

OFFICERS'

Pulse

ISSUE NO.23 | 11TH NOVEMBER TO 17TH NOVEMBER

Coverage.

The Hindu
PIB
Yojana
Rajya Sabha TV
All India Radio

At a Glance & In Depth.

Polity and Social Issues
Economy
International Relations
Environment
Science and Tech
Culture..



CURRENT AFFAIRS WEEKLY

THE **PULSE** OF UPSC AT
YOUR FINGER TIPS.

News @ a Glance

Polity and Social issues	3	Lend more to industry: Arun Jaitley.....	4
Global IT Challenge for Youth with Disabilities.....	3	Minimum support prices.....	4
Aadhaar for identifying bodies?!	3	Moody's Global Emerging Market Outlook 2019 .	5
Disclosure of criminal cases.....	3	Fitch rating for India.....	5
Sabarimala Issue.....	3	India International Trade Fair (IITF) 2018	5
LEAP and ARPIT.....	2	Back series GDP data.....	6
Hunar Haat.....	2	International Relations	2
Renaming Faridabad.....	2	IAEA on Iran Nuclear Deal.....	2
'Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme'	2	China in Andaman Sea.....	2
North Eastern States as ODF by 2018.....	3	India-Morocco Ties	2
Poshan Abhiyan.....	3	Talks with Taliban	2
Judges Appointment.....	4	Significance of PM's visit to Singapore.....	2
Politics of 'Dalit'	4	Sri Lanka Crisis.....	3
NEDAC	5	Imran Khan's visit to China.....	3
Aadi Mahotsav.....	5	India - Kyrgyz Ties.....	3
South Asian Regional Conference on Urban Infrastructure.....	5	Multilateralism	4
'General consent' to CBI.....	6	India and China	4
Maternity Benefit.....	6	Brexit and U.K.....	5
Nirbhaya Fund	6	Science & Technology	2
Changing the name of a State	6	Mission Venus.....	2
Bhoomi Rashi Portal	7	Monogenic Diabetes	2
Himalayan State Regional Council.....	7	Tests for Pulmonary, Pleural TB	2
World Standards Day.....	7	Oumuamua.....	3
Swadesh Darshan Scheme	8	World Wildlife fund's living planet report.....	3
Economy	2	Eyerov Tuna.....	4
No Special Support for NBFCs.....	2	Insects can evolve immune memory.....	4
IL&FS board gives new roadmap to NCLAT	2	Black holes & binary stars.....	5
Funding NDRF	2	John Burdon Sanderson Haldane.....	5
Indian Strategic Petroleum Reserves.....	2	GSAT-29	6
Ease of Doing Agri-Business Index.....	2	Controversy around LIGO.....	6
Fake currency network intact.....	3	India-based Neutrino Observatory.....	7
OTT services.....	3	Redefining Kilogram.....	8
Electoral bonds.....	3	Pneumonia.....	8
		SpiNNaker.....	9

ExseedSAT-1	10
Bhuvan Ganga geo-portal & Mobile App	10
Defence and Security	11
IONS Anniversary	11
INDRA 2018.....	11
DHARMA GUARDIAN – 2018.....	11
SIMBEX exercise.....	11
Environment	2
INSPIRE 2018	2
Tackling stubble burners.....	2
Avni issue.....	2
Climate risk from rise in AC units	2
Cyclone Gaja	3
Draft Indian Wind Turbine Certification Scheme (IWTCS)	3
100% renewable energy in Andaman, Nicobar & Lakshadweep.....	3

Volkswagen Controversy	4
Saving Sangai deer.....	4
EIA.....	4
Culture	5
Tipu Jayanthi	5
Apatani tribe.....	6
Indian war memorial in France	6
1918 Armistice	6
Chhath Pooja.....	6
Burial urn of Megalithic era.....	6
Pandit Jawaharlal Nehru	7
Stan Lee.....	7
Miscellaneous	8
Tower of ‘Mother Cauvery’	8
Apple bowl of Kashmir	8

News in-depth

General Studies-1	9
Setting a proper diet plan.....	9
The gold standard for a Prime Minister (GA4)	10
General Studies-2	11
Selective histories/the usurpation of Free speech	11
A reality check on Cooperative Federalism	11
When judges legislate.....	12
Sabarimala, and the quest for equality/ a question of writ	12
Can Trump ‘roll back the Persians’?	13
General Studies 3	13
Protect the little helpers	13
Not Burning Bright: Human-Animal Conflicts.....	14
Is Point Calimere Wildlife Sanctuary safe for migratory birds?	15
Groundwater depletion alarming in northwest, central India	16
Dangerous Tactics.....	16

Initiatives taken to boost MSME Sector.....	17
Ease of doing business - Comprehensive outlook	18
Unnecessary, destabilising and expensive.....	20
Getting the economy back on track	21
Full disclosure: on the credit rating industry.....	21
YOJANA November 2018 – Part I	23
Introduction: Swachhata-A way of life.....	23
Staircase to Swaraj	24
A people’s movement-Swachh Bharat abhiyan..	25
On the road to Swachh Bharat.....	26
Sanitation revolution: implementation at scale .	27
Towards clean and healthy villages	28
Swachh rail, swachh Bharat.....	29
North East diary: Sikkim learns to fly.....	30
Mahatma Gandhi international sanitation convention (MGISC).....	31
SATAT.....	31

News @ a glance

Polity and Social issues

Global IT Challenge for Youth with Disabilities

Why in news?

- The Global IT Challenge for Youth with Disabilities, 2018 was inaugurated by the Minister of State for Social Justice & Empowerment from Nov 9-11,2018 on Delhi.
- The event was being organised by the Ministry of Social Justice and Empowerment in association with Rehabilitation International Korea and their associated partner LG Electronics.

More on the event:

- The objective of the event is to leverage IT skills among youth with disabilities.
- And to spread awareness about the application of Information and Computer Technology (ICT) in enhancing the quality of life of persons with disabilities especially in Asia-Pacific region.
- This year around 100 youth with disabilities participated from 18 countries.

Aadhaar for identifying bodies?!

Why in news?

- UIDAI in Delhi High court said that it is not possible to match the fingerprints of an unidentified body.

More on the news:

- UIDAI said that matching of biometrics requires prints of all fingers, iris scan. If we go by only one thumb impression it may match with multiple record.
- Though it was believed that with coming of Aadhar we will be able to identify the missing and unidentified dead bodies, UIDAI says its not possible.

About UIDAI:

- The Unique Identification Authority of India (UIDAI) is a statutory authority established on 12 July 2016 by the Government of India under the jurisdiction of the Ministry of Electronics and Information Technology, following the provisions of the Aadhaar Act 2016.

- The UIDAI is mandated to assign a 12-digit unique identification (UID) number (termed "Aadhaar") to all the residents of India.

Disclosure of criminal cases

Why in news?

- With elections coming up in the states of Rajasthan, Madhya Pradesh, Chhattisgarh, Mizoram and Telangana Assembly elections.
- Candidates with criminal antecedents and their political parties can be charged with contempt of the Supreme Court if they fail to widely publicise the cases against them as prescribed.
- They may also be penalised for false statements, the Election Commission announced recently.

Regarding the recent SC verdict:

- In a recent case which petitioned SC to disqualify candidates facing serious criminal charge.
- The court observed that it cannot enter the legislative arena to provide disqualification of candidates, who are facing serious criminal cases against them.
- However, it asked the candidates to put in bold letter her/his criminal antecedents in the required affidavit.
- The SC said each political party will put on its website the criminal antecedents of each of its candidates so as to allow the voters to make an informed choice.

Sabarimala Issue

Why in news?

- The SC agreed to hear a review petition on Jan 22, 2019 on the Sabarimala verdict that allowed women between the age 10-50 years to undertake pilgrimage to Kerala.
- However, it refused to stay the earlier judgement, hence allowing women to visit the shrine.

SC verdict on Sabarimala issue:

- The judgement establishes the principle that individual freedom prevails over

professed group rights, even in matters of religion.

- The judgement relooks at the stigmatisation of women devotees based on a medieval view of menstruation as symbolising impurity and pollution.
- It held that prohibition on women is not an essential part of Hindu religion, and hence the court can intervene.
- Exclusion based on the notion of impurity is a form of untouchability.
- Also, the argument that women of menstruating age could not observe the 41-day period of abstinence failed to make sense.
- The SC noted that any rule based on segregation of women pertaining to biological characteristics is unconstitutional.

LEAP and ARPIT

Why in news?

- Ministry of Human Resource Development launched two new initiatives for higher education namely LEAP and ARPIT.

About LEAP:

- Leadership for Academicians Programme.
- LEAP is a 3 week training programme (2 weeks training in India and 1 week in foreign) to the potential second tier academic heads who are likely to take up leadership role in the public funded academic institute.
- They would be trained on leadership, management and communication training.
- This step is to increase the leadership quality in the management of higher education institutes.

About ARPIT:

- Annual Refresher Programme In Teaching.
- It is a major and unique initiative of online professional development of 15 lakh higher education faculty using the SWAYAM platform.
- For implementing ARPIT, 75 discipline-specific institutions have been identified and notified as National Resource Centres (NRCs) in the first phase.
- They are tasked to prepare online training material with focus on latest developments in the discipline, new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum.
- This online content will be in video and non-video format which will be available in flexible timing to update the faculties with

Officers IAS Academy, Chennai latest development in their discipline of higher education.

About SWAYAM portal

- Under SWAYAM or Study Webs of Active – Learning for Young Aspiring Minds programme of Ministry of Human Resource Development.
- The professors and faculties of centrally funded institutions like IITs, IIMs, central universities will offer online courses to citizens of India.
- Here learner can choose from hundreds of courses, virtually every course that is taught at the university / college / school level and these shall be offered by best of the teachers in India and elsewhere.

Hunar Haat

Why in news?

- Union Minister for Minority Affairs will inaugurate the “Hunar Haat” on 15th November, 2018 at India International Trade Fair (IITF) at New Delhi.

About Hunar Haat:

- Hunar Haat has been successful in providing national and international markets and employment-marketing opportunities to master artisans and craftsmen.
- It has provided platform to master artisans and craftsmen to display their rich heritage and skills.
- It is being implemented by Ministry of Minority Affairs.

Renaming Faridabad

Why in news?

- There is a proposal by UP Government to rename Faridabad to Ayodhya.

Procedure to rename of a city:

- First a proposal to rename a city comes from a MLA. If the resolution is approved by the State Legislature the request is sent to Ministry of Home Affairs.
- The Home Ministry gives consent after consulting various ministries like Railways, Survey of India.
- It also checks if no similar name exists.
- Then the name is changed through executive order of the state.

‘Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme’

Why in news?

- To cater to the needs and aspirations of the youth, the National Cooperative Development Corporation (NCDC) has come up with a youth-friendly scheme **‘Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme’** for attracting them to cooperative business ventures.

More on the scheme:

- The newly launched scheme would encourage cooperatives to venture into new and innovative areas and be a part of ‘Start Up’ India initiative of the government.
- The scheme will be linked to **Rs 1000 crore ‘Cooperative Start-up and Innovation Fund (CSIF)’** created by the NCDC. It is a dedicated fund with liberal features enabling youth to avail the scheme.
- It would have more incentives for cooperatives of North Eastern region, Aspirational Districts and cooperatives with women or SC or ST or PwD members.
- The funding for the project will be up to 80% of the project cost for these special categories as against 70% for others.
- The scheme envisages 2% less than the applicable rate of interest on term loan for the project cost up to Rs 3 crore including 2 years moratorium on payment of principal.
- All types of cooperatives in operation for at least one year are eligible.

About NCDC (National Cooperative Development Corporation):

- NCDC works under the Ministry of Agriculture.
- It is responsible for financing the rural cooperative society.

About Cooperatives:

- 97th Constitutional Amendment Act, 2011 gave constitutional status to cooperative societies.
- It added new part, Part IX-B (Art 243 ZH-243 ZT).
- It made the right to form cooperative society a fundamental right (Art 19).
- It included a new DPSP on promotion of cooperative societies (Art 43 B).

North Eastern States as ODF by 2018

Why in news?

- A regional review meeting of the North Eastern States was held in Assam.
- The workshop comprised discussions on sustaining Open Defecation Free (ODF)

Officers IAS Academy, Chennai status, Solid and Liquid Waste Management (SLWM), and rural water supply.

- Teams from Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim joined the review.

