now, there is no sign that the vigour of the law will be diluted, but the area of its use may be progressively curtailed over time.

Cooling Off Period for Officials

Context: Ex-foreign secretary S. Jaishankar recently joined the Tata Groups.

- The cooling-off period has been waived off for him, leading to questions on the decision.

Cooling off period

- Bureaucrats serve a cooling off period after they retire and before they can join a private firm.

- As per rules for the all-India services, officials undergo a “cooling-off period” for a year.
- The period was reduced from the earlier 2 years, in December 2015.
- This applies to officers of Group "A" Central Civil Services/Posts and All India Services.
- Government permission is to be sought for post-retirement commercial employment.
- This is if the job is taken up within 1 year of leaving office.

Significance

- Senior bureaucrats occupy key policymaking positions in the government.
- The cooling-off period is a way to reduce any possible conflict of interest.
- But it ensures their right to take up an employment of choice in the future.

Present case

- Individual bureaucrats can apply for waivers from the "cooling-off period".
- Mr. Jaishankar had reportedly written to the Prime Minister.
- He had sought a waiver after he had been offered a position in the Tata Group. He has been offered waiver.
- He is appointed in the Tata Group as its new president in charge of global corporate affairs.

earlier instances

- Former finance secretary Ashok Jha was granted a waiver to join as head of Hyundai India.
- The present government changed the provisions of the TRAI Act through an ordinance, once it was in power.
- This was done to appoint the former chairman of TRAI as the principal secretary to Prime Minister.
- The ordinance relaxed the conditions, for former TRAI's chiefs to take up an employment under the central and state governments.

concern

- Well-laid procedure is in place for processing proposals to grant such permission to officers who retire as joint secretary and above.
- This is to ensure that grant of such permission does not depend on the discretion of the government of the day.
- It is not a credible practice for these choices to be made discretionarily on case by case.
- But the recent decisions leave scope for doubting the rationality.

Way forward:

- Sticking to the rules is essential to maintaining the proper distance between policymaking and corporate interests.
- Certain reforms in this regard were demanded by an Indian parliamentary committee in 2014.
- It indeed extended its concerns to “consultancy” or non-executive work undertaken by retired officials.
- There were also demands to extend the cooling-off period.
- Importantly, it called for adhering to a mandatory one-year cooling-off period without exception.
- These reforms could be considered for implementation, to establish the credibility in the working of executive offices.

Politics in Judicial Appointments
In News:

- The Union government has taken a stand against the elevation Chief Justice of Uttarakhand High Court K.M. Joseph on seemingly silly grounds.
- This raises suspicion that the government's stand is politically motivated, an approach that could prove dangerous for judiciary's independence.

reasons for turning down the appointment

- The government has given out two broad reasons for freezing the elevation of Justice K.M. Joseph to the Supreme Court.
- **Seniority** - Government has stated that Justice Joseph is too junior in the all-India list of High court judges, and 11 Chief Justices ranked above him.
- But seniority is not the sole consideration while elevating a High Court judge to the apex court and multiple other factors are factored in.
- In fact, there have been multiple instances where senior judges have been overlooked in favour of a more deserving candidate of outstanding merit.

- **Proportionality** – It has been asserted that there are regional imbalances in the Supreme Court as Kerala is disproportionately better represented.
- Kerala already has 1 judge in the Supreme Court and it has been stated that a 2nd judge from there would make the region over-represented.
- This is again a false notion as Kerala has in the past had as many as 3 judges in the apex court and other regions like Maharashtra are also over-represented.
- While it is desirable that regional imbalances are not glaring, this is not a valid ground in the current case, as the situation is not overly skewed.

suspicious

- Justice Joseph in his capacity as a Chief Justice of the Uttarakhand High Court had delivered a verdict that lifted president's rule in Uttarakhand.
- This restored the Congress government headed by "Harish Rawat", which was earlier suspended on seemingly frivolous grounds.
- Some suspect that this had annoyed the Modi government and it is now extracting its vengeance by denying Justice Joseph his deserved promotion.
- Such an action could be a disaster to judiciary's independent functioning and might lead to rampant politicisation of jurists.
- The fact that Justice Joseph's career seems impeccable thus far only adds fuel to the suspicion that the current episode has been triggered due to politics.

Way Forward

- **Present Case** - Silly factor should not be made to shoot down the candidature of a person otherwise qualified and validly recommended.
- As the collegium has already vouched strongly for Mr. Joseph's credentials, it is likely that his name would be recommended again.
- Convention mandates the union government to accept the names that are recommended again (despite their objections).
- Hence, it would be prudent for the government clear Justice Joseph's appointment (if recommended again) and put an end to the controversy.
- **Overall** - There is a strong perception, that the government is much too slow when it comes to approving judicial appointments.
- A conflict between the judiciary and the executive over particular appointments is not in the public interest.
- To evolve a sustained solution, the government needs to finalise the "Memorandum of Procedure" (MoP) for appointments, which is long overdue.

Amending Anti-Rape Laws

Context:

- The Criminal Law (Amendment) Ordinance, 2018, was passed by the Union Cabinet in response to current widespread outrage against rapes.
- While the ordinance has enhanced punishments, there are glaring systemic deficiencies that need to be addressed to genuinely improve the situation.

major aspects of the ordinance

- **Provisions** - The ordinance enhances the punishment for rape by amending Section 376 (rape laws) of the Indian Penal Code (IPC).
- The minimum punishment for rape has been increased from the existing 7 years to 10 years now (minimum for raping an 'under 16' is 20 years).
- All convicts in a gang-rape case will be sentenced to life and the maximum punishment for raping an 'under 12' has been enhanced to include death.
- **Gender Sensitive** - "Protection of Children from Sexual Offences (POCSO) Act" is a gender-neutral law and covers victims who are both boys and girls.
- However, the recent ordinance approved by the Cabinet has been worded to be stringent only against sexual crimes against females.
- This was probably due to their specific vulnerabilities, but "Ministry of Women and Child Development" has asked for making the ordinance gender neutral.

Present scenario

- While many verdicts have granted the maximum punishment of death for 'rape along with murder', a death sentence wasn't an option for 'rape alone'.

- In the aftermath of the December 2012 Delhi gang-rape and murder, the justice JSVerma committee had decreed 'Death Penalty for rape'.
- The committee held that granting death for rapes would be disproportionate and regressive in the context of sentencing and reformation.
- As the committee's views created public discontent, the then government decided to include death as the maximum punishment in two specific cases.
- Hence, death for rape was to be an option – for repeat offenders, and for rapes that cause the victim to go into a permanent vegetative state.
- The current ordinance enhances the scope for granting death to rapists.
- Notably, this development makes India the 14th country that has death sentence as an option for convicts in rape cases.

arguments against the ordinance

- Capital punishment is all about retribution, disregards the reformatory aspect of the criminal justice system.
- Additionally, there is little evidence to support that it has a deterrent effect.
- The primary argument against awarding capital punishment for rape has been that it would drive the accused to kill the victim to get rid of evidence.
- The ordinance seems to disregard the fact that a majority of sexual assault cases go unreported due to the child's silence or lack of family support.
- Significantly, as per the statistics of "National Crime Records Bureau (NCRB)" on rapes, 94% of the rapists are known to the victim.
- Hence, critics feel that the incorporation of death penalty as an option will put the victims under pressure to suppress the matter and not pursue the case.
- The new ordinance provides for fast-track courts, and a two-month time period each for police investigation and completion of trial of all rape cases.
- But it is mum on the appointment of more judges to handle the burden or sensitising the judiciary and the police in dealing with such cases.
- It is also silent on victim support and rehabilitation, despite the dire need for such actions being felt across the spectrum of the judicial process and further.

Alternative suggested way

- Deterrence of the crime and the victim's access to justice require both better implementation of existing laws and systemic changes.
- There is a huge pendency of cases – all of which needs to be fast-tracked through political will and coordinated action.
- There are provisions for taking actions against police officers who dissuade complainants from filing cases by coercion (or persuasion).
- But these are rarely invoked, although a number of victims complain of having been turned away at police stations.
- There are also considerable biases in verdicts as most convicts seem to be from the poor sections of the society.
- Notably, this is despite the fact that offenders are prevalent across the socio economic spectrum.

Leasing Out Heritage Monuments

In News: The Red Fort has been leased out to the Dalmia Bharat Group recently. This has led to widespread criticism due to concerns in heritage conservation.

'Adopt a Heritage' scheme

- The tourism ministry last year launched the '**Adopt a Heritage**' scheme.
- **Objective** - This was an attempt to increase public-private partnership in conservation and maintenance of heritage sites.
- It invited private and public sector companies to become 'Monument Mitras'.
- **Services** - The '**friends of monuments**' will adopt heritage sites.
- The CSR arms of the Monument Mitras will fund the maintenance and upkeep work.
- They will develop basic and advanced amenities at the monuments.
- **Privileges** - The Monument Mitras will be given "visibility" on the monument premises.
- They will as well get visibility in the tourism ministry's Incredible India website.
- **Selection** - Monument Mitras have been selected through "Vision Bidding".

- It is the process where agency with the best vision for the heritage site gets selected.

Checks in place

- The five-year contract can be terminated if the company does not comply with the ASI guidelines.
- The legal status of the monument will not change after adoption.
- The company will not collect any money from the public unless allowed by the government.
- Also, profits, if any, will be used to maintain and upgrade tourism facilities.
- An Oversight and Vision Committee will keep a watch.
- It is co-chaired by the secretaries of Tourism and Culture, and with the D-G, ASI, as member.
- Projects will be evaluated based on:
 - increase in tourist footfall
 - improvement in overall tourism sector perception
 - increase in employment generation

Other adoptions

- Government-owned NBCC has adopted PuranaQila.
- SBI Foundation, the CSR arm of state-owned SBI, has adopted the capital's JantarMantar.
- Yatra.com has Hampi, QutubMinar, and Ajanta and Ellora caves.
- GMR and ITC have submitted proposals for the TajMahal.
- In all, 93 Archaeological Survey of India-ticketed monuments are open for bidding.
- 30 companies have been selected to "adopt" some of these sites.

recent deal

- As per the MoU, the Dalmia Group will spend Rs 25 crore over the next 5 years.
- It will be on the light and sound show, turnstile gates, app-based multi-lingual audio guide, free Wi-Fi.
- Besides, a cafeteria and construction of ramps for differently-abled visitors (Tactile Paths) would also be taken up.
- The Group will get the privilege of placing their name on signage inside the fort.

significance of Red Fort

- In old times, taking control of the fort was considered a symbolic control of the country.
- Thus, for long, the fort has been synonymous with the regime that ruled India.
- The Red Fort is seen as a symbol of the country's freedom struggle.
- The 1857 War of Independence was led by Bahadur Shah Zafar from the Red Fort.
- That is why every prime minister has addressed the nation from its ramparts every August 15.
- It is also a world heritage site, one of the three in Delhi.
- The other two being Humayun's Tomb and QutabMinar.

concerns with leasing out

- Handing over a symbol of the freedom struggle to a corporate entity has raised concerns.
- Allowing corporates to become managers of heritage sites raises doubts on credibility in heritage conservation.
- Corporates will have only limited "access" to core areas.
- Also, there will be "no handing over of monuments".
- Nevertheless, at the sites where there is no ASI involved, the external parties may be allowed to touch the building as well.

Way Forward

- ASI has to be cautious in this regard.
- It must monitor the process and progress of the maintenance and upkeep work.
- India needs a uniform policy about heritage and heritage conservation.
- Experts in the field of conservation, senior historians and archaeologists should be involved in formulating a scheme.

New Payroll Report by Niti Aayog

In News: A new payroll report to gauge the level of employment generation has been released by the Niti Aayog.

About the report

- The report of payroll data is an important first step by the Union government to track job growth more closely.

- The payroll data collected by the Employees' Provident Fund Organisation (EPFO), Employees' State Insurance Corporation (ESIC) and the Pension fund Regulatory & Development Authority (PFRDA) has been consolidated by the Niti Aayog in the form of a report.
- This report will be released every month, to track the number of jobs added in the formal sector.
- The recently released report has measured the rate of employment addition for the period 2017 September to 2018 February.
- It highlights the new jobs generated in the 6 month period with the help of EPFO and PFRDA data.
- And the data collected by EPFO and PFRDA has suggested that jobs are being created in the country, which is seen as a positive growth indicator.

limitations with the report

- This report collects data only from the union and state government establishments and do not capture the jobs created in the professional jobs.
- Also, employment generation in the informal sector, especially in the agriculture and micro enterprises are not captured which hold more than half of the total employee population.
- There is no methods used in the report to filter duplicate data and data from inactive accounts in EPFO and PFRDA.
- It is also possible that many new jobs accounted were already existing in informal sector but newly moved to the formal sector.

Way Forward

- The NITI Aayog can additionally source data from the ICAI, bar council, medical council and other professional bodies to account for other avenues of employment.
- Periodic surveys can be conducted to identify the job creation in the informal sectors.
- Collaboration with NSSO can be done to bring out annual and quarterly surveys to provide a holistic picture of the employment status in the country.

ECONOMIC AFFAIRS**Indian Rupee is under Stress**

Context:After a strong 6% appreciation against the 'US Dollar' in 2017, Rupee value has depreciated by about 4.5% thus far in 2018.

- The present slide is on account of rising oil prices and increasing yield significant FII (Foreign institutional Investors) outflows.

pulling out of FII's

- The increased demand for US Dollar is nudging out FIIs to pull out from Indian stock markets and move to destinations of better returns.
- While as much as \$30 billion was pumped into Indian debt and equity in 2017 by FIIs, they've currently pulled out a net of \$2.3 billion in March alone.
- US Federal Reserve has signalled last month that it is on course to raise the policy rate at least two more times in 2018 (curtailment of Dollar supply).
- This has also fed into investor expectations, and precipitated in a 3% rise of yield for 10 year benchmark US Treasury bonds, for the 1st time since 2014.

trends in global oil prices

- Global oil prices are continuing a steady climb on the back of tight output controls marshalled by the OPEC.
- Notably, Saudi Arabia, the world's largest oil producer, has stated that it is eyeing oil prices in the vicinity of \$80 a barrel to meet its budgetary demands.
- Tensions between Iran and US over the Nuclear Deal pullout would also most certainly prevent any softening of oil prices.
- Even a possible increase in US shale oil output has been estimated to be insufficient to offset the expected price spike.

possible impacts for Indian Rupee

- Rupee is particularly vulnerable to mounting oil costs given the economy's extremely high dependence on crude imports to meet energy needs.
- Increase in oil prices has bloated India's crude import bill and widened the trade deficit, which for March 2018 alone was about \$13.69 billion.

- Additionally, the pullout of FII's has also increased rupee supply in the international currency market.
- All these factors has led to considerable depreciation, which needs to be moderated in order to ease the pressure on import bills.
- In this backdrop, RBI's massive \$423.6 billion in forex reserves does provides some respite, as this might help in dampening Rupee volatility.

What does Bonds Yield mean?

- Bonds are loan instruments and hence are a safer and "Bond Yield" is the percentage of return that an investor in bonds derives per annum.
- Let us consider a bond (that is issued by a borrower) at a face value of Rs.1000, with a rate of interest of 10% on the **Face Value**.
- For the initial investor, the bond yields Rs.100 for his investment of Rs. 1000, which implies his yield is 10%.
- When bonds are sold in the secondary market, bond yield for subsequent investor might vary depending on the sale price (**Real Bond Value**).
- But irrespective of the Real Bond Value, interest rates are always based on the 'Face Value' as determined by the primary borrower.
- If Real Bond Value (sale price) increases over time, then bond yield decreases, as the interest amount will remain the same despite a higher investment.
- Conversely, if Real Bond Value decreases, then yield increases as a lower sum would be able to get the same interest amount.
- Hence, Bond Yield and Bond Value hold an inverse relation.

Factors influences Bond Yield

- Market interest rates (banks) are the primary influencers of Bond markets as they are competing investment options for people.
- An increase in interest rates would reduce the demand for low yielding bonds as people would want to put their money where returns are higher.
- To sell Bonds when market rates are high, a Bond holder will have to 'lower his/her bond value' to 'increase bond yield and attract investors'.
- It is to be noted that money is in demand when market interest rates are high.
- Currently, this is what is happening in the US Economy as the US Federal Reserves has increased interest rates and pledged further increases.
- Conversely, a decrease in market interest rates would make bonds attractive for investment and hence lead to a spike in Bond Value due to demand.
- Also, Bonds are a safer investment option than others, and hence any economic uncertainty would drive investors to buy bonds.
- These factors would create a spike in bond demand, which would thereby increase Bond Value and reduce Bond Yield.

Rising Fuel Prices

In News: The prices of petrol and diesel in Indian cities have risen to their highest level since late 2013. **concerns**

- The Brent crude oil was trading at over \$100 a barrel in 2013, compared to its current price of \$75.
- Even when international crude oil prices fell steeply in 2014 and 2015 as low as \$30 domestic fuel prices failed to come down as much.
- Whenever crude oil prices have increased, the prices of domestic fuels have been raised steadfastly.
- The rising prices of petrol and diesel increase the burden on citizens, affecting to some extent the government's popularity.

reasons behind increasing fuel prices

- Under a free pricing regime, petrol and diesel are priced according to what consumers are willing to pay rather than based on input costs.
- At the same time, there are other ways in which input costs can indirectly influence the retail price.

- When the price of crude oil is high, oil companies are forced to cut down on their supply to the retail market in order to drive up the prices to competitive levels.
- The agreement between members of the Organisation of the Petroleum Exporting Countries (OPEC) to cut down production in late 2016 has added to its momentum.
- High taxes are another factor that can discourage producers from bringing enough supply to the retail market, leading to higher prices.
- While this increased the amount of revenue collected by the government, it prevented retail fuel prices from falling as much as international crude oil prices.

way forward

- The price of domestic petrol and diesel going forward is likely to depend on the price of crude oil in the international market.
- It also depends on the policy preferences of the government as it heads into a series of elections in 2018 and 2019.
- While rising geopolitical tensions have been used to explain the recent rise in crude oil prices, it's hard to predict the further of the oil prices.
- There are speculations that OPEC countries would drive oil prices even higher in order to meet their increasing revenue needs.
- Thus government may decide to look at either reducing taxes on fuels or forcing OMCs to incur losses by selling at lower prices.

India Electrified – The Fact and Exaggeration

In News: Recently, the Union government had declared that all villages across India have been electrified.

- While all villages have been electrified, as much as 17% of the 18 crore rural households remain without power connections.

Claim

- As of April 1, 2015, the official count of unelectrified villages was around 18,000.
- But recently, PM announced that all inhabited villages now enjoy electrification.
- It signalled a significant milestone in the country's development.
- It is an achievement that will raise aspirations in the remotest districts.

Concern

- The existing definition to declare a village electrified is coverage of a mere 10% of households.
- This is, along with the common facilities such as schools, panchayats and health centres.
- However, these broad-based statistics fail to bring out several disparities.
- These include:
 - the actual number of households in villages that have power connections
 - number of hours they get reliable power
 - the per capita power that rural and urban Indians consume

Current electrification scenario

- **Village Electrification** - With electricity reaching Manipur Leisang village recently, every village in India is said have been successfully electrified.
- This hence completes the mission of the union government piloted "DeenDayalUpadhyaya Gram JyotiYojana" (DDU-GJY).
- Significantly, more than 18,000 villages have been electrified since 2014.
- But this doesn't mean all rural houses have been provided with power connections, as merely 10% coverage is sufficient to call a village electrified.
- **Household Electrification** - As much as 17% of the 18 crore rural households remain without power connections.
- Hence, the government has already initiated its "PM SahajBijliHarGharYojana" (Saubhagya), which aims for universal household electrification.
- It is indeed a big achievement that every village has been electrified, but the task ahead for electrifying all houses is far bigger a challenge.
- Additionally, India's rural poverty is so striking that the poorer households may not be able to sustain an electric connection even under heavy subsidy.

Challenges

- These anomalies are often the result of infrastructure deficits and administrative inefficiency.

- There is a clear divergence between the per capita electricity consumption between rural and urban India.
- Thus, improving access and equity would be the twin challenges to be faced.
- The falling cost of renewable, decentralised sources such as solar photovoltaics represents a ready solution for rural India.
- However, evidence from States such as Maharashtra highlights the challenges in this.
- It made an early claim to full electrification 6 years ago relying partly on solar power.
- But it witnesses theft, damage and lack of technical capacity and the hurdles therein.