More on the meeting:

- Sikkim being the first state to be declared as ODF highlighted that the solid and liquid waste management initiatives such as proper drainage along with proper construction of toilets is what is important to achieve success in ODF.
- The team also felt that it is very important to sustain the ODF status over a long run.
- Key aspects of sustainability are geo-tagging, verification of ODF villages, conversion of dysfunctional toilets, and people engagement were to be reviewed often.
- The importance lies in continued focus on behaviour change communication and periodic verifications to ensure that the safe sanitation habits and practices developed over the past few years are sustained in the future as well.

About Swachh Bharat Mission:

- Swachh Bharat Abhiyan (SBA) or Swachh Bharat Mission (SBM) is a nation-wide campaign in India for the period 2014 to 2019 that aims to clean up the streets, roads and infrastructure of India's cities, towns, and rural areas.
- The objectives of Swachh Bharat include eliminating open defecation through the construction of household-owned and community-owned toilets and establishing an accountable mechanism of monitoring toilet use.
- Run by the Government of India, the mission aims to achieve an "open-defecation free" (ODF) India by 2 October 2019, the 150th anniversary of the birth of Mahatma Gandhi.

Poshan Abhiyan

Why in news?

- Meeting on India's nutritional challenge was conducted as a part of POSHAN Abhiyan in Delhi.

About POSHAN Abhiyan:

- POSHAN stands for Prime Minister's Overarching Scheme for Holistic Nutrition.
- Aims to ensure holistic development and adequate nutrition for pregnant women, mothers and children.
- Implemented by Ministry of Women and Child Development.

- It targets to reduce level of under-nutrition and other related problems by ensuring convergence of various nutrition related schemes.
- It also targets stunting, undernutrition, anaemia (among young children, women and adolescent girls) and low birth rate.
- It will monitor and review implementation of all such schemes and utilize existing structural arrangements of line ministries wherever available.

Recommendations of the meeting:

- PM recently announced that payment for Anganwadi workers will be raised soon which will fasten the fight against malnutrition.
- Earliest possible distribution of smart phones to the ICDS frontline workers to increasing monitoring growth of children.
- Roll out of e-ILA (e-incremental learning approach- Technology developed to support the field functionaries to improve their knowledge and skills in an ongoing incremental manner) and many other issues concerning effective implementation of Poshan Abhiyan.

Judges Appointment

Why in news?

- CJI led bench recently questioned states regarding more than 5000 vacancies in subordinate judiciary, which has led to more than 3 crore cases pending.
- SC in 2007 gave a time limit of 153 days for 2 tier exam process and 273 days for a 3 tier exam process, but this time limit is hardly followed.

Procedure for appointment in lower judiciary:

- The judges of subordinate courts are appointed by the Governor in consultation with the chief justice of the High Court of the concerned State.
- A minimum of seven years of practise as a lawyer at bar is a necessary qualification for direct entry level to become a District Judge.
- Upon a written examination and oral interview by a committee of High court judges, the appointment of district judges is notified by the state Government.
- This is referred to as direct recruitment.
- District judges are also appointed by way of elevation of judges from courts subordinate to district courts provided they fulfil the minimum years of service.

Reasons for delay in recruitment:

- Poor infrastructure.
- Conducting process takes time.

- Corruption in recruitment process.
- Lack of coordination between High court and State Public Service Commission.

Importance of Lower judiciary:

- Most crucial judicial system available for a common man.
- Poor litigants and under trials are largely dependent.
- Conducts initial trials.
- Settles civil disputes.
- Reduces judicial delay.

Politics of 'Dalit'

Why in news?

- There cannot be a complete ban on use of word "Dalit" in media, the Press Council of India, the body that regulates print media, has ruled.

More on the news:

- The Information and Broadcasting Ministry had issued an advisory to all media outlets to not use the word "Dalit" to refer to members belonging to the Scheduled Castes.
- The advisory was based on an order of the Bombay High Court on June 6 this year, on a petition filed by Pankaj Meshram.
- In an earlier order on March 15 this year, the Ministry of Social Justice too had issued a similar advisory to all the State governments and Union Territories that in all official transactions, the constitutional term "Scheduled Caste" should be used instead of the word "Dalit".
- The PCI said that the Bombay high court did not ban the word "Dalit" but just asked to refrain its usage.

About Press Council of India(PCI):

- The Press Council of India is a statutory body created by Press Council of India Act,1978 that governs the conduct of the print media.
- The Press Council is a quasi-judicial body which acts as a watchdog of the press.
- It adjudicates the complaints against and by the press for violation of ethics and for violation of the freedom of the press respectively.
- Composition: It consist of Chairman (who has by convention, been a retired judge of Supreme Court) and 28 other members of whom 20 represent press, five are nominated from two Houses of Parliament and three represent cultural, literary and legal fields.
- Functions: It is statutory, quasi-judicial body acting as watchdog of press.

- It adjudicates complaints against and by the press for violation of ethics and for violation of the freedom of the press respectively.

NEDAC

Why in news?

- A General Assembly of Network for Development of Agricultural Cooperatives in Asia and the Pacific (NEDAC) in New Delhi.

More on the conference:

- The general assembly of 22 prominent cooperative organizations from eight countries unanimously decided to focus on capacity development to meet challenges of climate change as transformative cooperatives.
- The ultimate aim would be to bring about an increase in farmers income and raise their economic standard by bringing cooperative trade in the mainstream and enhance cooperative professionalism.

About NEDAC:

- NEDAC was set up in 1991 by the United Nations' Food and Agriculture Organisation (FAO), the International Cooperative Alliance (ICA) and the International Labour Organisation (ILO).
- NEDAC sensitises Governments in the region on the role of agricultural cooperatives in promoting agricultural and rural development to ensure rural food and livelihood security for millions of people in Asia and Pacific.

Aadi Mahotsav

Why in news?

- "Aadi Mahotsav" a National Tribal Festival is being organized in New Delhi from Nov 16-30, 2018.

More on the event:

- The event was organised by the Ministry of Tribal Affairs and TRIFED to celebrate, cherish and promote the spirit of tribal craft, culture, cuisine and commerce.
- Over 200 tribal artisans and artists from different States creating a Mini-India will be participating in the festival.

About TRIFED:

- Tribal Cooperative Marketing Development Federation of India Limited (TRIFED)
- TRIFED is a national-level apex organization functioning under administrative control of Ministry of Tribal Affairs.

Officers IAS Academy, Chennai

- It was established in August 1987 by then Ministry of Welfare under Multi State Cooperative Societies Act 1984 (which has now been replaced by Multi-State Cooperative Societies Act, 2002).
- It is headquartered in New Delhi.
- Its core objective is to institutionalize trade of Minor Forest Produce (MFP) and Surplus Agriculture Produce (SAP) collected or cultivated by tribals as they are heavily dependent on these natural products for their livelihood.
- TRIFED also works as an agency to the FCI for procurement of Wheat and Rice.
- It also organizes exhibitions like National Tribal Craft Expo called "Aadi Mahotsav" etc. to promote and market tribal products.
- It also facilitates participation of tribal artisans to enable them to interact directly with art lovers to assess market needs.

South Asian Regional Conference on Urban Infrastructure

Why in news?

- The two day conference on "Urban Infrastructure: New Approaches to Public & Private Partnerships and Municipal Finance Innovations", being held on November 15-16, by **NITI Aayog**.

More on the conference:

- NITI Aayog, the premier think tank of the Government of India, partnered with the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and the Asian Development Bank (ADB) to host a South Asian regional conference.
- To discuss the key issues, perspectives and the way forward in the Urban Infrastructure.

Observations of the meeting:

- Considering the quantum deficit in infrastructure implementation today compared to the demand, it is extremely imperative to focus on newer means of implementing and financing urban infrastructure.
- In India alone, until 2040, estimated investments of around \$4.5 trillion are required in the infrastructure space.
- With respect to urban needs, the population in South Asia is expected to grow by around 250 million till 2030, while that in India is expected to reach around 590 million during the same period.

- There are an estimated 98 million people who reside in the slums of Indian cities and are disproportionately deprived of access to basic services and infrastructure.
- These gaps must be addressed, so that the cities grow equitably and in an environmentally responsible way.

'General consent' to CBI

Why in news?

- AP and WB announced that they are withdrawing the general consent granted to CBI which will effectively curtail the agency power.

About the General consent:

- General consent is the approval given by a state government from time to time to CBI.
- The consent is necessary as the jurisdiction of these agencies is confined to Delhi and Union Territories under the Act.
- CBI established under the Delhi Special Police Establishment (DSPE) Act, 1946 will have to approach states on a case by case basis.
- The consent is usually given for a period valid for six months or one year.

About CBI (Central Bureau of Investigation):

- Prime most investigation agency. It is a non-statutory and non-constitutional body.
- The agency was established in 1941 as the Special Police Establishment.
- The CBI is controlled by the Department of Personnel and Training in the Ministry of Personnel, Public Grievances and Pension of the Union Government.
- The CBI Director is selected by a collegium comprising Prime Minister, Chief Justice of India and Leader of Opposition or leader of the largest party in Lok Sabha.

Maternity Benefit

Why in news?

- In order to encourage employers especially from private sector to implement 26 week maternity leave, the Labour Ministry plans to refund them for seven weeks.
- This incentive is applicable to women workers with wage ceiling up to Rs.15,000 a month.
- This move has been taken up because of poor implementation of 26 week leave in private sector.

Provisions of Maternity Benefit Act:

- Expecting mothers who are working in the organised sector can now avail 26 weeks of paid maternity leave instead of 12 weeks.

Officers IAS Academy, Chennai

- Bill allows 12 weeks of paid maternity leave to mothers who are adopting a child below the age of three months and also to commissioning mothers who opt for surrogacy.
- This entitlement is applicable only upto first two children. For third child, the entitlement will be for only 12 weeks. The leaves further reduce to six weeks if the woman wants to become a mother for the fourth time.
- It makes it mandatory for employers with 50 or more employees to provide crèches in close vicinity of the workplace, and by allowing women up to four daily visits to the crèche.
- It applies to establishments employing 10 people or more.
- The organisations must communicate these rights to female employees via writing.
- An employer can permit a woman to work from home, if the nature of work assigned permits her to do so.

Nirbhaya Fund

Why in news?

- The Empowered Committee of Officers under Nirbhaya Fund, under the Chairmanship of Secretary, Women and Child Development Ministry has approved the following three major proposals.

About the proposals:

- It is Ministry of Law and Justice's proposal to set up 1023 Fast Track Special Courts (FTSCs) to dispose off pending cases of rape, and POCSO Act across the country.
- The Proposal of Ministry of Home Affairs for procurement of forensic kits and capacity building for sexual assault cases.
- Proposal to set up video surveillance and vehicle tracking to provide women safety.

About Nirbhaya Fund:

- The fund is created by the Ministry of Finance in 2013, dedicated for implementation of initiatives aimed at enhancing the safety and security for women in the country.
- It is a non-lapsable corpus fund.
- It has an inter-ministerial committee appraises and recommends various projects proposed by different Ministries to be funded from the Nirbhaya Fund.

Changing the name of a State

Why in news?

- The Centre is not keen on changing the name of West Bengal to 'Bangla' as it was "not in national interest."

More on the news:

- The West Bengal government's proposal to change the State's name to 'Bangla' had been sent to Ministry of External Affairs (MEA) for consultation, as the proposed name resembles that of Bangladesh.
- The name change could attract illegal immigrants and encourage them to cross the border due to the similarity in names.
- West Bengal shares 2,217 km border with Bangladesh.
- No final decision has been taken and they would await a response from the MEA.

How the name of state is changed?

- Article 3 of the Indian Constitution empowers the Parliament to change the name of the state through a Constitutional Amendment through a simple majority.
- But prior to it, the proposal is sent to the President who gives it to the state concerned. State's view is not binding on the President.

Bhoomi Rashi Portal

Why in news?

- Bhoomi Rashi Portal is used for Land Acquisition process for roads and highways sector in the country.
- The success of the portal was spoken about in an event by Union Minister of Road Transport.

About the portal:

- Bhoomi Rashi portal belongs to Ministry of Road Transport & Highways.
- The portal allows for totally digital and paper-less processing and has resulted in transparent, corruption-free and error-free handling.
- It has also made the possible real-time tracking of activities and generation of reports.
- This digital change has drastically reduced the time taken from 3-6 months to 1-2 weeks.
- Earlier the approved compensation amount used to be parked with the CALA (Competent Authority for Land Acquisition) but with Bhoomi Rashi portal this amount directly transferred into the account of the person concerned, through Public Financial Management System which is an integral part of the portal.
- In addition to this, the process is also environment friendly since there is no

Officers IAS Academy, Chennai
physical movement of files – all work is done digitally.