Statistics

• **Progress over the years -**



- **Quality of supply** - As per government sources, as of December 2017, only six out of 30 states had 24 hour-power supply in rural areas.
- Over 50% of electrified rural households in UP, Bihar, Madhya Pradesh, Jharkhand, Odisha and West Bengal don't even get 12 hours of supply in a day.
- **Households without a connection** - UP tops the list with a striking 44% of the population living without electricity.

TOP 5

States with most unelectrified rural households

State	Households without power	Proportion in state
UP	133.42 lakh	44%
Bihar	32.03 lakh	26%
Odisha	30.91 lakh	30%
Jharkhand	28.69 lakh	52%
Assam	22.65 lakh	43%

As of April 29, 2018
Source: Ministry of Power



DeendayalUpadhyaya Gram JyotiYojana (Ddugjy)

- The earlier scheme for rural electrification viz. Rajiv Gandhi GrameenVidyutikaranYojana (RGGVY) has been subsumed in the new scheme as its rural electrification component.

The major components of the scheme are :

- Separation of agriculture and non-agriculture feeders facilitating judicious rostering of supply to agricultural & non- agricultural consumers in the rural areas.
- Strengthening and augmentation of sub-transmission & distribution (ST&D) infrastructure in rural areas, including metering at distribution transformers, feeders and consumers .
- Rural electrification
- Rural Electrification Corporation Limited (REC) shall be the Nodal Agency for operationalization and implementation of the scheme under the overall guidance of MoP.
- It will furnish monthly progress reports on the implementation of the scheme indicating both financial and physical progress to Ministry of Power and Central Electricity Authority.
- All **Discoms including private Discoms** and State Power Departments are eligible for financial assistance under this Scheme.
- Discoms will prioritize strengthening of rural infrastructure work considering specific network requirement and will formulate Detailed Project Reports (DPRs).
- Grant portion of the Scheme is 60% for other than special category States and 85% for special category States.

- The milestones for the additional grant are: timely completion of the scheme, reduction in AT&C losses as per trajectory and upfront release of subsidy by State govt.
- All North Eastern States including Sikkim, Jammu & Kashmir, Himachal Pradesh and Uttarakhand are included in special category States.

Definition of an electrified village

- An electrified village is defined as one that has the following:
 1. provision of basic infrastructure such as distribution transformers and lines in the inhabited locality,
 2. provision of electricity in public places like schools, panchayat office, health centers, dispensaries, and community centers, and
 3. at least 10% of the total number of households in the village are electrified.
- Therefore, a village is considered to be electrified if 10% of the total numbers of households in the village have been electrified.
- This is apart from the basic infrastructure and electrification of certain public centers in the village.

SaubhagyaYojna

- The new scheme, PradhanMantriSahajBijliHarGharYojana (or Saubhagya) seeks to ensure universal household electrification, that is, in both rural and urban areas.
- While DDUGJY has focused on the village as the principal unit to measure electrification, the new scheme shifts the targets to household electrification.
- Under Saubhagya, beneficiaries will be identified using the Socio Economic and Caste Census (SECC) 2011 data.
- The identified poor households will get free electricity connections. Other households not covered under the SECC, will be provided electricity connections at a cost of Rs 500.
- This amount will be collected by the electricity distribution companies in 10 instalments.
- So far the focus of electrification schemes has been on rural areas, where typically last mile connectivity has been difficult to provide.
- Saubhagya extends the ambit of electrification projects to urban areas as well.

Way forward

- A hybrid solution i.e. scaling up of both grid-connected and standalone solar systems in appropriate areas would be a way out.
- Augmenting conventional sources of electricity, with a clear emphasis on rooftop solutions for cities could be taken up.
- Cheaper renewables will enable differential pricing for households in remote areas.
- This would be a key determinant of wider social benefits of electricity.
- In all, rural electrification in India and affordable power to every household needs sustained policy support.

NokkuKooli Cease to Exist

In News: Kerala state government has decided to cease the practice of paying NokkuKooli (gawking charges) for doing nothing.

Nokkukooli

- Nokkukooli is a type of wage meant for workers overseeing the work of fellow workers.
- This practice has been widespread among the head-load workers who are basically labourers involved in loading and unloading activities.
- A Registered head-load worker demands Nokkukooli for either doing the loading or unloading work himself or when he gets the job done through his own worker.
- Various laws were also enacted to ensure the rights of working to carry loads for loading and unloading were protected.

reason behind thid decision

- Nokkukooli became a notorious practice of demanding wages for just simply seeing the work as it was easy to appoint a worker to do the job.
- Head-load workers also started exhorting huge sums from construction sites where machines move heavy objects, on the grounds of denying their right to work.
- In recent years, the growth of infrastructure and other reality projects has allowed head-load workers to earn huge amounts as Nokkukooli.
- But all this is due to decline in the actual work for head-load workers as markets and packaging methods have changed.

implications of this move

- The factory owners or builders will be free from the pressures by the trade unions to pay Nokkukooli to the workers and also from disruption in construction work.
- But for the head-load workers, this will affect them badly as they are dependent on Nokkukooli for their livelihood.
- They will suffer as they don't have any alternate ways to earn their livelihood.

INTERNATIONAL AFFAIRS

Cuba without the Castros

Context: 'Raul Castro' recently initiated a power transition in Cuba on his own volition by anointing 'Miguel Diaz-Canel' as his successor and getting him elected.

- This is very significant as it marks a calculated break from the Castors, who've been at the helm for about 6 decades now.

Background

- The 1959 revolution saw Fidel Castro led communist rebels take over the Cuban administration from the pro-U.S. Batista regime.
- Since then, Fidel held on to the helm for 49 years till 2008, when he retired due to health reasons after anointing his brother Raul Castro as his successor.
- Notably, Cuba is a single party state and elections for political positions are held from within its party members.
- Raul Castro recently completed his 2nd five year term as President and had anointed 'Miguel Díaz-Canel' as his successor.
- Notably, Raul made it clear as early as 2011 that he would relinquish power after the 2nd term and ensure a smooth transition.
- He also started grooming his successor early into his 2nd term and has now got him elected to the top within the National Assembly.
- Hence, Mr. Miguel, an engineer who rose through the ranks of the Communist Party has now assumed charge, in what is seen as a historic power transition.

challenges

- **Transition** - For any state born in revolution, 1st transfer of power to a new generation is always politically risky.
- Mr. Miguel now faces the tough task of balancing the interests of the ideologically rooted older revolutionary comrades who still dominate the Communist Party.
- But Raul will continue till 2021 as the First Secretary of the Communist party - the main body that formulates major national policies.
- Hence, while the transition at the helm is indeed significant, it is not expected to unleash any instability as Raul would continue to wield considerable power.
- **Economy** - Cuban economy presents its own set of challenges, and abolition of the troublesome "Duel currency system" is the immediate challenge.
- Also, resorting to IMF or WB for assistance is not an option for Cuba as its revolution was rooted in antipathy against these institutions.
- Raul had earlier began a slow and tricky market reforms by easing restrictions on private enterprise, and now this will have to be furthered cautiously.
- If markets are liberalised too fast, it would alienate the 'Old Guard' and if too slow, growth will take a beating and regime critics will become more vocal.
- **Political Freedom** - A growing cohort of critics against the regime is another major challenge to deal with in the internet era.
- Notably, Mr. Miguel supported a recent counter offensive launched by hardliner communists, vilifying critical bloggers – which has worried liberals.
- Censorship is another stress point that Raul had sought to delicately address during his rule by a policy of "slow continued incremental liberalisation".
- But Raul had enjoyed undisputed influence over the Communist Party to make these bold moves, which his successor might find hard to emulate.
- **US relations** – The Obama regime build a positive relation with Cuba and even established diplomatic ties for the 1st time, but Trump has reversed all.

- Additionally, the Trump administration has largely outsourced Cuba policy to the conservative anti-Castro Cuban-Americans in the Congress.
- Trump has also downsized the U.S. embassy in Cuba as strange incidence of unexplained sickness was reported by diplomats.

public reception

- A considerable chunk of the younger masses look optimistic with a new leadership at the helm and excited about the power transition.
- But as Castros had held sway for as long as most Cubans could remember, there is anxiety on whether newer leadership would mean instability.
- Nevertheless, Mr. Miguel represents a younger and aspiring generation that is looking forward to strong economic progress and political freedom.
- He could ensure that by co-opting all stakeholders, political stability get entrenched despite the reforms.

Revitalising BIMSTEC

Context:

- Recently BIMSTEC Network of Policy Think Tanks (BNPTT) meeting held in Dhaka at the grouping's headquarters.
- With the "failure" of Saarc, Bangladesh is looking at sub-regional groupings, including BIMSTEC, for cooperation, said GowherRizvi, the international affairs adviser to Bangladesh Prime Minister.
- "We have seen NAFTA (North American Free Trade Agreement) may or may not survive.
- Bolstering physical, digital, financial, and people to people connectivity between the 7-nation BIMSTEC is key for South Asia's progress.
- This is in line with the larger picture of India's trans-national and sub-regional initiatives for enhancing development, peace and stability.

BIMSTEC

- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) was established in 1997.
- It was a group of 7 littoral countries encircling the Bay of Bengal namely - Bangladesh, Bhutan, India, Nepal, Sri Lanka, Myanmar and Thailand.
- Notably, BIMSTEC has 5 members from SAARC and 2 from ASEAN and can potentially act as a bridge between the two.



Significance

- In the India context, BIMSTEC stands at the very important intersection of 'Neighbourhood First' and 'Act East Policy'.
- While BIMSTEC has come a very long way since its establishment, the present geo-political scenario calls for enhancing its scope and engagements further.
- Despite its strategic significance and potential, the region remains one that is poorly interconnected – which needs to be worked upon.
- BIMSTEC therefore presents immense opportunities for growth and development and has particular benefits for 7 north-eastern states.

Organisational reforms needed

- The 2016 Goa summit of the BIMSTEC (in collaboration with BRICS), and the subsequent regional business congregations have set the tone for the future.
- The mission is to evolve a comprehensive vision for fresh, knowledge-intensive, academic, policy and industry space over the next decade.
- Strengthening BIMSTEC Secretariat and enhancing government-to-business interface have been suggested.
- Also, creation of a BIMSTEC fund has been mooted.
- Lack of connectivity and timely availability of business information are greatest hindrances to closer economic engagement.