- This portal is considered as a success of Digital India.

Himalayan State Regional Council

Why in news?

- NITI Aayog has constituted the 'Himalayan State Regional Council' to ensure sustainable development of the Himalayan region.

More on the council:

- The Himalayan State Regional Council will be chaired by the Dr VK Saraswat, Member of NITI Aayog.
- It will consist of the Chief Secretaries of the Himalayan States as well as the Secretaries of key Central Ministries, senior officers of NITI Aayog as well as special invitees.
- The Council was constituted with an aim to review and implement identified action points based on the Reports of five Working Groups, which were established along thematic areas to prepare a roadmap for action.

Terms of Reference of the Himalayan States Regional Council

- The Himalayan States Regional Council will be the nodal agency for the Sustainable development in the Himalayan Region.
- It will monitor the implementation of action points for Central Ministries, Institutions and 12 Himalayan State Governments in Indian Himalayan Region.
- Himalayan Region consists of 12 States, namely, Jammu and Kashmir, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Assam; and West Bengal.
- The action points include river basin development and regional cooperation, spring mapping and revival across Himalayas for water security; develop, implement and monitor tourism sector standards, strengthen skill and entrepreneurship, among other action points.

World Standards Day

Why in news?

- Bureau of Indian Standards (BIS) organised a seminar on "International Standards and the Fourth Industrial Revolution" in New Delhi to celebrate the World Standards Day 2018.

More on the event:

- The theme of this year “International Standards and Industrial Revolution 4.0” is very relevant as the industry is embracing new technologies for automation along with artificial intelligence making use of advanced communication modes.
- The theme has far reaching impact on a vibrant nation like India with its large industrial base and is the need of the hour with India taking up the ambitious Make in India program.

About World Standards Day:

- World Standards Day is an international day of observance recognized world over since 1970.
- This annual event is celebrated across the globe jointly with the International Electrotechnical (IEC), the International Organization for Standardization (ISO) and the International Telecommunication Union (ITU).
- This occasion provides a perfect opportunity to reflect how Standards work in the real world, and the benefits they bring to business, society and the environment.

About BIS:

- The Bureau of Indian Standards is the national Standards Body of India working under the aegis of Ministry of Consumer Affairs, Food & Public Distribution, Government of India.
- It is established by the Bureau of Indian Standards Act, 1986 which came into effect on 23 December 1986.

RERA

Why in news?

- Union Minister of Housing and Urban Affairs praised the success of RERA as it enters second year.

Success of RERA:

- RERA has helped us get 77 th rank in Ease of Doing Business.
- It has brought great transparency in Real Estate sector.
- The long procedures involved in real estate sector have drastically reduced.

About RERA:

- Real Estate (Regulation & Development) Act, 2017.
- Independent Regulatory Authority: Real estate regulatory authorities (RERAs) will be established in every state and be paired with real estate appellate tribunals (REAT) to consider appeals against orders of RERAs.

Officers IAS Academy, Chennai

- All commercial and residential projects now need to be compulsorily registered with RERA.
- Prevention of diversion of funds: The Bill now provides for a compulsory deposit of 50 per cent of the total amount realised from buyers into a monitor able account in a scheduled bank to be used only for the construction of the designated project.
- This will help in less diversion of funds but it is lesser than initially speculated 70% so some funds may still be diversified to chit funds.
- Mandating consumer protection measures: Specification of project cannot be altered without consent of two-thirds of buyers.
- Prevention from accepting more than 10% advance fees without written agreement.
- Stringent penalties in case of violation and right to reclaim refund in case of promoter failure of delivery.
- Mandatory Registrations with RERA: Only projects registered with RERA can be bought or sold.

Swadesh Darshan Scheme

Why in news?

- Two important projects from North East India under Swadesh Darshan Scheme of Ministry of Tourism, Government of India.
- These projects are “Development of North East Circuits: Bhalukpong- Bomdila - Tawang Project & Nafra- Seppa- Pappu, Pasa, Pakke Valleys- Sangdupota- New Sagalee- Ziro- Yomcha Project ”.

About Swadesh Darshan scheme:

- Tourist circuits will be developed on the principles of high tourist value, competitiveness and sustainability in an integrated manner
- They will be developed by synergizing efforts to focus on concerns and needs of all stakeholders to enrich tourist experience and enhance employment opportunities
- Under this scheme, 13 thematic circuits have been identified for development
- They are Buddhist Circuit, North-East India Circuit, Coastal Circuit, Himalayan Circuit, Krishna Circuit, Desert Circuit, Eco Circuit, Wildlife Circuit, Tribal Circuit, Rural Circuit, Spiritual Circuit, Ramayana Circuit and Heritage Circuit
- The scheme is 100% centrally funded for the project components undertaken for public funding
- It also leverages Corporate Social Responsibility (CSR) initiatives of Central

Public Sector Undertakings and corporate sector.

Economy

No Special Support for NBFCs

Why in news?

- RBI has recently observed that it is unlikely to provide special support to Non-banking financial companies (NBFC).
- Presently mid-sized and smaller NBFC's mostly the housing financial firms are facing liquidity deficit.

About NBFC

- Non-Banking Financial Companies are those companies which provide banking services but they cannot meet the criteria to be called legally as bank.
- RBI act of 1934 majorly define and guide the business of an NBFC also they are incorporated under Companies act 1956.

Differences between Bank and NBFC

- NBFC cannot accept demand deposits (they can accept term deposits).
- NBFCs do not form part of the payment and settlement system.

Regulation of NBFC

- There is no single body/ agency that regulates the functioning of NBFC but multiple agencies depending on the type of NBFC for instance:
 1. NBFC's dealing with lending, accepting deposits, financial leasing, hire purchase and acquisition of shares / stocks are regulated by RBI, similarly
 2. Activities like stock broking, merchant banking etc. are regulated by SEBI.
 3. Nidhi and Chit fund companies are regulated by Department of Company Affairs.
 4. Housing finance companies are regulated by National Housing Bank.

IL&FS board gives new roadmap to NCLAT

Why in news?

- Recently newly-formed board of IL&FS (a private firm) informed the National Company Law Appellate Tribunal (NCLAT) that it has drawn up a new roadmap to address concerns of lenders.

About NCLAT

- National Company Law Appellate Tribunal (NCLAT) was constituted under Companies Act, 2013 for Appellate Tribunal for hearing appeals against the orders
 1. Of National Company Law Tribunal(s) (NCLT) under the Insolvency and Bankruptcy Code, 2016 (IBC).

2. Passed by Insolvency and Bankruptcy Board of India under the IBC.
3. Any direction issued or decision made or order passed by the Competition Commission of India (CCI).

Composition

- The President of the Tribunal and the chairperson and Judicial Members of the Appellate Tribunal shall be appointed after consultation with the Chief Justice of India and Selection Committee consisting of
 1. Chief Justice of India or his nominee—Chairperson.
 2. A senior Judge of the Supreme Court or a Chief Justice of High Court—Member.
 3. Secretary in the Ministry of Corporate Affairs—Member.
 4. Secretary in the Ministry of Law and Justice—Member.
 5. Secretary in the Department of Financial Services in the Ministry of Finance—Member.

Funding NDRF

Why in news?

- Recently 15th Finance commission arranged International Workshop in India on Financing of Disaster Risk Management in New Delhi.
- The two-day conference discussed various issues related to Disaster Risk Management (DRM) ranging from urbanization, climate change, coastal erosion, localized catastrophes and the price associated with it, among many other issues.
- Major issue was to highlight the need to rework the ways in which funds can be collected for disaster risk management, both on tax and non-tax front.

Issues surrounding funding of NDRF

- Impact on revenues of state govts due to GST is important as states are the first responders in case of any disasters.
- Exploring ways, the National Disaster Response Fund (NDRF) be funded in GST era.
- Issue of cess on GST for the purpose of funding disaster response are some policy level issues on which GST Council may have to take a view.
- Various sources of funding Disaster Risk Management viz. Finance Commission devolution, NDRF, SDRF, crowd sourcing, CSS, CSR and funds from multilateral institutions and enhancing their utility.

- Role of insurance companies and the issues associated were also discussed in terms of risk transfer.

Indian Strategic Petroleum Reserves

What is Strategic Petroleum Reserves (SPR)?

- They are huge stockpiles of crude oil established to tackle emergency situations. SPRs significantly help India's energy security and will insulate the country from external price and supply shocks.
- Currently, India has constructed three strategic petroleum reserves in huge underground rock caverns at Visakhapatnam (1.33 Million Metric Tonnes) on the East Coast, and at Mangaluru (1.5 MMT) and Padur (2.5 MMT) on the West Coast.
- These facilities can meet about 10 days of India's crude oil requirements. The global practice is to maintain strategic reserves of at least 90 days of oil imports.
- The government of India, in June 2018, announced the creation of two new reserves, a 4 million tonnes storage facility at Chandikhol in the eastern state of Odisha and an additional 2.5 million-tonne facility at Padur.
- After the addition the strategic reserve can meet 21 days of coverage of India's crude oil requirement.

Why in news?

- Indian Strategic Petroleum Reserves Ltd (ISPRL) has signed a Memorandum of Understanding (MoU) in Abu Dhabi with the Abu Dhabi National Oil Company (ADNOC) to explore the possibility of storing ADNOC crude oil at ISPRL's underground oil storage facility at Padur in Karnataka
- ADNOC is the only foreign oil and gas company, so far, to invest by way of crude oil in India's strategic petroleum reserves program.

Ease of Doing Agri-Business Index

Why in news?

- The government has released a concept note on developing an Index for Ease of doing Agri-business to rank the states.

Need for an index

- Agriculture is a state subject. Therefore the success of programs of Government of

Officers IAS Academy, Chennai

India depends on the implementation by states.

- To ensure the implementation of agenda, a competitive spirit needs to be developed among the states.
- Such an index was recommended by the committee setup to double farmer's income by 2022.

About the index

- The index has 6 parameters and many sub-parameters.

Marketing reforms (25% weightage)

- Adoption of model "The Agricultural Produce and Livestock Marketing (Promotion & Facilitation) Act, 2017
- Establishment of National Agriculture Market (eNAM)
- Development of rural haats
- Post harvesting infrastructure
- Purchase of food grains at Minimum Support Price

Reducing cost of inputs (20% weightage)

- Coverage under organic farming
- Distribution of soil health cards and linkage with sale of fertilizers
- Coverage under micro irrigation

Governance and land reforms (20% weightage)

- Robust institutional mechanism for convergence
- Adoption of provisions related to land leasing
- Encouraging contract farming
- Organization of farmers for aggregation
- Efficient water management

Risk mitigation (15% weightage)

- Implementation of crop insurance scheme
- Implementation of livestock insurance

Increasing production/productivity (10% weightage)

- Availability of quality seed
- Enforcement of Seed Act
- Infrastructure for assured irrigation
- Mechanization of farms

Investment in and for agriculture (10% weightage)

- Agriculture credit to the farmer
- Investment in agriculture sector through MGNREGS
- Road and infrastructure

Outcomes

- After the initial rankings are published, the performance will be evaluated on incremental improvements over time in order to encourage the states lower in the index to come up.
- In future, the Ministry may consider rewarding the higher performing States

[both in absolute and incremental terms] by linking the performance with allocation from flexi funds made available in various flagship schemes of the Agriculture Ministry,

Other agriculture index

- NITI Aayog already brings out Agricultural Marketing and Farm Friendly Reforms Index.
- It ranks states based on their implementation of reforms.
- It was launched in 2016.

Fake currency network intact

Why in news?

- Recent probe by NIA team have reported that the fake currency notes seized so far are not of a high quality.
- Most arrests were made from Malda in West Bengal, and some cases registered in Kerala, Karnataka and Gujarat.

About Fake currency

- Counterfeit money is imitation currency produced without the legal sanction of the state or government.
- Producing or using counterfeit money is a form of fraud or forgery. In India, the circulation of fake Indian currency notes (FICN) has been on the rise, according to the Reserve Bank of India's (RBI) annual reports.

How this networks works

- Most counterfeit Indian currency notes are printed in Pakistan and then enter either directly or through network of other countries like Bangladesh or Nepal.
- India had accused Pakistan's Inter-Services Intelligence (ISI) of printing high-quality fake notes and channelling it into India.
- Recently Malda district near Kolkata in West Bengal has emerged as a centre of Fake currency distribution hub.

Steps taken to fight fake currency

- The NIA and the Rapid Action Battalion (RAB), the anti-crime and anti-terror unit of Bangladesh, signed a memorandum of understanding (MoU) in 2015, to share intelligence on fake notes and other terrorist modules in real time.
- Security features in new 500 and 2000 have been upgraded so that it becomes difficult to counterfeit the legal currency
- By norms, the UAPA can be invoked against the accused only if the notes are of high quality.
- The government has formed a special Fake Notes Co-ordination (FCORD) Group in the

Officers IAS Academy, Chennai

Home Ministry to share FICN information with security agencies of states and center.

- A Terror Funding & Fake Currency Cell (TFFC) is also constituted in the National Investigation Agency to investigate terror funding and fake currency cases.

OTT services

Why in news?

- The Telecom Regulatory Authority of India (TRAI) re-started the discussion on "regulatory issues and economic concerns" with regard to over-the-top (OTT) services such as WhatsApp and Skype, with its consultation paper on 'Regulatory Framework for OTT Communication Services'.

What is over the top services?

- Over the top services means providing the videos, books and TV shows without any subscription.
- It also includes providing free phone calls and video calls, messaging services which largely affect the telecom operators like Airtel, Vodafone etc.

Consultation paper:

- This consultation paper seeks to analyse and discuss the implications of the growth of Over The Top services (OTT) and the relationship between Telecom operators and OTT players.
- Whether any change is required in the current regulatory framework and the manner in which such changes should be effected.
- The telecom operators has been pitching that the OTT players be brought under a licensing regime to create a level playing field since they offer similar services such as voice calling and messaging.
- A licensing regime will likely lead to OTT players paying up levies such as license fee, spectrum charges, besides adhering to quality of service, lawful interception and customer grievance redressal norms.
- And TRAI is also considering bringing up regulation between OTT players to enable healthy competition among them which will benefit the consumer.

Electoral bonds

Why in news?

- In the fifth tranche of sale of electoral bonds by SBI saw purchase of bonds worth more than Rs. 400 crore.
- This was the largest sale of bonds since the launch of the scheme in 2018.

What are electoral bonds?

- Electoral Bond is a financial instrument (similar to a promissory note) for making donations to political parties

Electoral Bond Scheme

- Electoral Bonds may be purchased by a person, who is a citizen of India or incorporated or established in India.
- The purchaser would be allowed to buy Electoral Bond(s) only on due fulfilment of all the extant KYC norms and by making payment from a bank account. It will not carry the name of payee.
- The Electoral Bonds shall be encashed by an eligible Political Party only through a Bank account with the Authorized Bank.
- Electoral Bond (s) would be issued/purchased for any value, in multiples of Rs.1,000, Rs.10,000, Rs.1,00,000, Rs.10,00,000 and Rs.1,00,00,000 from the Specified Branches of the State Bank of India (SBI).
- It may be noted that Electoral Bonds shall be valid for fifteen calendar days from the date of issue
- Only the Political Parties registered under Section 29A of the Representation of the People Act, 1951 and which secured not less than one per cent of the votes polled in the last General Election to the House of the People or the Legislative Assembly of the State shall be eligible to receive the Electoral Bonds.

Lend more to industry: Arun Jaitley

Why in news?

- Finance Minister Arun Jaitley asked the public sector banks to step up lending to the industrial sector as it is their 'primary responsibility,' besides 'partnering infrastructure creation'.

More on the news:

- Unlike Private sector, PSB's cannot rely only on retail banking because the prime most purpose of PSB is to lend infrastructure and industries which are prime movers of the economy.
- Industries are job creators, the increased job creation and spending by the people will only keep the economy moving. The industries need reliable long term loans from banks to keep functioning.
- Private sectors usually do not take up the responsibility of lending to long term

- infrastructure products and retail industries unless and until it is profitable.
- After remaining low for a long time, bank lending is showing signs of picking up since September, with year-on-year loan growth as on October 26 at 14.6% — which is a five-year high.
- This momentum has to be kept up, to maintain the industry in its profit.
- However, Jaitley also warned that indiscriminate lending by PSB during 2008-2012 without proper criteria which has led to piling up of NPA now should not be done again.

Minimum support prices

Why in news?

- The cotton season has commenced this year, but with an unusual trend of prices being up despite new arrivals.

Reasons for high price:

- The prices usually drop when the new season starts. However, this year, prices are remaining firm for several reasons.
- The first reason is MSP. The MSP of cotton this year is almost as high as 26%-28% compared to last year.
- However, the MP is only 1 % above the MSP so the farmers have not sold the cotton which has led to increased demand and hence increased price.
- The sentiments are playing a bigger role in determining prices at present more than demand and supply.
- Last year the yarn export was good last year, so no cotton stock has been left
- The movement of international prices will also have an impact on the domestic cotton prices.
- If China levies duty on import of cotton from the US, which is a major cotton producer, it will have an impact on the international and Indian cotton prices.

What is minimum support price?

- Minimum Support Prices is the price at which government purchases crops from the farmers irrespective of the market price.
- The objective of the scheme is to check fall of prices of farm produce below certain level and thus support the farmers.

How are the price fixed?

- Government fixes MSPs of various kharif and rabi crops every year on the

recommendations of Commission for Agricultural Costs & Prices (CACP), views of concerned State Governments and Central Ministries/Departments and other relevant factors.

The Central Board of the RBI

Why in news?

- RBI and the central board are in news, because the government has been threatening to use sec 7 of RBI Act, 1934.
- Section 7 basically empowers the government to supersede the RBI Board and issue directions to the central bank if they are considered to be “necessary in public interest”.

What is RBI Board?

- The RBI Board is a body comprising officials from the central bank and the Government of India, including officials nominated by the government.
- According to the RBI, the “general superintendence and direction of the affairs and business of the RBI is entrusted to the Central Board” and the Board exercises all powers and does all acts and things that are exercised by the RBI.
- The Board is also to recommend to the government the design, form and material of bank notes and also when and where they can serve as legal tender.

When does the Board meet?

- The Governor has to call a Board meeting at least six times in a year, and at least once each quarter.
- A meeting can be called if a minimum of four Directors ask the Governor to call a meeting.

Moody's Global Emerging Market Outlook 2019

Why in news?

- Moody's has released the Global Emerging Market Outlook report for 2019

Findings of the report

- In 2019, the emerging markets are likely to face challenges from slower global growth, rising interest rates, trade protectionism and geopolitical tensions.
- The outlook is stable as the emerging markets are likely to be resilient to challenges because of strong balance sheets, domestic growth and supportive policy.

India-specific findings

- It has forecasted that the Indian economy will grow by 7.3% in 2019
- Enormous foreign exchange reserves and very low external debt levels provide greater resilience to external shocks like high oil prices.
- Banks face a risk in the aftermath of IL&FS crisis and the subsequent liquidity stress in the capital market.
- The asset quality cycle is recycling following the recognition of problem loans and their gradual resolution and provisioning.

Fitch rating for India

Why in news?

- Ratings agency Fitch has retained 'BBB-' rating for India however it maintained its stable outlook.

Findings

- It said that the economy would come out of effects of demonetisation and GST during 2018-19 and 2019-20.
- India's relatively strong external buffers and the comparatively closed nature of its economy make the country less vulnerable to external shocks than many of its peers
- Weak fiscal balance is the main reason for India's lower credit rating.
- General government debt amounted to 69% of GDP in FY18 ('BBB' median: 41% of GDP), while fiscal slippage of 0.3% of GDP in both FY18 and FY19 relative to the government's own budget targets of last year, implies a general government deficit of 7.1% of GDP ('BBB' median: 2.1%).
- The RBI is building a solid monetary policy record, as consumer price inflation has been well within the target range of 4% +/- 2% since the inception of the Monetary Policy Committee in October 2016,
- Fitch expects inflation to average close to 4.9% in FY19, still almost double the 'BBB' range median of 2.5% for 2018.
- The GST is an important reform and is likely to support growth in the medium term once implementation issues dissipate

Ratings scale

- Ratings agencies like Fitch, Moody's etc have a rating scale ranging from AAA+ to DD depending upon various factors.

India International Trade Fair (IITF) 2018

Why in news?

- The 38th edition of India International Trade Fair (IITF) 2018 was inaugurated

About the fair

- The flagship event of India Trade Promotion Organisation (ITPO) and held since 1980.
- This annual event provides a common platform for the manufacturers, traders, exporters and importers.
- The partner country is the Islamic Republic of Afghanistan and the focus country is the Federal Democratic Republic of Nepal. The focus state is Jharkhand.

Back series GDP data

Why in news?

- The release of the back series of the GDP data by the government will be delayed.

What is back series GDP data?

- In January 2015, the government moved to a new base year of 2011-12 from the earlier base year of 2004-05 for national accounts.
- In the new series, the Central Statistics Office (CSO) replaced the Gross Domestic

Officers IAS Academy, Chennai Product (GDP) at factor cost and adopted the international practice of valuing industry-wise estimates as gross value added (GVA) at basic prices

- The CSO started to use the enterprise-level corporate database of MCA-21 — an e-governance initiative of the Ministry of Company Affairs that was launched in 2006 to allow firms to electronically file their financial results, to calculate national accounts.
- For years preceding 2011-12, however, the CSO faced issues for evaluating GDP with the new base year — due to the lack of availability of the MCA-21 database.

Methods of generating back series

- Back series can be generated in three ways,
- Based on the new GDP methodology by using the base data wherever available;
- Based on a production shift approach
- By projecting the old series using the base year 2004-05 forward, and then adjusting it to the 2011-12 base by comparing with the new series.

International Relations

IAEA on Iran Nuclear Deal

What is IAEA?

- The International Atomic Energy Agency is the world's central intergovernmental forum & autonomous organisation for scientific and technical co-operation in the nuclear field.
- It works for the safe, secure and peaceful uses of nuclear science and technology
- Established in 1957, it celebrated 60th anniversary of entry of force of IAEA statute. They report both to UN security council and UN General assembly.
- Three main pillars – or areas of work – underpin the IAEA's mission: Safety and Security; Science and Technology; and Safeguards and Verification.
- The IAEA executes its roles by the **inspection of existing nuclear facilities** to ensure their peaceful use, providing information and developing standards to ensure the safety and security of nuclear facilities, and as a hub for the various fields of science involved in the peaceful applications of nuclear technology.

Why in News?

- Iran started its nuclear program in 2015 by signing Joint Comprehensive plan of Action (JCPOA). Recently USA bombarded Iran with sanctions majorly that Iran is not following JCPOA. But IAEA recently reported that Iran has been maintaining the reserves and stocks as per the agreement and its notions towards nuclear program have not changed.

China in Andaman Sea

Andaman Sea

- The Andaman Sea is surrounded by the Andaman and Nicobar chain of islands in the West, Myanmar to the north, the Thai-Malay peninsula to the east, and the Sumatra Island to the south.
- It funnels into the Straits of Malacca that connects the Indian and Pacific Ocean

Why in News?

- China has recently made an agreement with Myanmar on building a deep-water port at Kyaukpyu on Myanmar's Arakan coast in the Bay of Bengal under China-Myanmar Economic Corridor.
- China is also planning to get the project of building artificial Kra Channel which

connects Andaman Sea with Gulf of Thailand.

- Not only in terms of strategic infrastructure development China is also raising its military presence around Andaman Sea by conducting military exercises with Thailand and Malaysia. It has sold submarines to both Bangladesh and Thailand.
- These developments are challenging India's presence in Indian Ocean to which India must pace up to make its presence feel.

India-Morocco Ties

Morocco:

- Morocco is a constitutional monarchy with an elected parliament. It is a country located in the far west of North Africa with its capital Rabat. The King of Morocco holds vast executive and legislative powers, especially over the military, foreign policy and religious affairs.



- It borders Algeria & Mauritania. North side it touches Mediterranean Sea and west it has Atlantic Ocean. Strait of Gibraltar parts Spain and Morocco.

Why in News?

- India and Morocco signed an agreement on Mutual Legal Assistance in Criminal Matters which will provide a broad legal framework for prevention, investigation and prosecution of crimes. It will also help in tracing, restraint and confiscation of funds used to finance terrorist acts.

Talks with Taliban

Why in News?

- India and Taliban has been rivals since Indian Airlines flight IC-814 1999 and distanced itself from Taliban under Delhi's Afghan Policy.
- But recent Moscow Afghan Conference has pulled India to be participant, in which US, Russia, China and other powers are interested to end war between Taliban and Afghan Govt by extending talks & negotiation with Taliban. Representatives of Taliban attend the conference.
- India has always emphasized that the peace process in Afghanistan should be "Afghan-owned, Afghan-led and Afghan-controlled". New Delhi believed that there is no Good Taliban and Bad Taliban, it has no room for engagement with Taliban,
- India is in situation to tell no to the conference and it is trapped in its previous views about Taliban.
- India must accept the proceedings and look for peace process in Afghanistan. Acceptance doesn't mean accepting ideology.