- Multimodal connectivity and a speedy conclusion of the BIMSTEC FTA would have a multiplier effect on trade and investment.
- Creating regional value chains that could feed into global value chains are vital for business integration.
- The prospects for MSMEs are massive and these need to be augmented by encouraging competitiveness, employment generation and inclusive growth.
- Integration of women entrepreneurs into supply chains and building innovative business models for women is essential.
- However, the most important need is the strengthening of all modes of connectivity: physical, digital, financial and people to people.

Way forward

- On a backdrop of shared history, new connections have to be forged between students, entrepreneurs, artists, and elected representatives.
- In addition, it is important to pay attention to the role of the media as an opinion shaper and influencer.
- BIMSTEC holds catalytic potential to transform economies of member states and create a peaceful, prosperous and integrated neighbourhood.
- The road from potential to reality will be successfully traversed only when all actors and stakeholders come together actively for the cause.

Wuhan Meet: Hopes Brighten for India-China

In News: Indian PM Modi and Chinese President Xi Jinping had an informal meet recently in the Chinese city of Wuhan.

- China's assent to going for an informal summit with India needs a deeper analysis in the prevailing geo-political scenario.

Indo-China relations progressed

- The India-China relationship has always been too complex and has varied from "Competition to cooperation to discord" at different points in time.
- 2017 witnessed all facets of this relationship through varied events:
- India's trenchant critique of the Belt and Road Initiative (BRI),
- India's entry into the Shanghai Cooperation Organisation,
- The Doklam Crisis (The most significant of all)
- BRICS - acceleration of multilateral cooperation
- Both positive and negative economic engagements
- But despite these variations across engagements, the Doklam standoff highlighted a clear case of simmering animosity.

Doklam escalation

- While trigger for Doklam was for control over a narrow stretch of barren land, the conflict nucleus was formed much earlier in other arenas.
- The main reason for the conflagration is the recent development of a deep rooted negative perception on both sides for the other's foreign policy moves.
- This collapse in geopolitical trust was a striking factor that was widely visible across domains – and China's expansionist ambitions only aggravated this.
- China's rising economic and political profile along with its massive initiatives like the BRI (Belt and Road Initiative) had got India concerned.
- Chinese foray into India's South Asian neighbourhood through infrastructure and strategic projects has been seen by India as an affront on its sovereignty.
- On the other hand, India's pursuit of deeper military engagement with "U.S. and Japan" (Beijing's main strategic rivals) wasn't to the liking of China.
- These conflicting pursuits nudged both countries to adopt an assertive foreign policy against the other to keep things under check.
- Consequently, India tilted closer to the U.S., while China moved towards Pakistan, and on a scale that wasn't witnessed even during the Cold War.

What was the result of such a hardball approach?

- Throughout the hard-line phase, neither side was able to extract any significant concessions from the other.

- NSG membership (Nuclear Suppliers Group) proved elusive for India majorly because of Chinese resistance.
- Contrarily, China's wasn't successful in its bid to get India to tone down its resistant rhetoric against its BRI.
- While China shielded Pakistan aided terror networks in international forums, India openly allied with anti-China forces as a counter.
- In this backdrop, the heightened escalation at Doklam proved to be a wake up for both sides to realise the futility of such masochistic approach.
- Hence, a policy reset seems to have commenced currently, and optimism is brewing on both sides for enhanced cooperation.

Wuhan Meet

- The current Wuhan meet seems largely informal and unstructured, and both the premiers were accompanied only by their translators the entire time.
- Press statements issued denote that both leaders held discussions that were wide in their scope, and covered "bilateral, regional and global issues".
- An understanding had been reached to strengthen communication lines between both militaries to avoid Doklam like standoff in the future.
- Indo-China bilateral trade currently stands at \$84 billion per annum and India faces a massive trade deficit of about \$52 billion with China.
- The leaders have pledged to better balance this deficit by enhancing China's import of Indian goods in key sectors like agriculture and pharmaceuticals.
- An attempt has been made to address the international irritants in the relationship like
- China's blocking of "India's NSG membership bid" and "terror designation for Pakistan-based groups".
- India's opposition to China's Belt and Road Initiative (BRI) and tacit pampering of the Tibet issue.
- Additionally, Mr. Modi and Mr. Xi discussed a joint project in Afghanistan, which is a very significant step for the entire south Asian region.

Larger message

- **Past** – Despite hundreds of years of engaging each other, the two neighbours have been to war only once.
- Since the signing of the 1993 "Agreement on the Maintenance of Peace and Tranquillity", neither side has fired a weapon against the other.
- This is very significant as the 3500 Km long border is largely not demarcated.
- Also, despite both countries possessing atomic weapons, parleys have never carried even a hint of the nuclear overhang.
- **Currently** - In the run up to Wuhan, there was a conscious toning down of rhetoric by both sides, after the high reached during the Doklam standoff.
- This has set out a strong message that India and China can work together on peaceful terms despite bilateral and geopolitical differences.
- While much else remains to be done, Wuhan has definitely set the tone for a mutually beneficial and sustained Asian Century.

China's possible motive

- India by itself may not be a serious problem for China. But China regards India as a potential ally of the US and Japan against China.
- The border is in control of the Chinese if they wish to exercise it. It's because they are on higher slopes and have more troops there.
- But arresting India's potential drift towards the US and its allies is in China's interest.
- Being informal, no documentary evidence was required for any agreements of great significance.
- So an informal summit was a low-cost, high-benefit option for China.

post-summit statements

- Statements made by Xi Jinping after the summit, clearly indicate the above motives.
- **Strategic perspective** - He emphasised that India and China should look at their relations from a strategic perspective.
- This is clearly in mention of India's increasingly closer ties with the US.
- Further, compared to India, China takes Japan more seriously.
- There is possibility for a clash in the East China and South China Seas.

- Japan and India, by themselves would not worry China.
- But the combined might of the US and Japan would be a serious blow to the Chinese.
- **Economy** - Economic development also appeared in the post-summit statements.
- The Chinese do not think they need India for its development.
- However, deeper economic relations with India could be viewed as a means to an end.
- A means to ensure that India does not drift off into a US-Japan-India strategic triangle.
- **Civilisation** - Xi also stressed on a deeper and wider exchange between the two great civilisations.
- Generally, to talk about India's civilisation is a good diplomacy.

Benefit for India

- Until the 2019 elections, the government in power would prefer to avoid any border threats.
- This is particularly in relation with problems with Pakistan.
- India used the summit as a kind of assurance from the Chinese.
- It is to ensure that China, as Pakistan's benefactor, did not interfere on the border.

summit mean for Pakistan

- Post-summit statements suggested that India and China should pursue "a joint economic project" in Afghanistan.
- India cannot take up its Afghanistan projects all alone.
- This would invite attacks from the Taliban, supported by Pakistani military.
- But the Taliban would not attack joint China-India projects.
- This is because the Pakistanis would not allow that to happen.
- Pakistan is too indebted to China, and China has its own interests in Pakistan.
- China is building a port there, and there is a China-Pakistan economic corridor, serving Chinese interests.

Wuhan

- Wuhan is the capital city of Hubei Province in central China.
- It has been a major industrial city for a long time.
- The 1911 Republican revolution started there.
- An informal summit would normally take place in a place other than Beijing or Shanghai, and Wuhan was a natural choice.

Way Forward

- The conciliatory approach to China in the current setting has aroused scepticism from some, as they fear that vital issues might get compromised.
- But the government seems to be thinking that with a conciliatory approach with China, India can't tide over the multiple challenges in the neighbourhood.
- Further Indo-China friction will only enhance Pakistan's leverage over Beijing and reduce India's bargaining power vis-a-vis Japan and USA.
- Notably, despite their adverse relationship with China, both Japan and USA have truly valued their interdependence with Beijing, particularly in trade.
- Further, India also sees value in enhancing economic cooperation with China, which could better shape the overall geo-political outcomes in the region.

US and South Asian Politics

In News: Six rockets were launched near Kabul airport by terrorist elements, coinciding with the Kabul visit of U.S. Defence Secretary.

- Notably, the US had unveiled their new South Asian policy.

Highlights of the policy

- The US is planning to send about 3,000 more troops to Afghanistan to enhance military and security conditions.
- Despite increasing US presence, it stresses on the responsibility of the Afghan leadership to step up and fully own the war with time.
- Also, the US for the first time openly criticised Pakistan for being soft on terror.
- It also stressed on India's positive role and asked for its increased collaboration with US in Afghanistan.

India's possible role

- Indian help has been sought in Afghan with primary focus in the areas of economic assistance and development.
- India has decided to take up 116 “high-impact community developmental projects” in 31 provinces of Afghanistan.
- Recently, four attack helicopters were gifted by India to Kabul.
- India has promised training for Afghan police to fight terrorism, organised crime, trafficking of narcotics and money laundering.

Marginalization of Pakistan

- Mr. Trump had made it clear that Washington could no longer be silent about Pakistan's safe havens for terrorist organisations.
- This comes at a time when New Delhi is actively leading a global campaign to tag Islamabad as a state sponsoring terror.
- The Xiamen BRICS declaration earlier this month also listed Pakistan-based terror organisations for the first time.
- These developments have forced Pakistan's government to admit that groups like Lashkar-e-Taiba are a threat for all.

Strengthening of India - U.S ties

- China's growing assertiveness in the Indo-Pacific region is a shared concern for both India & US.
- Both reiterated the critical importance of freedom of navigation and unimpeded lawful commerce in the global commons.
- Washington is no longer shying about selling sensitive military technologies to India.
- The sale of 22 Sea Guardian Unmanned Aerial Systems, was announced recently.
- With this, the Indian Navy will acquire what is currently the world's most advanced maritime reconnaissance drone.
- Also, other global theatres like South China Sea have also provided India and US avenues to cooperate.
- The challenge will be to sustain the present momentum.

Need for Screening of EU Migrants in UK

In News: In recent times migrants of European Union in Britain are causing trouble to the Country's citizens.