Significance of PM's visit to Singapore

Why in News?

- Recently PM visited Singapore to attend East-Asia Summit, 2nd meet of regional comprehensive economic partnership and 2nd meet of Quad.
- Commerce Minister leads delegation for RCEP meet in Singapore
- Entire focus of the meeting will be on the conclusion of negotiation of RCEP. Upcoming elections in India and Indonesia may push conclusions to next year.

PM Modi at EAS:

- He emphasised on the need to enhance multilateral cooperation and economic and cultural ties among member-nations.
- He said India believes in peaceful, open and inclusive Indo-Pacific region, strengthening maritime cooperation and commitment to a balanced Regional Comprehensive Economic Partnership (RCEP) pact,

RCEP

- Regional Comprehensive Economic Partnership is a pact that aims to cover goods, services, investments, economic and technical cooperation, competition and intellectual property rights.
- The members include 10 ASEAN members – Brunei Cambodia, Indonesia, Malaysia, Myanmar, Singapore, Thailand, the

Officers IAS Academy, Chennai
Philippines, Laos and Vietnam and their 6 free trade agreement partners – India, China, Japan, South Korea, Australia and New Zealand.

- India is pushing for liberalizing norms to promote services trade as the sector accounts for about 55 % of India's GDP.
- India is looking for a **balance trade agreement** as it would cover 40% of the global GDP and over 42% of world's population.

Problems in the trail

- Some problems are regarding percentage of market opening for goods to countries. India is already in trade deficit with China. India has agreed to open markets up to 86% but the agreement demands 82% opening.
- India has also demanded trade in services which other countries doesn't say yes to.
- The clause of 'substantial conclusion' (which asks to explicitly mention the sectors opened-up and make public) endeavours the agreement to be hectic.

India and China

- The other forums like Quad have been on board to resist the aggressive expansion of China in Indo-pacific region which India wants to balance. Countries like US want India to participate more militarily than economically in the region.
- India though economically small compared to China, India wants competition. Competition doesn't mean confrontation. India has too understood the importance of China. But China must expect cooperation from India than consultation to have a balance in the region.
- What India is expecting in the talks is that Asia should remain multipolar and India has its space.

Problem with the Quad

- In 2017 Australia, USA, Japan and India has come together to form quadrilateral grouping but till now they couldn't finalize the common agenda of the grouping.
- Initially in 2007, after 2004 tsunami the group had an informal setting to coordinate oceanic abilities to counter disaster situations. But in 2017 when they intrinsically revived, the unofficial agenda was to counter Chinese presence in Indo-pacific region.
- Even their boundaries too are not defined. US thinks they are concerned with area which boundaries India and USA, But Japan thinks that Africa is also a part.

- If the cooperation was in maritime section, the question of non-inclusion of Australia in Malabar exercise even after Australia requested asks the credibility of the grouping. When the grouping was first formed following cooperation after the 2004 tsunami, the idea was to better coordinate maritime capabilities for disaster situations.
- Even after the 3rd round of Quad talks, countries couldn't produce a joint declaration; hence to have a strong quad structure & engagement the countries must put a face to their common agenda.

Vietnam's stand regarding Quad

- They welcome any initiative by any country to preserve freedom of navigation and overflight in the region but do not want any military alliance that is not conducive for peace and security.

Sri Lanka Crisis

What is in news?

- President Sirisena dismissed Ranil Wickramasinghe and established Rajapakse as PM of Sri Lanka. But the new PM was defeated in no-confidence motion. Presently Sri Lanka stands in political turmoil.

How worst is the situation?

- Being democratic country experts say that it is a normal occurrence.
- Being one of the countries which has high literacy and development, the institutions of judiciary and executive are strong and intact in the country, so complete roll out of track couldn't happen.
- Only thing is that the procedures followed should not be breach of constitution and the situation shouldn't up bring an ethnic conflict (between Sinhalese and Tamilians) or anarchy to the streets.
- If that happens, Indian Ocean will be in turmoil and big powers will poke their nose which will be alarming to India.
- The crisis can also affect Sri Lankan economy and domestic development.

What's it to India?

- India being nearest big power, has been approaching with wait and watch policy. As Panchsheel and SAARC charter of democracy foreign policies on the map, India can't intervene directly. Hence, India can only be an observer. If things become serious, India should intervene as the situations may be against Tamilian minority.

- China being happy about the change of power and was the first to recognise brings some cautions to India which India should be careful about.

Way-forward

- Elections are the only way to resolve the tension and India has only option that is to accept the political change.

Imran Khan's visit to China

Why in News?

- Pakistan's new PM made his first visit to China. The visit was not successful as being expected except currency swap agreement.
- Earlier Imran Khan being apprehensive of Chinese developments in Pakistan mainly CPEC, his government reduced the value of CPEC Railway project from \$ 8 billion to \$ 6 billion to decrease debt has angered Chinese.
- Chinese industries are veiling the Pakistan companies and notion on using Pakistan's agricultural lands to produce rice, which has not benefit to Pak rather effect production and water resources bring fears.
- Being financially bailed out, Pak was expecting Chinese to pomp them with grants which couldn't surface at all after the meet. China knows how much Pakistan is dependent on it for strategic security and economic assistance, but at this moment China is waiting for right time for agreements which can be beneficial for them.
- Chinese which is also in the liquidity crunch after the trade war with US has promised that it will help Pakistan within its limit.

What it means to India?

- Being in the financial turmoil Pakistan is running here and there for assistance and no country is coming forward to support. India at this point of time must be relieved to watch the change in game.
- As CPEC is concerned, China and Pakistan has said in the joint statement that the project will continue as the way they were planned.

India - Kyrgyz Ties

Kyrgyzstan

- A landlocked country in central Asia, Kyrgyzstan is It is bounded by Kazakhstan on the northwest and north, by China on the east and south, and by Tajikistan and Uzbekistan on the south and west.

- Its capital is Bishkek.



- Kyrgyzstan is a mountainous country, Tien Shan are the mountains run across the countries. Chu and Naryn rivers are major rivers of the country.

Why in News?

- India and Kyrgyzstan has conducted 9th Session of the India-Kyrgyz Inter-Governmental Commission on Trade, Economic, Scientific and Technological Cooperation (IK-IGC).
- Both sides have identified around 10 sectors to engage actively like healthcare and pharmaceutical, environmental and technical safety, agriculture, mines and standards, metrology, certification sector etc.
- Kyrgyz has proposed for the creation of **joint food and food processing ventures** which will export the agriculture and meat product to the Eurasian Economic Union (EAEU) markets.
- Kyrgyz has also asked Indian assistance in developing inland fisheries and commercialising this sector.

Multilateralism

Role of Indian Soldiers in WWI:

- About 14 lakh Indian soldiers fought with valour and distinction during the World War I on numerous battlefields. About 74,000 Indians were killed in the war.
- Around 40,000 Indian gave their lives in battle of Cambrai (Cambrai was a supply point of Germans). Cambrai war is known for 2 main things i.e., it saw the first great tank attack in history and, preregistration of artillery for an offensive.

What is Multilateralism?

- Multilateralism is when at least three governments participate in a particular issue or to try to solve a problem. Multilateralism is an example of

Officers IAS Academy, Chennai cooperation among world governments and used in contrast with unilateralism.

Why in news?

- The Vice President unveiled the **Indian War Memorial** in Villers-Guislain, near Paris, commemorating Battle of Cambrai. It was an initiative by French govt.
- VP of India emphasised the need of multilateralism and said that the world should draw appropriate lessons from the context and the consequences of the World War I and remind the world leaders of the need to collectively address the challenges confronting humanity today. He pointed towards terrorism and climate change to be the most challenging problems today.
- He said that multilateralism should emerge as the most effective mode for decision-making and conflict resolution.

India and China

Wuhan Summit

- It was the first Informal Summit held in Wuhan in April, 2018 between PM Narendra Modi and Chinese President XI Jinping.
- Both the countries shared the view that peaceful, stable and balanced relations between India and China will be a positive factor for stability regardless of current global uncertainties.
- In the context of border contentions, they issued strategic guidance to their respective militaries to strengthen communication in order to build trust and mutual understanding and enhance predictability and effectiveness in the management of border affairs and have various confidence building measures.
- They emphasised on strengthen strategic communication and upheld the importance of building an **open, multipolar, pluralist and participatory global economic order** which will enable all countries to pursue their development and contribute to the elimination of poverty and inequality in all regions of the world.
- The two leaders agreed that as two major countries and emerging economies, India and China, given their vast developmental experiences and national capacities, should join hands to take lead in offering innovative and sustainable solutions to challenges faced by humankind in the 21st century.

OBOR

- The "One Belt" part of it refers to the Silk Road Economic Belt while the "One Road"

refers to the 21st-century Maritime Silk Road. Jointly, they're meant to be a revival of the ancient Silk Road trading routes.

Act-East Policy

- India's Act East Policy focuses on the extended neighbourhood in the Asia-Pacific region including ASEAN countries, Japan, Korean peninsula and Australia.
- The Objective of "Act East Policy" is to promote economic cooperation, cultural ties and develop strategic relationship with countries in the Asia-Pacific region through continuous engagement at bilateral, regional and multilateral levels thereby providing enhanced connectivity to the States of North Eastern Region including Arunachal Pradesh with other countries in our neighbourhood.

Why in News?

- Under the spirit of Wuhan spirit, China and India are expanding their ties by initiating military personnel exchanges. First time, cadets from Indian and Chinese military academies, as well mid-level officers, will meet each other regularly.
- In another News, Chinese Ambassador to India has put that OBOR will help India to accomplish in its Act-East Policy targets and asked India to join shedding its concerns on CPEC. They can start the cooperation from "China-India-Myanmar" BCIM corridor to India's North-East.

Brexit and U.K

1922 Committee:

- The 1922 Committee, also known as "the 22", is a committee of all backbench Conservative MPs that meets weekly when the British Parliament's House of Commons is sitting.
- Its chair, usually a senior MP, is elected by committee members and has considerable influence within the Parliamentary Party.
- The 1922 Committee takes its name from a meeting of Conservative MPs in October 1922 which led to the end of the party's coalition government with the Liberals.

Why in News?

- Brexit motion is receiving pullbacks as MPs are withdrawing support. 20 MPs have publicly submitted such letters to the Conservative Party's 1922 backbench committee, saying that there must be another referendum and cognitive that Brexit will put Britain in economic crisis.
- British PM Theresa May has said that she will move forward with the best negotiations done with EU and demands support from MPs as well as public for Brexit. She says that turning back will put Britain in complete state of confusion.
- As per the situation, Conservative party may call for no-confidence motion which if successful, it may deter the deals and negotiations.

Science & Technology

Mission Venus



Why in News?

- ISRO plans to go ahead with the 'Mission Venus' for mid-2023 involving a study from an elliptical orbit closest at 500 km (periapsis) and 60,000 km (Apoapsis) similar to its Mars Orbiter Mission (MOM) of 2013. This would be ISRO's third interplanetary event if approved.

Agencies involved

- Handled by the Space Science Programme Office
- Examined by the Advisory Committee on Space Sciences
- Approved by the Space Commission and the government.

The Venus mission

- Shukrayaan-1 is the Venus craft proposed to orbit Venus by ISRO.
- Payloads totally weigh 100 kg. (MOM's payloads weighed nearly 15 kg.)
- It would be comparable to the phenomenally popular MOM in terms of its the orbit and the cost.

Facts about Venus

- Venus is the second planet from the Sun
- It is similar in structure and size to Earth and often described as the "twin sister" of the Earth
- It spins backwards, with its sun rising in the west and setting in the east.
- Its thick atmospheric heat traps makes it the hottest planet in our solar system with surface temperatures hot enough to melt lead.
- Venus' solid surface is a volcanic landscape
- It has no moons and no rings.

Monogenic Diabetes

Why in news?

- With support from Indian Council of Medical Research (ICMR), the Madras Diabetes Research Foundation (MDRF) and Dr. Mohan's Diabetes Specialities Centre (DMDSC) A National Monogenic Diabetes Study Group has been formed to identify

cases of monogenic diabetes across the country which has been misdiagnosed in many cases.

Parameter of study

- Children below six months of age
- Persons diagnosed as Type 1 diabetes but have a typical features of milder forms of diabetes
- Persons with strong family history of diabetes

What is diabetes?

- Diabetes also called diabetes mellitus is a serious, lifelong condition where your blood glucose level is too high.
- We get glucose when our bodies break down the carbohydrates from what we intake and that glucose is released into our blood.
- Insulin hormone made by our pancreas allows the glucose in our blood to enter our cells and fuel our bodies.
- If your pancreas can sense when the glucose has entered your bloodstream and releases the right amount of insulin, so the glucose can get into your cells, then the body is free of diabetes, but if you have diabetes, this mechanism shows abnormality.
- Diabetes leads to blindness, kidney failure, limb amputations, heart attacks, strokes and other health complications.

Types of Diabetes

- Type 1 diabetes: Body can't make any insulin at all.
- Type 2 diabetes: The insulin body makes either can't work effectively, or can't produce enough of it.
- Prediabetes: when blood sugar is high, but not high enough to be type 2 diabetes.
- Gestational diabetes: high blood sugar affecting pregnant women.

How is a typical diabetes and monogenic diabetes different from each other?

- Monogenic diabetes is a group of disorders where mutation of a single gene causes diabetes;
- the three commonest forms being - Maturity Onset Diabetes of the Young (MODY), Neonatal
 - Diabetes Mellitus (NDM) and Congenital Hypoglycaemia.
- In this if a parent has this gene mutation the child has a 50 per cent chance of inheriting it from them.

- If a child does inherit the mutation they will develop MODY before they're 25 regardless of weight, lifestyle.

Polio vaccine contamination

Why in news?

- A Type 2 vaccine virus has been found in stool samples from children in Uttar Pradesh revealing that the oral polio vaccines (OPV), made by a Ghaziabad-based firm called Bio-Med, contained traces of the Type 2 vaccine virus. The other source being the PT Bio Farma, an Indonesian firm which supplied the vaccine raw material to Bio-Med and all other Indian OPV manufactures.

In detail

- Since April 2016, all OPV given across the world contained only two of the three polio serotypes that are Type 1 and Type 3
- Type 2 is banned because the wild, disease-causing version of this virus was eradicated globally by 1999.
- Even though India stopped giving children OPV Type 2 in 2016, it has been giving them the Inactivated Polio Vaccine, which also protects against the Type-2 polio.

Under which conditions vaccine causes polio?

1. In Vaccine Associated Paralytic Polio (VAPP) the vaccine virus mutates into a virulent version of itself, causing disease in the child who received the vaccine, or through contact with the child. It does not create outbreaks.
2. In Circulating Vaccine Derived Polio Virus (cVDPV) the vaccine virus mutates into a virulent version, but spreads from person to person, causing outbreaks.
3. Large number of un- immunisation against Type-2.
4. The virus needs to circulate from person to person for several months.
5. The risk of VAPP is extremely low compared to cVDPV, because the Type-2 vaccine virus is most likely to turn cVDPV among all the three.

Way forward

- The Central Drugs Standard Control Organisation is yet to trace the source of the contamination to help prevent incidents of larger contamination in future.

What is polio?

- Polio, also known as poliomyelitis in which the virus enters through the mouth and multiplies in the throat and gastrointestinal tract, then moves into the bloodstream and is carried to the central nervous system where it replicates and

Officers IAS Academy, Chennai

destroys the motor neuron cells in the spinal cord causing muscle wasting and paralysis.

- it is a highly contagious viral infection that can lead to paralysis, breathing problems, or even death.
- It is transmitted through contaminated water or food, or contact with an infected person.
- It is Preventable by polio vaccine.

Tests for Pulmonary, Pleural TB

Why in news?

- A highly sensitive diagnostic test for pulmonary TB and pleural TB has been developed by the Department of Biotechnology at AIIMS making use of a DNA aptamer .

What is a DNA aptamer?

- It is a small single-stranded DNA molecule that binds to a specific target molecule that shows high binding affinity to a TB antigen called HspX.
- The aptamer used here carries the name H63SL2-M6.

How is the diagnostic test carried out?

- Sputum samples were used for diagnosing pulmonary TB while pleural fluid was used for diagnosing pleural TB.
- The sensitivity of the lab-based and portable aptamer-based test for pulmonary TB is far superior compared with smear microscopy, X-ray and even ELISA.
- Sputum is a difficult sample to handle due to the presence of mucus. The sputum should first be made into a uniform suspension before applying the test.
- In the case of the lab-based diagnosis, the sputum sample is immobilised on a plate and the aptamer is added. If the sample is positive for pulmonary TB then it will contain the HspX antigen and the aptamer binds to it.
- An enzyme (horseradish peroxidase) that binds to the aptamer (through biotin-streptavidin affinity) is then added followed by a substrate. A change in substrate colour is seen indicating that the sample is positive for pulmonary TB. If the sample is negative for pulmonary TB, the aptamer binding does not take place and the colour change does not occur.
- To make the pulmonary TB diagnosis portable, the researchers bound the aptamer to an electrode coated with gold nanoparticles. When the sample containing the HspX antigen is added, the aptamer

binds to the antigen and undergoes a structural change, which is read out in the electrical signal. There is a drop in electrical signal if the sample is positive and no change in signal when the sample is negative.

What is TB?

- Tuberculosis (TB) is caused by bacteria (*Mycobacterium tuberculosis*) that most often affect the lungs.
- TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air. A person needs to inhale only a few of these germs to become infected.
- Tuberculosis is curable and preventable.

How is pleural TB different from the pulmonary TB?

- Pleural TB is TB of the thin skin surrounding the lungs. This external lining serves to separate the lungs from the wall of the chest cavity. It is double-layered and there is a small space in-between the layers, in which the TB bacilli can sit and multiply, resulting in fever and pain when breathing.
- Pulmonary tuberculosis (TB) is a contagious bacterial infection that involves the lungs. It may spread to other organs.

Oumuamua

Why in news?

- Astronomers operating the Panoramic Survey Telescope and Rapid Response System (Pan-STARRS) 1 instrument in Maui, Hawaii, noticed an unusual reddish-brown rock shaped like a cigar object bursting out of the constellation Lyra about 32 million km from Earth, moving with great speed across the Solar System towards an unknown destination.

Characteristics of the object

- brightness varied dramatically every 7-8 hours
- Had a 87 km/second speed which is fast enough to escape the gravity of the Sun.
- Scientists named it 'Oumuamua, Hawaiian for "scout" or "a messenger sent from far to reach out to us"
- It is about 800 m long and 80 m wide.

About the discovery

- Scientists initially assumed it was a comet,
- Non availability of "coma" (atmosphere of dust and gas around a comet's core) or "tail" (elongated cloud that points away from the Sun) made it to be resembling asteroids

- While it's sudden acceleration said that it must be a fully operational probe sent intentionally to Earth by an alien civilization.

The difference between a comet and an asteroid

- Asteroids and comets are both celestial bodies orbiting our Sun
- They are both "leftovers" of the materials from the formation of our Solar System 4.5 billion years ago.
- While asteroids consist of metals and rocky material, comets are made up of ice, dust, rocky materials and organic compounds.
- When comets come closer to the Sun, they lose material with each orbit because some of their ice melts and vaporizes.
- Asteroids typically remain solid, even when near the Sun
- At present the majority of asteroids reside in the asteroid belt, a region between the orbits of Mars and Jupiter.
- Majority of comets are in the Kuiper Belt which is a region just outside the orbit of the dwarf planet Pluto and the Oort cloud, a region where trillions of comets may circle the Sun at huge distances of up to 20 trillion kilometres.

World Wildlife fund's living planet report

Why In news?

- 60% of the world's wildlife has disappeared between 1970 and 2014 according to the Wild life fund's living planet report accelerated due to Human activities and demand for natural resources.

What is the report?

- The report examined trends in the global living planet index which is an indicator of the state of global biological diversity, based on trends in vertebrate population of species from around the world.
- The worst decline is especially pronounced in the tropics, south and Central America suffering the most with 89% loss.
- Fresh water index showed 83% decline, since 1970.

What is WWF?

- It is the World's largest independent conservation organisation with a mission to stop degradation of planets, natural environment to build a future in which human live in harmony with nature.

- The organisation publishes the LPR In every 2 years
- Living planet index (LPI) is maintained by the zoological society of London to calculate the current status of biodiversity by measuring the population of vertebrate species around the world.

Suggested measures in the report

- specify goal at international level and implemented by national governments
- increased forest cover
- To ban single use plastic and disposal in water bodies to save freshwater species.

Eyerov Tuna

Why in News?

- Scientists at Eyerov technologies, Kerala have developed India's first commercial underwater unmanned Aerial Vehicle (drone) called Eyerov Tuna which can navigate a depth of 100m. It has been handed over to the naval physical and oceanographic laboratory of DRDO.

What is UAV (unmanned Aerial vehicle)?

- It is commonly known as drone
- It is an aircraft without a human pilot
- It comprises of a drone, an on ground controller and a Communication system between the two.
- It is basically a flying robot that is remotely controlled through a embedded software, that works along with the sensors on board with the GPS.
- In the past drones have been associated with military where they were used for anti-aircraft target practice, intelligence gathering and in weapons platform. Now it finds its use in rescue, search and surveillance, traffic monitoring, weather monitoring, videography and even in agriculture services.
- They are equipped with High resolution camera that helps them capture accurate image of the location that would be impossible for human to reach.

Uses of Eyerov Tuna

- To capture real time HD video images to examine a ship house, maintenance of underwater structures like sea cables, bridge foundations. Inspection of coral reefs, dams and port structures.
- It can facilitate underwater film making and surveillance for defence sector and marine research.

Features

- It weighs less than 10 Kg
- It has been manufactured at par with the global standards to work effectively in

Officers IAS Academy, Chennai harsh and critical underwater environment.

- The camera attached to the drone has infrared lens that helps to access live HD video field of the submarine.
- The Drone moves at a cruising speed of 2 knots and is equipped with 100 lumens LED lamps with more than 3 hours of battery life.
- It will reduce the need of costlier and riskier manual operations by divers.
- It is assisted with connected hardware's and joysticks.

Insects can evolve immune memory

Why in News?

- Scientists at national centre for biological sciences, Bengaluru confirmed that insects can evolve immune memory in response to infection.

About the research

- The researchers carried this research in order to know if insects too have immune system like that of the Human system which when affected with the bacterium or any pathogen, develops a immune memory for future against infection.
- The researchers collected flour beetles that infects grains and raised it in standard laboratory condition and found that they do have a unique memory when exposed to a low dose of infections of Bacillus thuringiensis and showed much stronger response next time they got infected with the same pathogen.
- This is a breakthrough in the research on insect immunology and evolutionary biology.

What is immune system?

- The immune system is a complex, coordinated and controlled series of interaction involving cells and molecules that protects the body against infection.
- Illness can occur if the performance of the immune system that is supposed to protect against pathogenic microorganisms, decreases.
- A vaccine that is given to fight against the pathogens relies on our immune memory.
- Immune memory is the capacity of our body to remember and encounter the pathogen and to react more rapidly to those pathogens at a later stage.

Pariyayantra

Why in News?

- The NCR's deteriorating air quality and its impact on health due to vehicular pollution, Diwali crackers and stubble burning saw a clean air campaign launched by the Ministry of Science & Technology, Ministry of Environment, Forest and Climate Change and Ministry of Earth Sciences to monitor and report polluting activities in the region.

About Pariyayatra

- The pilot project has been launched to purify air in buses.
- 52 field teams were flagged off to ensure quick action against violations.
- The teams visited different parts of Delhi and surrounding, comprising of local sub divisional magistrate, official of ministry of EFCC and representatives of central pollution control board, Municipal Corporation, Delhi pollution control committee.

The Report

- The overall Air Quality Index, is 392 on 31st October, 18 which falls in the very poor category and it is just 8 points away from turning severe.
- The meeting even noted that the percentage of stubble burning has seen a reduction of 30%.

What is Air Quality Index (AQI)?

- It is a number in the numerical scale where the index values are determined by the concentration of the pollutants in the atmosphere like Particulate Matter 10, Particulate Matter 2.5, Carbon Monoxide, Ozone and Nitrogen Dioxide.
- The government agencies make use of it to communicate to the public the current status of the pollution in the air and the forecast.

Purification of Air

- The filters have been developed by the scientists of Manav Ratna educational institution.
- The filters are mounted on the roofs of city buses which purifies the air of the particulate matter as these buses move.

Speciality of the Priyayantra Air filtration system

- This filter is a mobile air filters which will roam around the cities and carry out air filtration.
- It requires no power inputs and no maintenance and it just uses the relative motion of the vehicle to have the input of Air
- Vehicles which generally are the polluting source will be used for filtration

Black holes & binary stars

Why in news?