Evolution of migration in EU

- The Schengen Agreement, 1985 granted the citizens of EU nations and their families right to live and work anywhere within the EU because of EU citizenship.
- EU countries with highest number of immigrants from other EU countries include Germany, the United Kingdom and France.
- Meanwhile, EU countries with the highest number of emigrants to other EU countries include Poland, Romania and Germany.
- These migrations were hastened after the European debt crisis where many small EU nations became bankrupt and failed to provide job opportunities and stable economy for its citizens.
- In the past decade, along with migrants from EU, migrant fleeing war in Central Asian countries end up in major countries of EU.
- Even though the quantity of migrants into the UK has reduced, still a lot of migrants both from EU and non EU nations are living in Britain.

Concerns of the migrant population in Britain

- The migrants who are unemployed don't receive benefits from government like the citizens who are entitled for unemployment allowance.
- With the increase of migrants from non-EU countries who are ready to do any kind of jobs, then market which was available for EU migrants is reduced.
- This migrant's crisis, resulting in competition for jobs in UK was also one main reason for Britain to exit from EU.
- The EU migrants also feel hatred towards the UK citizens for the Brexit decision which has affected their chances of citizenship and secure life in Britain.
- These concerns have pushed the EU migrants into criminal activities like robbery, murder which is affecting the safety and security of UK's citizens.

safety breaches for UK citizens

- The EU migrants are using several techniques to plunder the people like snatching their wallets, holding them at gun point and forcing them to withdraw money from ATMs, attacking with knives, etc.
- They also pretend to be police officers or patrolling cops and fine citizens for alleged crimes.
- Therefore, changes in the UK migration policy are needed to screen future EU migrants for background.
- The already present EU migrants have to be provided with relief and work, so that they stop wandering the streets and attacking people.

North Korea's Plan on Denuclearisation
In News:

- North Korea agreed to close its Punggye-ri atomic test site and invite U.S. delegations.
- North Korea's upcoming meet with the US is expected to give a shape to its denuclearisation plan.
- With its effort to gain the trust of world nations and remove the sanctions, a look at the means and probabilities become essential.

About recent meet

- North Korean leader Kim Jong-un and South Korean President Moon Jae-in met for the first time recently.
- They have pledged to ensure peace, prosperity and unification of the Korean peninsula.
- North Korea has already pledged to close one of its nuclear test sites.
- Differences between the two leaders on the question of denuclearisation are evident. South Korea emphasised that complete denuclearisation was essential for peace.
- However, North Korea did not make its stance clear on this front. There was a clear indication of the need for equality between the two, during the talks.
- However, this equality is hard to be materialised in terms of nuclear security in the short term.

De-nuclearisations

- Denuclearisation is a key to the whole process, as it means different things to different people.
- For the U.S., the models are Iraq, Libya and the former republics of the Soviet Union.
- They all surrendered their nuclear assets in return for peace and normalisation.
- But North Korea seems to be opting for a different model.

North Korea's possible plan

- **Recognition** - It much resembles the Indian model nuclear deal.
- Under this, it gets recognised as a "technologically advanced responsible state".
- On the basis of this, it in turn gets certain strategic assurances.
- It is an effort to legitimise the nuclear arsenal and earn recognition as a responsible state.
- **Credibility** - India arrived at the nuclear deal with the US by pointing to the direct nuclear threat from China and in turn from Pakistan.
- Mr. Kim has gone further by suspending all missile tests and taking steps to shut down a nuclear test site.
- This is much in line with earlier US 's demand to India to sign the Comprehensive Nuclear-Test-Ban Treaty to avoid sanctions.
- **Relations with US** - Kim is also likely to use the Indian model to bargain for normal relations with the U.S.
- This may be on the basis of guarantees such as:
 - minimum deterrence
 - non-first use
 - no tests
 - commitment to nuclear disarmament in keeping with global developments, etc

Uncertain Model

- Trust and confidence in India as a responsible state and various other factors were behind the historic nuclear deal.
- Unlike India, the track followed by the earlier North Korean leaders and the present one appeared in disorder.
- This is ever since North Korea sought to leave the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) regime.

- The posture was of threat and arrogance rather than peace or reconciliation.
- It is now inclined to negotiate its way into removing sanctions and shaping its future.
- But the U.S. would be far more reluctant to make any concessions to North Korea without an agreement on denuclearisation.
- The forthcoming negotiations will prove whether the Indian model will help North Korea in restoring peace.
- Some amount of domestic reform at home, in terms of civil liberties, would help North Korea make its case better.

Uncertainties in the outcomes

- There are speculations that terminating Punggye-ri test site is useless as it has been already destroyed during earlier nuke tests, apart from this site there are two more test sites that are even bigger.
- It is also unclear whether North Korea would host U.S. experts at its Punggye-ri underground testing site before or after the summit.
- USA is pressing for the N.Korea to give up its weapons in a complete, verifiable and irreversible way.
- For which Pyongyang is demanding as yet unspecified security guarantees to discuss its arsenal.
- Even agreeing a treaty to formally close the conflict will be complicated as both Seoul and Pyongyang claim sovereignty over the whole Korean peninsula.

ENVIRONMENTAL AFFAIRS

Plastic Waste Management Rules 2018

In News: The Ministry of Environment, Forest and Climate Change has notified the Plastic Waste Management (Amendment) Rules 2018.

About the amendment

- In 2016, Union government implemented the Plastic Waste Management Rules and Solid Waste Management Rules.
- But the rules faced various challenges.
- Based on representations received from various stakeholders, MoEF&CC had constituted a committee to resolve such issues.
- The amendments are based on recommendations submitted to the Ministry.

Multi-layer Barrier Film Schematic and Examples of Packaged Food Products



Key Highlights

- The phasing out of Multi-layered Plastic (MLP) is now applicable only to MLP that are “non-recyclable or non-energy recoverable or have no alternate use”.
- MLP is most widely used in food packing Industries.
- The amended Rules prescribe a central registration system for the registration of the producer/importer/brand owner.
- The system will be evolved by the Central Pollution Control Board (CPCB).
- National registry has been prescribed for producers with presence in more than two states.
- A state-level registration has been prescribed for smaller producers/brand owners operating within one or two states.
- Any mechanism for the registration should be automated.
- It should take into account ease of doing business for producers, recyclers and manufacturers.

Shortfalls

- **Dilution** - Many significant provisions of the earlier plastic waste management policy, 2016 have been discarded or diluted now.
- The Plastic Waste Management Amendment Rules 2018 has omitted the explicit pricing of carry bags mentioned in 2016 rule.
- **MLP** - Multi-layered plastics are supposed to be phased out.
- But these have been given a fresh lease of life by easing the norms concerned.
- Only MLP that are “non-recyclable or non-energy recoverable or have no alternate use” are to be phased out.
- This leaves hardly any category of multi-layered plastics to be phased out.
- Any product can be claimed to have some alternate use to escape the bar.
- **Producers** - The new norms seem to have been crafted with an eye on ease of doing business.
- This seems to be happening at the cost of the environment and public health due to plastic use.
- “Extended producer responsibility” bound plastic producers, importers and brand owners.
- They are required to ensure environmentally sound management of their products till the end of their useful life.
- The new policy is soft on “extended producer responsibility”.

concerns with plastic toxicity

- India is reckoned to generate over 25,000 tonnes of plastic waste every day.
- The residues can stain the environment and natural resources for hundreds of years.
- Plastic toxicity is known for its enduring adverse effects on territorial and aquatic life.
- In food, it can alter human hormones to cause major life-threatening diseases.
- Plastic materials, especially bags and bottles strewn on roads, have been noticed to cause flooding by blocking drains.
- They also kill stray cattle by choking.

way forward

- Plastics are not totally dispensable as their use seems desirable in certain situations.
- In fields like agriculture and automobiles, packaging, information technology and biomedical industries, they are relevant.
- But their non-degradability and emission of toxic gases on combustion and incineration are growing concerns.
- It is thus imperative to manage plastic debris appropriately.
- It would be advisable to reassess the new set of rules and switch back to the 2016 plastic waste management norms.

BIO/ HEALTH ISSUES

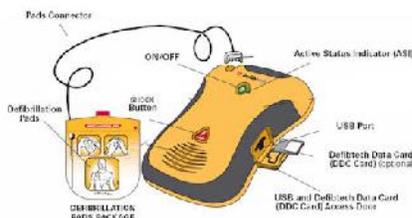
About Automated External Defibrillator

Context: In recent times the incidence of deaths due to sudden cardiac arrests outside home is increasing.

- Various Indian cities need to install Automated External Defibrillator (AEDs) in public spaces to address this issue.

AEDs

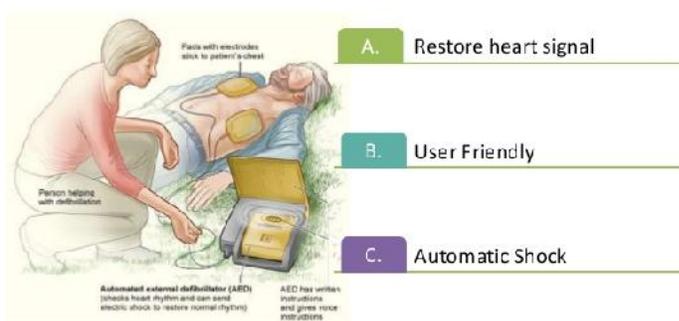
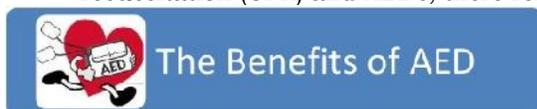
- Automated External Defibrillators or AEDs are portable electronic medical devices to detect life-threatening cardiac activity such as irregular heartbeats and pulselessness.
- It can revive the heart by defibrillation or application of electricity to restore effective cardiac rhythm.



- In the absence of a trained medical professional, AED can be used by an ordinary educated person, as it is equipped by simple audio and visual commands.

Need for an AED

- During a cardiac arrest, the heart stops functioning due to problems in the electrical system of the heart, disrupting the pumping action.
- As a result the blood flow to brain and other parts of the body stops, within seconds, a person drops down unconscious and has no pulse, and within minutes, a person suffers death.
- It is estimated that the failure to administer life-saving defibrillation within 4 to 6 minutes of suffering cardiac arrest is a major factor for 95 per cent of sudden cardiac deaths.
- A person suffering from cardiac arrest except for timely administering of cardiopulmonary resuscitation (CPR) and AEDs, there remains no other way to save the life.



need for AEDs in public spaces

- Emergency services in India unfortunately are known to take way more time than they should and therefore, first-aid tools have crucial role to play for saving lives.
- With a large population size and densely crowded public spaces, there are strong indicators for growing incidence of sudden cardiac events in the country.
- This makes installation of AEDs in public places important and they should be placed alongside fire-extinguishers or at similar locations.
- In large buildings, possibly every floor can have an AED, in markets, malls, and public places, they could be placed centrally and at entry and exits.
- The device may be installed at security guards rooms and surveillance centres as well.