- Scientists at the Tata Institute of fundamental research, Mumbai have found a black hole in a binary star system which has the maximum spin rate.

What is a binary system?

- A binary star system is a system of two stars that orbits a common centre of mass appearing as a single star to the unaided eye.

What is a black hole?

- It is a region of space having a gravitational field so strong which does not allow matter, strong electromagnetic radiation and light to escape.
- The gravity is so strong because matter has been squeezed into a tiny space.
- This usually happens when a star is dying.

About the observation

- The observation was done using the Indian satellite astrosat and NASA'S Chandra X ray observatory.
- Such observations of these black holes help to know the aspects of the universe and the fundamental physics like the gravitational force.

John Burdon Sanderson Haldane

Why in news?

- The history of science remembered John burdon Sanderson Haldane on 5th Nov for his contribution to gene theory.

About John burdon Sanderson Haldane

- He was one of the most renowned scientists of the 20th century and is known for his extensive work in the field of physiology, genetics and evolutionary biology.
- He carried a part of his research on genetics and biometry in India coming as a migrant in 1957.

His contribution

- 1st map of the specific genes in the human X chromosomes which determines gender.
- He was awarded the Darwin-Wallace Medal (1958) and Darwin Medal (1952) and kimbler genetics award.
- His discoveries helped to understand humans in a better way.

What is Gene Mapping?

- It is the process of determining the location of a specific gene in a particular region of a chromosome.
- Chromosomes are made of DNA, and genes are special units of chromosomal DNA.

- Females have a pair of X chromosomes (46, XX), whereas males have one X and one Y chromosomes (46, XY).

GSAT-29

Why in News?

- The heavy lift vehicle GSLV-MkIII lifted off its communication satellite GSAT-29 from Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota (on Nov,14) a space mission being taken out by the Indian Space Research Organisation (ISRO).
- Second on line is the ISRO's PSLV mission to launch HySIS, a new variant of Earth observation satellites, along with 20-30 small commercial satellites.
- It forms a double success of the successful launch of GSLV MK III-D2 and the lifting of the GSAT-29 satellite into the orbit.

Significance of the GSAT-29 mission

- It is an Indian spacecraft that will be flown after about seven months
- The last one was the IRNSS-1I launched on April 12.
- The GSAT-29 satellite is a planned high throughput satellites (HTS) made to provide a vastly improved and faster Internet connectivity.
- GSAT-19, the first of the series, was sent up in June 2017 from Sriharikota.

Major missions

- Lunar lander-rover Chandrayaan-2 is queued for January next year.
- The third and ISRO's heaviest to date, GSAT-11, awaits a scheduled launch on December 4 on a European space vehicle, Ariane-5, from French Guiana.

About the Satellite

- GSAT-29 is a 3,500Kg communication satellite made for providing high quality internet services.
- It is the heaviest satellite to be launched on an indigenous rocket from within the country. The previous best, GSAT-19 [GSAT-19] weighed 3,136 kg.
- It has a life span of 10 years
- It will provide or augment digital communication in remote village resource centers (VRC) specially in inaccessible Jammu and Kashmir and the North-Eastern States.
- A high-resolution camera will be demonstrated at the higher geostationary orbit (GEO) of around 36,000 km for the first time.

The launch vehicle

- GSLV-MkIII-D2 is the test flight of the three stage heavy lift vehicle carrying the

Officers IAS Academy, Chennai satellite developed by the Indian Space Research Organisation (ISRO).

- MkIII D2 rocket, (D stands for 'development') demonstrates an improved lift capability of about 300 kg.
- The success of GSLV MkIII-D2 marks an important milestone in Indian space programme towards achieving self-reliance in launching heavier satellites.
- The success of this flight also signifies the completion of the experimental phase of GSLV Mark III.

The payload

- An advanced Q/V band frequency payload is being tried out for the first time, taking it beyond the Ku and Ka bands that are used at present.

The frequency bands

- The "band" in use refers to the radio frequencies used to and from the satellite:
 1. L-band uses frequencies in the 1 to 2GHz range
 2. Ku-band utilises approximately 12-18GHz, and
 3. Ka-band services uses the 26.5-40GHz
 4. V band uses 40-75GHz segment of the electromagnetic spectrum.

Controversy around LIGO

Why in news?

- On September 14, 2015, the Laser Interferometer Gravitational-wave Observatory (LIGO) made the Nobel Prize winning detection of gravitational waves.
- In detecting this binary black hole (BBH) merger, the LIGO Scientific Collaboration (LSC) has made six such observations on which there is some controversy among scientists over noise in detection.

What is the Controversy?

- A group of scientists have questioned the validity of the data collected by LIGO after its first detection saying that weeding out noise from such experiments was not done properly by LIGO Scientific Collaboration (LSC) to which LIGO will be clarifying based upon its research done.

What are Gravitational waves?

- Gravitational waves are 'ripples' in the fabric of space-time caused by violently energetic processes in the universe.
- These waves were predicted by Albert Einstein in 1916 in his general theory of relativity.
- The most powerful gravitational waves are created when a star explodes asymmetrically, two stars orbit each other

or two black holes orbit each other and finally merge.

- These waves are hard to detect as they become weak, squeeze and stretch by the time they reach earth. LIGO can detect this squeezing and stretching.

About the LIGO observatory

- LIGO is the world's largest gravitational wave observatory
- A LIGO observatory has two "arms" that are 4 kilometres long and as a gravitational wave passes through it causes the length of the arms to change slightly.
- LIGO'S detection of such waves helps us in understanding the nature of black hole and its effect on space and time.
- LIGO has made six of such detection of these waves. Five of these were mergers of black holes in very different locations in space. One was the detection of a merger of two neutron stars.
- Few of the detections of mergers have been carried out by another detector VIRGO.

India-based Observatory

Neutrino

Why in news?

- The **India-based Neutrino Observatory (INO)** Project is a multi-institutional effort aimed at building a world-class underground laboratory for studying the elementary particle called NEUTRINO at Pottipuram in Bodi West hills of Theni District of Tamil Nadu.

Construction of INO

- It is an entirely India made underground laboratory.
- It will be a 2 km underground tunnel with a unique underground laboratory.
- As cosmic rays pass through the shear rock ,most unwanted particles will get filtered out.
- The neutrinos will pass through the tunnel and enter the INO caverns which houses the neutrino detectors called the iron calorimeter (ICAL).
- ICAL will be a massive sandwich of magnetised iron stack of 50*15*15 m ,rising as high as a 5 storey building underground.
- It will hold the largest magnet in the world at 50 kilotons and 1.3 tesla.
- The neutrino particle may be miniscule but its detection requires mammoth implementation.

Goal of INO

- Initially it aims at studying the neutrinos.
- Details in terms of neutrino masses and other elemental parameters are yet to be

Officers IAS Academy, Chennai deciphered which The ICAL detector will address in a unique way.

- It is expected to become a full-fledged underground science laboratory for other studies in physics, biology, geology, hydrology etc.

What is a Neutrino?

- Neutrinos are the smallest particles that form the universe which was discovered during 1930's following beta decay.
- They are fundamental particles belonging to the lepton family.
- In addition to the elementary particles of an atom like protons, neutrons, electrons, Neutrinos also form a part of the fundamental particle.
- They are very small microscopic particles like the electrons (in size), but unlike electrons neutrinos carry no charge ,almost no mass and hardly interact at all with the human environment in any negative way.
- Almost a trillion neutrons emitted by the sun pass us, which cannot be seen or felt. This is why they have the name as ghost particles(of friendly kind)
- If there are no neutrinos the mechanism for the sun to produce light and heat will simply stop and life won't exist.

Agencies in-charge of the project

- The observatory will be built jointly with the Department of Atomic Energy and the Department of Science and Technology.
- The Tata Institute of Fundamental Research is the nodal institution.
- It also brings together the largest collaboration in indian science so far involving around 26 leading science institutions.

Speciality of its location in South

- With its locational proximity to the Equator it will permit neutrino searches emitted by the sun ,easy.

Benefits of the project

- Not only will this project reap benefits to India and Tamil nadu's local economy development but also enhance values in the world science.
- It will bring high technology to India and will help india aquire a front row seat in the global high energy physics
- Indian students will greatly benefit from this.

Neutrino laboratory facility around the world

- Underground: SNO, Canada, Kamioka in Japan and Gran Sasso, Italy.
- Underwater: Amundsen-Scott South Pole Station, Antarctica. Antares - under

Mediterranean sea off coast of Toulon, France.

Redefining Kilogram

Why in news?

- The kilogram is to be redefined in terms of Planck's constant, a central feature of quantum mechanics.
- Representatives from 57 countries will vote on the proposed change at a conference in Versailles, France, and the new rules are expected to pass.
- Along with the kilogram, the ampere (the unit of electric current), kelvin (temperature) and mole (amount of a substance) will get new definitions.
- The new definitions of the kilogram, the ampere, kelvin and the mole based on Planck's constant, the elementary charge, the Boltzmann constant and the Avogadro constant, respectively.

About the reference kilogram weight

- A kg is 1,000 grams. 2.20462 pounds Or 0.0685 slugs based on the old Imperial gravitational system.
- The official object that defines the mass of a kilogram is a tiny, 139-year-old cylinder of platinum and iridium that resides in a triple-locked vault near Paris.
- It is against which the weight of the substances around the world are measured.
- The Système International or SI system of units, which includes the Big K, is a milestone in human cooperation.

Definitions

- Scientists had redefined meter in relation to the second and another natural constant, the speed of light in a vacuum (c), which has been calculated as 299,792,458 metres per second. So one metre is now the length travelled by light in $1/c$ seconds.
- The new definition of the kilogram uses a measurement from another fixed value from nature, Planck's constant (h), which will be defined as $6.62607015 \times 10^{-34}$ joule seconds.
- Planck's constant can be found by dividing the electromagnetic frequency of a particle of light or "photon" by the amount of energy it carries which is usually measured in joule seconds but this can also be expressed as kilogram square metres per second.

What are the advantages attached?

- So by adding these measurements, along with an exact knowledge of Planck's

Officers IAS Academy, Chennai constant, we can get a new, very precise definition of the kilogram.

The SI system of units

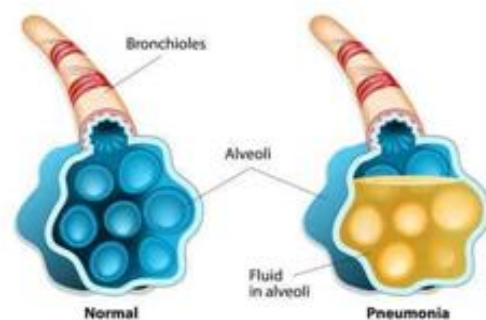
- The International **System of Units (SI)** is a scientific method of expressing the magnitudes or quantities of seven important natural phenomena.

SI Units

Quantity	Name of Unit	Abbreviation
Length	meter	m
Mass	kilogram	kg
Temperature	kelvin	K
Time	second	s
Amount of Substance	mole	mol
Electric current	ampere	A
Luminous intensity	candela	cd

Pneumonia

PNEUMONIA



Why in news?

- India continues to have the highest burden of pneumonia and diarrhoea child deaths in the world according to the 'Pneumonia and Diarrhoea Progress Report' on 15 countries by the International Vaccine Access Centre (IVAC) at the Johns Hopkins Bloomberg School of Public Health
- The report has been released ahead of the 10th World Pneumonia Day on November 12.

Findings of the report

- Health systems are falling woefully short of ensuring the most vulnerable children have access to prevention and treatment services.
- "Prescribing Clean Air", a new World Health Organisation report, says that 98% of children under the age of five from

countries such as India are exposed to toxic air.

- Acute Respiratory Infections which are the leading cause of death among children under five, and claiming the lives of approximately 2,400 children a day has victims who are less than two years old.
- A report by Save the Children (“Fighting for Breath”) showed that pneumonia kills two children in this age group every minute more than malaria, diarrhoea and measles combined.
- The report analyses how effectively countries are delivering 10 key interventions — breastfeeding, vaccination, access to care, use of antibiotics, oral rehydration solution (ORS) and zinc supplementation to protect against, prevent, and treat.

Way forward

- Increasing coverage of Haemophilus Influenza Type B (Hib) vaccine, as well as rotavirus vaccines, first introduced in mid-2016, led to a bump in interventions since last year’s report.
- Introduced in 2017, the Pneumococcal Conjugate Vaccine has been inducted in only six States to date. Further scale-up of the vaccine to all States should be considered.
- For countries with high levels of toxicity in the air, delivering on the pledge of the UN’s Sustainable Development Goals (SDGs) will require an unrelenting focus on the most disadvantaged children. Children born into poverty, and also those living in the hardest-to-reach places, and facing discrimination are the ones who face the greatest risks
- It is a well-known that exclusive breastfeeding in the first six months acts as an effective vaccine and continued breastfeeding with the gradual introduction of complementary food is another risk-reducer.