Way Forward

- Apart from few initiatives, India is largely unaware of the need for installing AEDs at strategic locations in public places.
- The changing health scenario is causing a rethink and up gradation of such standards worldwide, and India needs to learn from the US, the need to make this device readily available.
- Keeping the trends of public health in mind, the union and state governments need to lay guidelines for installation of AEDs.
- Government should make installing AEDs mandatory in railway stations, airports, metro stations, and bus terminals.
- Security staff and emergency service personnel should be trained to administer first-aid services, including CPR and AEDs.
- AEDs should be installed in traffic police vehicles and patrolling cars, and such officials should be trained to operate AEDs.

INSHORT

Unnat Bharat Abhiyan 2.0

- The second stage of the Unnat Bharat Abhiyan was launched recently.
- It is a flagship program of the Ministry of Human Resources Development, with the intention to enrich Rural India.

- It aims to create a vibrant relationship between the society and the higher educational institutes.
- It is aimed at making higher education institutions provide solutions to problems of villages.
- Providing the knowledge and technology support to improve the livelihoods in rural areas and upgrading the capabilities of both the public and private organizations in the society are the means.
- Both technical and non-technical institutions have been invited to build systems in villages as per their strengths.
- IIT Delhi has been designated to function as the National Coordinating Institute for this program.
- Each selected institute would adopt a cluster of villages / panchayats and gradually expand the outreach over a period of time.
- The key points include
 - helping villages achieve 100% school results
 - creating 25 jobs each in four sectors in each village where work would take place
 - increasing rural incomes
 - providing drinking water and sanitation to villages
 - disposing village garbage, etc

United Nations Convention to Combat Desertification

- Desertification was addressed for the first time in 1977 in the United Nations Conference on Desertification.
- This was followed by the adoption of the United Nations Convention to Combat Desertification in Paris on 1994.
- The Convention entered into force in 1996.
- It is **one of the three Rio Conventions**, along with United Nations Framework Convention on Climate Change (UNFCCC) and Convention on Biological Diversity (CBD).
- It is the **sole legally binding international agreement** linking environment and development to sustainable land management.
- The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands.
- This is where some of the most vulnerable ecosystems and people can be found.
- **India** became a **signatory** to the Convention on 1994 and ratified it on 1996.
- The Ministry of Environment, Forest and Climate Change (**MoEFCC**) is the **nodal Ministry** to coordinate all issues pertaining to the Convention.
- The Convention holds a biennial Conference of Parties (CoP) to the Convention and the last CoP was held in China in 2016.

HARIMAU SHAKTI 2018

- Harimau Shakti is a **joint training exercise conducted by India and Malaysia** in dense forests Hulu Langat in Malaysia.
- The exercise is aimed at bolstering cooperation and coordination between armed forces of both the nations.
- It will share the expertise of both the contingents in conduct of counter insurgency operations in jungle terrain.
- Indian contingent is being represented by one of the oldest infantry battalions, Grenadiers.
- This is the first instance wherein a joint training exercise of this magnitude involving Indian and Malaysian soldiers is being organized on Malaysian soil.

BhabhaKavach

- BhabhaKavach is an armour panel, which gives personal protection against bullets, of different threat levels.
- It is developed by Bhabha Atomic Research Centre (BARC).
- The jacket was developed at BARC's Trombay centre in response to a request from the Central Reserve Police Force (CRPF) and the Ministry of Home Affairs.
- It was named after nuclear physicist Dr. Homi J. Bhabha.
- It is not only cheaper but also much lighter.
- It is made of boron carbide and carbon nanotube polymer composite.
- BARC has been using boron carbide in the control rods of its nuclear reactors.
- It weighs just 6.6 kg in comparison to the 17-kg jackets in use, and use of boron carbide for jacket is the first in India.

- The imported jacket costs Rs 1.5 Lakhs whereas BhabhaKavach will cost Rs 60,000-70,000.
- BARC has transferred the technology of BhabhaKavach to Mishra Dhatu Nigam, Hyderabad, for its large-scale production.

Predicament of Returning Mothers

- The report titled “Predicament of Returning Mothers” highlights the challenges faced by women who are at high risk of dropping out due to pregnancy and child care.
- The following are the key factors that help women return to work post-maternity leave:
 1. a strong sense of identity
 2. a precedence of women working in family
 3. presence of role models that they could relate to
 4. support from mothers-in-law, husbands and social circle
 5. financial instability at home that drives them to work and earn
- From the employer’s perspective, managers validated that childcare and maternity are the key exit gates for women.
- Also, demotion of returning mothers often leads to dissatisfaction at work and eventually leading to resignations.

Atal New India Challenge

- The Atal Innovation Mission (AIM) under the NITI Aayog will be launching the Atal New India Challenge.
- AIM will invite prospective innovators/MSMEs/start-ups to design market-ready products, using cutting edge technologies or prototypes across identified focus areas.
- Climate Smart Agriculture, Smart Mobility, Predictive Maintenance of Rolling Stock, Waste Management etc. are some of the 17 identified focus areas.
- The winning ideas will be granted up to Rs 1 crore and mentorship through the challenge.

Calcium intake

- Adults in India consume on an average about half the amount of calcium than required for healthy bones.
- Low calcium intake has been linked to lower bone-mineral density, which increases the risk of osteoporosis and broken bones.
- In India, the average calcium intake is only 429 mg per day against the requirement of 800-1000 mg per day.
- Countries in Asia, Africa and South America mostly have low calcium intakes, ranging between about 400 and 700 mg/day.
- Calcium is a major component of bone, accounting for between 30-35 per cent of its mass and much of its strength.
- Calcium regulates muscle contraction, plays a key role in normal blood coagulation, and also a co-factor for many enzymes.
- Calcium is not easily absorbed without the presence of vitamin D.

BIS grants first license for Liquid Chlorine

- Bureau of Indian Standards (BIS) granted first license for Liquid Chlorine on all India basis.
- The product is in liquid form and stored in metal containers.
- It is usually used as a gas obtained by evaporating the liquid from the metal container.
- It is used mainly in paper, pulp, textile bleaching, water sterilization and manufacture of chemicals.
- BIS is the National Standard Body of India established under the BIS Act 1986
- The Bureau is a Body Corporate consisting of 25 members with Union Minister of Consumer Affairs, Food and Public Distribution as its President and with Minister of State for Consumer Affairs, Food and Public Distribution as its Vice-President.

Monthly Payroll Data

- India has, for the first time, introduced monthly payroll reporting for the formal sector to facilitate analysis of new and continuing employment.
- The Employees’ Provident Fund Organization (EPFO), Employees’ State Insurance Corporation (ESIC) and the Pension fund Regulatory and Development Authority (PFRDA) have released payroll data.
- Data released by EPFO shows that during September, 2017 to February, 2018, 31.10 lakh new additions across all age groups were made in the payroll.

- This data would provide a more firm basis for various analysis and studies of the economy, job creation, as also aid in policy making.

Fejervaryagoemchi

- Scientists have identified a new species of frog called Fejervaryagoemchi in the highland plateaus of the Western Ghats parts of Goa.
- The new species is named after the historical name of the state of Goa where the species is discovered.
- Most of these frogs are terrestrial, but they need water bodies to survive.
- The new species is found in the high elevation areas of laterite plateaus, temporary water bodies and paddy fields of Goa.

Planet darker than charcoal

- Scientists have discovered a 'pitch black' planet 470 light-years away that absorbs 99% of light.
- This is one of the darkest planets ever discovered — reflecting very little light from its host star.
- The planet, named WASP-104b, was discovered by using NASA's Kepler telescope to show that it is 'darker than charcoal.'
- The planet was discovered orbiting a yellow dwarf star some 470 light-years away from earth in the constellation Leo.
- It is categorized as a 'hot Jupiter' planet, denoting gas giant planets of a similar mass to Jupiter, but is located much closer to their host stars - making them very hot.

Digital terrestrial television

- Doordarshan had introduced India's first DTT services through an android application designed for android mobiles and television with no internet needed.
- Doordarshan is giving terrestrial transmission of Analog Channels since 15th September 1959.
- DD is migrating to digital terrestrial broadcasting.
- The advantages of going digital are that it can provide multiple program channels from one transmitter with better video and audio quality and better availability of signals on mobile and portable devices like handsets/tablets/PCs etc
- Digital terrestrial television is a technology for broadcast television in which land-based (terrestrial) television stations broadcast television content by radio waves to televisions in consumers' residences in a digital format.

Agreement with World Bank

- The Government of India and the World Bank signed a \$125 million agreement to support India in developing an innovative biopharmaceutical and medical devices industry.
- The Innovate in India for Inclusiveness Project (I3) agreement was executed between the project implementing agency - Biotechnology Industry Research Assistance Council and Ministry of Finance and International Bank for Reconstruction and Development on behalf of World Bank.
- Biotechnology Industry Research Assistance Council (BIRAC) is a not-for-profit Public Sector Enterprise, set up by Department of Biotechnology (DBT).
- The Innovate in India for Inclusiveness Project (I3) will support Government of India's Biotechnology Industry Research Assistance Program (BIRAC), set up five years ago to support innovative start-ups and collaborations through strategic partnerships.
- BIRAC will now scale-up its efforts across the industry and focus on providing the ingredients that are currently missing in India's biopharma innovation ecosystem

3D printing of electronics directly on human hand

- Scientists have successfully 3D printed electronics on the human hand for the first time.
- It could enable soldiers on the battlefield to quickly make temporary sensors and detect hazardous agents.
- Researchers also successfully printed biological cells on the skin wound of a mouse.
- The technique could lead to new medical treatments for wound healing and direct printing of grafts for skin disorders.
- 3D printing or additive manufacturing is a process of making three dimensional solid objects from a digital file.

Plastic pact signed

- More than 40 British companies including major retailers and soft drinks companies pledged to eliminate unnecessary plastic packaging as part of an anti-pollution push.
- The 42 firms, responsible for 80% of plastic packaging sold in Britain, have signed up to a pact.
- It aims to tackle plastic pollution over the next seven years through a series of measures.

- It also include cutting down on single-use plastic packaging, making all plastic packaging reusable or recyclable.
- Corporate giants such as Coca-Cola, have all signed up the “U.K. Plastics Pact” amid growing concern over the problem of plastic pollution, particularly in the oceans.

Forest fires in India

- India saw a 46 per cent increase in the number of forest fires in the last 16 years (2003-17).
- India witnessed a 125 per cent spike in such fires in just two years (2015 to 2017).
- In 2017, the maximum number of forest fires was reported in Madhya Pradesh followed by Odisha and Chhattisgarh.
- In fact, 23 out of 33 states and union territories reported an increase in forest fires.
- As much as 64.29 per cent of the Recorded Forest Area (RFA) is prone to fires, according to India State of Forest Report (ISFR) 2015 published by the Forest Survey of India.
- Most of the forest fires between 2003 and 2016 have occurred in open forests followed by moderately dense forests.
- India loses around Rs 550 crore every year owing to damages caused by forest fires.

Money allocated under the forest management schemes

	2016-17 (lakh)	2017-18 (lakh)
Money allocated under forest management scheme	₹5,000	₹4,940
Money released	₹1,756.37 released till June 2016	₹2,667

- In August 2017, the National Green Tribunal had asked the Ministry of Environment and Forests (MoEF) to evolve a national policy to prevent and control forest fires.

Thar Desert was once tropical forest

- Indian researchers have discovered a set of rare wood boring trace fossils in the Barmer region in Rajasthan.
- It reveals that this area was a tropical forest and even had a vast river network 55 million years ago.
- The rare almond-shaped ‘trace fossils’ Asthenopodichniumlignorum and J-shaped fossils of Asthenopodichniumlithuanicum have been discovered for the first time in India in the Barmer sandstone formations.
- Fossils are preserved remains, impressions or traces of any past living organisms.
- Trace fossils are non-body remains, which indicate the activity or behaviors of organisms such as tracks, trail, impressions, burrows, and borings for resting, locomotion and respirations.
- Scientists say the wood boring trace fossils of mayfly are rare and intact.
- Mayflies live close to water, where their aquatic larvae develop, whose presence is an indicator of a clean and unpolluted environment.

Gaia mission

- The latest data produced by the Gaia mission was released, which is the second of its kind.
- The Gaia mission’s goal is to chart a three-dimensional map of the home galaxy, revealing in the process its composition, formation and evolution.
- The first data release was published in 2016, containing distances and motions of only two million stars.
- It is a European Space Agency’s mission.
- Gaia will provide unprecedented positional measurements for about one billion stars – about 1 per cent of the Galactic stellar population – in our Galaxy and Local Group.
- Gaia originally stood for Global Astrometric Interferometer for Astrophysics.
- The mission name remained even though it no longer reflects the methods used to perform the science operations.

Carbon mineralization

- In the arid vastness of Oman of the Arabian Peninsula rocks naturally react with carbon dioxide from the atmosphere and turning it into stone.
- This natural process is called as carbon mineralization.
- Carbonate surrounds pebbles and cobbles, turning ordinary gravel into natural mosaics.
- Scientists say that if carbon mineralization process could be harnessed, accelerated and applied inexpensively on a huge scale it could help fight climate change.
- Rocks could remove billions of tons of heat-trapping carbon dioxide.
- The carbon-capturing formations, consisting largely of a rock called **peridotite**, are in a slice of oceanic crust.
- Similar smaller amount of peridotite are found in Northern California, Papua New Guinea and Albania, among other places.

Special 301 Report

- The Office of the U.S. Trade Representative has placed India on 'Priority Watch List' in its annual Special 301 Report.
- The report identifies USA's trading partners that do not adequately or effectively protect and enforce intellectual property (IP) rights.
- In other words, it identifies trade barriers to U.S. companies and products due to the intellectual property laws, such as copyright, patents and trademarks, in other countries.
- It calls on U.S. trading partners to address IP-related challenges with a special focus on the countries identified on the Watch List and Priority Watch List.
- The report called India's implementation of the patent act as restrictive.

Peace Mission

- India and Pakistan will participate together for the first time in a multi-nation counter-terrorism exercise in Russia later this year.
- The military exercise is being conducted by the Shanghai Cooperation Organization.
- The drill will also see the resumption of bilateral military exercise between India and China.
- It is termed as "Peace Mission", which will be held at the Ural Mountains of Russia.
- Its main aim will be to enhance counter-terror cooperation among the eight SCO member countries.
- India and Pakistan were admitted as full members of the bloc last year.
- At present, SCO represents over 40 per cent of humanity and nearly 20 per cent of the global GDP.

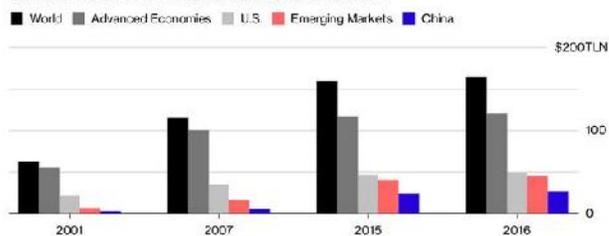
Internet Shutdown

- The Indian economy is estimated to have suffered a loss of USD 3 billion due to Internet shutdown in the country from 2012-17.
- According to the report by ICRIER 12,615 hours of mobile Internet shutdowns in India cost the economy approximately USD 2.37 billion.
- Similarly 3,700 hours of mobile and fixed line Internet shutdowns in India resulted in a loss of approximately USD 678.4 million.
- E-Commerce businesses and online freelancers who operate out of small towns and are completely dependent on a functioning Internet are the most affected by Internet shutdowns.
- As tourism has also become increasingly dependent on the Internet it was also significantly affected.
- Indian Council for Research on International Economic Relations (ICRIER) is an autonomous, policy-oriented, not-for-profit, economic policy think tank established in August 1981.

World debt hits \$164 trillion

- The International Monetary Fund (IMF) in its **Fiscal Monitor Report** stated that the world debt has ballooned to a record \$164 trillion.
- The Global public and private debt swelled to 225 percent of global gross domestic product in 2016.
- China has accounted for almost three-quarters of the increase in private debt since the global financial crisis.
- Another observation is that more than one-third of advanced economies had debt-to-GDP levels above 85 percent, three times more nations than in 2000.

Global Debt Pile at a Record \$164 Trillion



Data refer to the global gross debt (both public and nonfinancial private) for an unbalanced sample comprising 190 countries.

Sources: Global Debt Database; and IMF staff calculations

Bloomberg

- A fifth of emerging markets and middle-income countries had debt levels above 70 percent of GDP.
- It was led by Brazil at 84 percent and India at 70.2 percent.
- Gross government debt in China stood at 47.8 percent last year.

CFTRI

- Central Food Technological Research Institute (CFTRI) has announced a program for training life science graduates to work in food and allied industries.
- The Mysore based institute is a constituent laboratory of Council of Scientific and Industrial Research, New Delhi.
- It came into existence during 1950.
- The Research focus of CSIR-CFTRI has been revolved around broadly into the following areas:
 1. Engineering Sciences
 2. Technology Development
 3. Translational Research
 4. Food Protection and Safety

Swachh Bharat Summer Internship

- Ministry of Human Resource Development in association with the Ministry of Drinking Water and Sanitation has launched the 'Swachh Bharat Summer Internship – 100 Hours of Swachhata'.
- The program is to engage youth across the country and develop their skill and orientation for sanitation related work and village level development.
- The program aims to:
 1. Develop the skill and orientation of youth for sanitation related work
 2. Bring youth across the country an opportunity to make a significant contribution to the swachhata revolution
 3. Integrate youth in the community service in rural areas in the run up to the 150th birth anniversary of Mahatma Gandhi

Space Missions to study Asteroids

- In 2001, the NEAR (Near Earth Asteroid Rendezvous) Shoemaker spacecraft by NASA landed on Eros, an asteroid near Earth.
- In 2011, the Dawn spacecraft entered Vesta's orbit which successfully completed a 14-month survey of the large asteroid.
- NASA researchers announced plans for a spacecraft called HAMMER that would collide and knock incoming asteroids in another direction or simply blow them up into tiny pieces.
- In 2016, NASA launched the OSIRIS-REx spacecraft to study a near-Earth asteroid, Bennu.
- In 2005, the Japanese spacecraft Hayabusa landed on the near-Earth asteroid Itokawa and in 2010, it successfully returned to Earth.
- The Japan Aerospace Exploration Agency (JAXA) launched the Hayabusa 2 probe in December 2014, and plans to return samples from Ryugu in December 2020.

Colistin-resistance bacteria in food

- An investigation was led by an expert to look for evidence for strains of bacteria that are resistant to the most powerful antibiotics in everyday food.
- The investigation discovered a mutation called mgrB that makes the bacteria Klebsiellapneumoniae resistant to colistin and helps them make their way into people.
- Colistin is a last-resort antibiotic, a life-saver for humans.
- Even if the food is cooked, thereby killing the bacteria, storage and handling of the food products are processes by which it is passed on to people.

- It renders them helpless if they should ever need the colistin antibiotic to save their lives.
- It also revealed colistin-resistance in humans is not so much because of indiscriminate use of the antibiotic in hospitals, as it is because of its use in veterinary feed.
- China has banned the use of colistin in veterinary use and similarly the use of antibiotic growth promoters in animals is banned in the European Union since 2006.

Transparent eel-like robot

- Scientists have developed an innovative, transparent eel-like robot that can swim silently in salt water without an electric motor.
- The robot created by engineers and marine biologists used artificial muscles filled with water to propel itself.
- The foot-long robot, which is connected to an electronics board that remains on the surface, is also virtually transparent.
- The robot is an important step towards a future when soft robots can swim in the ocean alongside fish and invertebrates without disturbing or harming them.
- At present, most underwater vehicles designed to observe marine life are rigid and submarine-like and powered by electric motors with noisy propellers.
- Soft robotics is a growing field which relies on mimicking locomotion mechanisms of soft bodies existing in nature to achieve smooth and complex motion.

World Press Freedom Index 2018

- India's ranking in the Press Freedom Index has fallen two places to 138.
- In the annual report RSF blamed "physical violence" against journalists like GauriLankesh as the key reason behind the country's low ranking.
- The report also warned that hate crime is another issue plaguing India.
- Norway topped the list of having the world's freest press for the second year in a row.
- North Korea remained the most repressive country followed by Eritrea, Turkmenistan, Syria and then China.
- The index is compiled by Reporters without Borders (RSF) which reflects growing animosity towards journalists.
- It is published annually by RSF since 2002.
- The Index measures the level of media freedom in 180 countries, including the level of pluralism, media independence, the environment and self-censorship, the legal framework, transparency, and the quality of the infrastructure that supports the production of news and information.
- It does not evaluate government policy.

Microfinance Institutions

- Banks have restricted their lending to microfinance institutions (MFIs), especially mid-size and small-size ones.
- In general, about 60 per cent of funding for MFIs come from banks.
- The rest was met through instruments such as securitisation and debentures, among others.
- Even securitization has been affected as the market for which had dried after demonetization.
- The goal of microfinance is to give impoverished people an opportunity to become self-sufficient and MFIs play a major role in it.
- Microfinance, also called microcredit, is a type of banking service that is provided to unemployed or low-income individuals or groups who otherwise have no other access to financial services.

World's first floating nuclear plant

- AkademikLomonosov is the world's first "floating" nuclear power plant (FNPP).
- It has headed out on its first sea voyage from the St.Peterburg, Baltic shipyard.
- At Murmansk, Russia, its reactors will be loaded with nuclear fuel.
- Russian state-run atomic energy corporation Rosatom is responsible for FNPP.
- The Lomonosov is expected to be put into service in early 2019

LED street lights and cancer risk

- The blue light emitted by street lights including LEDs, and commercial outdoor lighting such as advertising, may significantly increase the risk of breast and prostate cancer.
- The people living in large cities with heavy exposure to blue lights at night had double the risk of prostate cancer and 1.5 times higher risk of breast cancer.
- Older lighting schemes emit a glow within the 'orange' spectrum,
- New lighting creates a bright 'blue' light emission.

- It was found the bluer the light that people in big cities were exposed to, the higher the risk of cancer.

CCAFS

- The CGIAR Research Program on Climate Change, Agriculture and Food Security or CCAFS has promoted the Direct Rice method in India.
- CCAFS will address the increasing challenge of global warming and declining food security on agricultural practices, policies and measures.
- CCAFS is led by the International Center for Tropical Agriculture (CIAT).
- CCAFS brings together some of the world's best researchers in agricultural science, climate science, environmental and social sciences to identify and address the most important interactions, synergies and trade-offs between climate change and agriculture.
- CGIAR (formerly the Consultative Group for International Agricultural Research) is a global partnership that unites organizations engaged in research for a food-secured future.
- Climate change could decrease overall crop yields by 30 per cent in South Asia by the mid-21st century.

Agreement to reduce emissions

- The Members of the International Maritime Organization (IMO) recently reached an agreement on halving greenhouse gas emissions from shipping by 2050.
- This holds significance because the CO₂ emission from shipping industry is expected to rise dramatically by 2050 with progress in global trade.
- The sector contributes to about 3 % of total annual carbon dioxide emissions.
- Currently, ships rely heavily on carbon-rich fuels such as heavy diesel.
- When heavy oils are used by ships it emits black carbon, carbon monoxide, carbon dioxide, nitrogen oxide and hydrocarbons.
- IMO is the United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships.

Lake Victoria species under threat

- About 75 % of freshwater species endemic to East Africa's Lake Victoria basin face the threat of extinction.
- It includes freshwater species like fish, mollusks, dragonflies, crabs and aquatic plants native to Africa's largest lake.
- These freshwater species are important sources of food, medicine for the millions of people living in the area surrounding the lake.
- The lake stretches into Kenya, Tanzania and Uganda.
- Its catchment also touches Burundi and Rwanda and is known for its high-level of unique biodiversity.

Antayodya express

- Chhattisgarh Chief Minister and union minister of state for railways flagged off Antayodaya Express in the Raipur recently.
- The train is equipped with modern coaches, RO drinking water, mobile charging facilities, bio-toilets, LED lights and other facilities.
- The Express is a long-distance, fully unreserved, superfast train service, operated on dense routes.
- This kind of train service was announced in the Railway Budget in 2016.
- Although similar to the DeenDayalu coaches introduced earlier for unreserved travel, Antayodaya Express will be a full train.
- The trains are designed by Integral Coach Factory (ICF).
- The train's LHB-type (Linke Hofmann Busch) coaches are manufactured in Chennai.

Intergovernmental Oceanographic commission

- The Intergovernmental Oceanographic Commission of UNESCO (IOC/UNESCO) was established by a resolution adopted by the General Conference of UNESCO.
- It assists governments to address their individual and collective ocean and coastal management needs, through the sharing of knowledge, information and technology.
- Beginning with the International Indian Ocean Expedition in 1960, it has coordinated and promoted program and activities in ocean observations, ocean science, and reduction of marine hazards.

- IOC also coordinates and fosters the establishment of regional intergovernmental coordinating tsunami warning and mitigation systems in the Pacific and Indian Oceans, in the North East Atlantic, Mediterranean and Caribbean seas.
- Its headquarters is in Paris, France.
- General Bathymetric Chart of the Oceans (GEBCO), Tara Expeditions, Océanopolis Brest are some of its partners.
- There are 149 members of which India is also a member.

Efficient recycling of organic waste

- Earthworm gut may offer new ways of efficient recycling of organic waste.
- Indian scientists have found that the gut of earthworms provides an ideal environment for nurturing a variety of cellulose-degrading bacteria.
- This enables them to convert organic waste from plant sources into fertilizer or compost.
- Earthworms eat plants, which contain cellulose (a complex sugar) as an important part of a plant cell wall.
- Cellulose-degrading bacteria in the gut of earthworms break cellulose down into carbon, hydrogen and oxygen which make up most of the soil organic matter.
- In rice growing tropical and sub-tropical regions, cellulose-containing rice straw remains in the field after harvesting.
- It needs to be decomposed quickly for efficient release of nutrients and where earthworms can be employed to degrade the straw.

Pink moon

- The full moon in April is called the 'pink moon' in north America.
- It is to represent ground phlox, which are ground-cover flowering plants and usually bloom around springtime.
- The April moon is also known as the Sprouting Grass moon, the Egg Moon and the Fish Moon.
- These names are all Native American names for the phenomenon.
- Every month's full moons are named by the tribes.
- As the early Native American tribes did not record time using either the Julian or the Gregorian calendars, they used the moons to keep track of seasons.

Exercise Vijay Prahar

- South Western Command of Indian Army is carrying out Exercise VIJAY PRAHAR.
- It employs cutting edge equipment and state of the art force multipliers at Suratgarh in Rajasthan.
- It is essentially to practice the troops in penetrative manoeuvres across the obstacle ridden terrain under a nuclear umbrella
- It is aimed to orchestrate wide spectrum of threats which are planned to be tackled through high tempo joint air and land operation.
- In the immediate wake of Gagan Shakti, this exercise was being held for testing and refining jointmanship and maximising the impact of the joint operations.
- Gagan Shakti is an IAF exercise which was conducted earlier this year.



VANIK- IAS

Exclusive Coaching for UPSC/OPSC

Admission Open

IAS/OAS

TEST & DISCUSSION

OAS-2015 SELECTED CANDIDATES



SOURAV DAS
RANK-1

 TRIPTI BARAI RANK-17	 SAMAL SAHOO RANK-45	 GOUTAM MAHALIK RANK-55	 MANORATA SATPATHY RANK-47	 SOUHAGYA BEHERA RANK-70	 SATYAVISHNU BHUYAN RANK-72	 SMITA PATI RANK-75	 SWEKRUTI BARPANDA RANK-84	 KIBADI T. SAHOO RANK-91	 PRATAP CH. SAHOO RANK-104	 SOURAV RANJAN MISHRA RANK-111
 TREYEE DAHI RANK-119	 PRAKAT PATTHAIK RANK-124	 SANGRAM PARIDA RANK-134	 SHEETAL JABORWAL RANK-139	 GYANI MOHANTY RANK-144	 SWAROSHMI OHAL RANK-207	 SANJIT GULMAN RANK-226	 RAJY DAS RANK-232	 PREETAM KUMAR PATI RANK-304	 SAGARIKA DAS RANK-403	 TAPAS BEHERA RANK-408
 SUNAM HEMBRAM RANK-451	 RAJESH SETHI RANK-470	 BHAVANA TOPPO RANK-474	 MITALI M. PATRA RANK-481	 SUDENDRA GHADI RANK-486	 BHANUPRIYA SAGAR RANK-571	 APARNA BHOI RANK-640	 ASHOK MALHI RANK-645	 BAIDYANATH MURMU RANK-668	And Many More Selections	

OFS-2015 SELECTED CANDIDATES



SWAGATIKA SAHOO
RANK-1

 SANDIP KUMAR PRUSTY RANK-7	 SATYAJI MISHRA RANK-18	 SUDHAKARINI MOHANTY RANK-19	 AISHA AKSHATA NISHA RANK-20	 SWEKRUTI BARPANDA RANK-22	 RASHMI R. SWAIN RANK-24	 DEBIPRASAD ROUT RANK-26	 ADISHITA NAIK RANK-38	 JAYASHREE MURMU RANK-63	And Many More Selections	
-----------------------------------	-------------------------------	------------------------------------	------------------------------------	----------------------------------	--------------------------------	--------------------------------	------------------------------	--------------------------------	---------------------------------	--

OCS-2016 SELECTED CANDIDATES TILL NOW



SANKALP S. SAHOO
RANK-2

 PALLABI RANI RAJ RANK-21	 ANANKSHYA ASHRITA RANK-33	 SAURAVYA BEHERA RANK-47	 DIVYENDU KJ. DAS RANK-57	 UJJWAL KJ. NAYAK RANK-63	 KRITISH BEHERA RANK-77	 DEBHIRA PRASAD BAI RANK-80	 SIDDHUPRASAD BARIK RANK-98
 PARTHA S. HANSDAH RANK-99	 RAJESH SETHI RANK-110	 ASHOK KUMAR MALHI RANK-119	 BHANUPRIYA SAGAR RANK-131	 ARJUN KUMAR PRADHAN RANK-132	 SINDHUSITA PATRA RANK-133	And Many More Selections	

Expert Faculties From New Delhi