What is pneumonia?

- Pneumonia is an illness of the lungs and respiratory system in which the alveoli (air-filled sacs of the lung responsible for absorbing oxygen from the atmosphere) become inflamed and flooded with fluid resulting from the infection with bacteria, viruses, fungi, or parasites
- It can also occur from chemical or physical injury to the lungs, or indirectly due to another medical illness, such as lung cancer or alcohol abuse

- The symptoms include cough, chest pain, fever, and difficulty breathing and can be diagnosed using x-rays and examination of the sputum.

Causes

- Air pollution is a major risk factor for pneumonia. The sources of pollution vary across and within countries. Outdoor air pollution, which is associated with emissions from factories, the burning of rubbish and coal, and traffic, is a growing concern.
- Children living in urban slum environments often face high levels of exposure to these sources of pollution. Indoor air pollution is a major contributor of respiratory infection in many high-burden pneumonia countries, where the burning of biomass for cooking, heating and lighting are the common sources of pollution.

SpiNNaker

Why in News?

- The world’s largest supercomputer designed to work in a way similar to that of the human brain has been switched on for the first time.

About the Supercomputer

- The supercomputer has a Spiking Neural Network Architecture machine which is capable of completing more than 200 million million actions per second, with each of its chips having 100 million transistors.
- It is named **SpiNNaker**.
- It has been built at the University of Manchester in the U.K.
- It can model more biological neurons. Biological neurons are basic brain cells present in the nervous system that communicate by emitting ‘spikes’ of pure electro-chemical energy.
- It is unique as it mimics the massively parallel communication architecture of the brain, sending billions of small amounts of information simultaneously to thousands of different destinations.

How does a personal computer differ from a supercomputer?

Personal Computer

- A personal computer is a computer that can perform all of its input, processing, output, and storage activities by itself.
- Two popular architectures of personal computers are the PC and the Apple.
- PC refers to any personal computer based on the original IBM personal computer

design. Example, Dell and Toshiba that usually use a Windows operating system.

- Apple computers usually use a Macintosh operating system (Mac OS).

Supercomputer

- A supercomputer is the fastest, powerful and the most expensive computer.
- The fastest supercomputers are capable of processing more than one quadrillion instructions in a single second.
- Applications requiring complex, sophisticated mathematical calculations use super computers.
- Large-scale simulations and applications in medicine, aerospace, automotive design, online banking, weather forecasting, nuclear energy research, and petroleum exploration use a supercomputer.

ExseedSAT-1

Why in News?

- ExseedSAT-1, a box-like tiny satellite made within the country, claims to be the next first satellite to be built and sent to space by a private sector Indian entity.
- It recently shared a ride with over 70 small international satellites on U.S. company SpaceX's Falcon-9 vehicle.
- They will be launched into a low-Earth polar orbit.
- At a time when many small U.S. satellites are lining up for a launch on the Indian PSLV, ExseedSAT-1 will be the first non-ISRO satellite to go to orbit on a U.S. rocket, after decades.

About ExseedSAT-1

- The product is a year-old start-up
- It is a 1-kg CubeSat that will support amateur radio (HAM) operators for five years.
- The satellite measuring 10cmx10cmx10cm was put together at Exseed's laboratory in Hyderabad
- Kris Nair is the CEO and the co-founder along with Ashhar Farhan.
- It forms a part of the consortium of small companies led by Alpha Design Technologies Pvt. Ltd

Way forward to the start up

- The start-up would be involved in the assembly, integration and testing of medium to large communication satellites for the Indian Space Research Organisation.
- The start-up is looking at global contracts to build small to bigger satellites.

Bhuvan Ganga geo-portal & Mobile App

Why in News?

- National Mission for Clean Ganga (NMCG) organized a brainstorming session on World GIS Day 2018 with the theme 'G-Governance of Namami Gange programme through Geospatial Technology'.
- NMGC has developed Bhuvan Ganga in the use of geospatial technology geo-portal and Bhuvan Ganga Mobile App in collaboration with ISRO's National Remote Sensing Centre Survey of India has been developed along with the IIT Kanpur.
- It uses drones to capture 360 degree view of Kumbh Mela area or to identify pollution sources using Corona Archival imagery
- Another project under execution is on 'Generation of Digital Elevation Model/Digital Terrain Model using suitable sensors on airborne platform for a corridor along the main stem of River Ganga' by Survey of India.

What is the objective?

- To share the knowledge on use and application of geospatial technology for monitoring and management of various activities being undertaken under Namami Gange Programme
- To provide feedback on the current use of this technology with reference to Ganga Basin.
- the use of Drones and vehicles with cameras have captured 360 degree panoramic views of the Kumbh Mela areas, which have also helped in identifying polluted Nalas joining the river Ganga
- NMCG has also collaborated with Survey of India to facilitate the Ganga rejuvenation task by using Geographic Information System (GIS) technology for mapping the Ganga basin in high resolution.

What is geospatial technology?

- Geospatial technology is used to acquire, manipulate, and store geographic information.
- GIS is a form of geospatial technology.
- Other examples of geospatial technology are GPS, remote sensing, and geofencing.

What is the Namami Gange programme?

- It is an Integrated Conservation Mission, approved as 'Flagship Programme' by the Union Government to accomplish the twin objectives of effective abatement of pollution, conservation and rejuvenation of National River Ganga.

About the Bhuvan Ganga Geoportal

- It is available for water quality monitoring, hydrological monitoring, geomorphological monitoring, bio-resources monitoring, and comprehensive geospatial database.

About Bhuvan Ganga mobile application

- It is a user-friendly application to enable user/public to collect and report information on various pollution sources that affect water quality of River Ganga like urban sewage, semi-urban/rural sewage, natural drains/nallas, industrial waste water, solid waste disposal or any other pollution source.

Officers IAS Academy, Chennai

- The application is available for download from the Bhuvan Ganga web portal as well as Google Play store.
- This will provide valuable information for not only making urban river plans, but also for identifying the baseline of river flood plains and regulating them for their restoration and preservation.

What is Corona Archival imagery?

- Corona imagery has a high derivative mapping that consists of the bare earth model, contour, ortho-photos and also a mapping from the sources outlet to the public drainage network, crematoria, Ghats, solid waste disposal sites, Sewage and effluent Treatment Plants etc.

Defence and Security

IONS Anniversary

What is IONS?

- The Indian Ocean Naval Symposium (IONS) is an important **regional maritime security initiative** launched by India in **February 2008**. It meant to have a collectively beneficial maritime security outcomes within the Indian Ocean and provide an open and inclusive forum to discuss regional maritime issues.
- IONS aim to generate a flow of information among naval professionals which results in understanding and developing agreements in the view to tackle common concerns.
- The outcomes of the discussions could thereafter be implemented through agreements to enhance of regional maritime security.

Why in News?

- The 10th anniversary celebrations of the Indian Ocean Naval Symposium (IONS) started with release of the 'Special Cover' by the Chief of Naval Staff, Admiral Sunil Lanba, PVSM, AVSM, ADC on 13 Nov 18 at **Lulu International Convention Centre, Kochi**.
- Chiefs of Navies of Bangladesh, Iran, Japan, Madagascar, Maldives, Mauritius, Mozambique, and Netherlands, South Africa and the UAE as well as senior delegates from 16 other IONS member nations are attending the IONS anniversary celebrations.

INDRA 2018

Why in News?

- INDRA military exercise (IND- India & RA-Russia) is a bi-annual military exercise among both the nations since 2003. This time they are commencing in Uttar Pradesh from 18 Nov 2018 under the aegis of UN.

- The aim of the exercise is to practice joint planning and conduct to enhance interoperability of the two Armies in the peacekeeping/ enforcement environment under the aegis of the UN.
- The major focus of field exercise is to share best practices among both the militaries and acquire skills to enforce peace keeping. The topics chosen for the exercise are both live and contemporary affecting both the nation alike.

DHARMA GUARDIAN - 2018

Why in News?

- After naval exercises, India and Japan had their first land-based joint military exercise between Indian Army (6/1 Gorkha Rifles) and Japan's Ground Self-Defence Force (GSDF) in Mizoram which concluded on 15 Nov.
- The primary focus of the exercise was to train and equip the contingents to undertake joint counter-insurgency and counter-terrorist operations in urban and semi urban terrain and it also involved training on handling of improvised explosive devices.
- The exercise represents the continuing expansion of the military-to-military relationship between New Delhi and Tokyo.

SIMBEX exercise

About Singapore

- The country of Singapore consists of one main island (small and extensively urbanized) present extreme south of Malay peninsula, as well as consist over 60 small islands (islets).

- The highest point of Singapore is **Bukit Timah** at only 545 ft. (166 m). **Johor strait** separates Singapore and Malaysia and Singapore Strait separates Singapore and Indonesia.

SIMBEX naval exercise

- It was started in 1994 as anti-submarine warfare exercise, today it has become a gesture of trust and cooperation. The two countries are strategic partners and Act East policy also extends mutual logistical support and gives India access to the Changi naval base.

Officers IAS Academy, Chennai

- SIMBEX-2018 was the 25th naval exercise and was the largest of all the previous exercises, which undertook in extended geography i.e, in Andaman Sea and Bay of Bengal.
- 7 Ships from Indian side and 5 ships from Singapore side participated in the exercise which had 4 phases. Harbour phase I was conducted in Port Blair, Sea phase in Andaman Sea, Harbour Phase II in Visakhapatnam (cultural activities, 10km friendship run) and last sea phase in Bay of Bengal.

Environment

INSPIRE 2018

Why in news?

- International Symposium to Promote Innovation & Research in Energy Efficiency (INSPIRE 2018) event was inaugurated by Ministry of Power.
- This is the second edition of INSPIRE and is being organised by Energy Efficiency Services Limited (EESL) and World Bank.
- The award for #InnovateToINSPIRE challenge organized by EESL and World resources Institute (WRI) was also given during the event.

More on the event:

- The three-day symposium focussed on enhancing grid management, e-Mobility, financial instruments and technologies for energy efficiency in India.
- The challenge invited participants to submit sustainable and scalable solutions to seven specific challenges spanning grid management, e-Mobility, energy efficient technologies and financial instruments.
- To support investments in new, innovative and scalable business models, EESL and Asian Development Bank (ADB) signed an agreement for a Global Environment Facility (GEF) grant of USD 13 million to establish an Energy Efficiency Revolving Fund (EERF).
- EERF aims to expand and sustain investments in the energy efficiency market in India, build market diversification, and scale up existing technologies.

About EESL (Energy Efficiency Service Limited):

- Energy Efficiency Services Limited (EESL), under the administration of Ministry of Power, Government of India, is working towards mainstreaming energy efficiency and is implementing the world's largest energy efficiency portfolio in the country.
- EESL aims to create market access for efficient and future-ready transformative solutions that create a win-win situation for every stakeholder.
- By 2020, EESL seeks to be a US\$ 1.5 billion (INR 10,000 crore) company

About World Resource Institute (WRI):

- The World Resources Institute is a global research non-profit organization located on US.
- The organization's mission is to promote environmental sustainability, economic

opportunity, and human health and well-being.

Tackling stubble burners

Why in news?

- National Green Tribunal(NGT) summoned the Chief Secretaries of Delhi, Punjab, Haryana and UP regarding increasing air pollution in UP.
- During the hearing NGT suggested that incentives should be given to those who do not burn stubble.
- And it also suggested that MSP must be wholly or partially denied to those who continue to burn the crop residue.

What is stubble burning?

- Stubble burning is the deliberate setting fire of the straw stubble that remains after wheat and other grains have been harvested.

National Green Tribunal:

- The NGT was established in 2010 under the National Green Tribunal Act 2010, passed by the Central Government.
- The stated objective of the Central Government was to provide a specialized forum for effective and speedy disposal of cases pertaining to environment protection.
- The Chairperson of the NGT is a retired Judge of the Supreme Court, Headquarters is in Delhi. Other Judicial members are retired Judges of High Courts.
- Each bench of the NGT will comprise of at least one Judicial Member and one Expert Member.
- Expert members should have a professional qualification and a minimum of 15 years' experience in the field of environment/forest conservation and related subjects.

About MSP:

- Minimum Support Prices is the price at which government purchases crops from the farmers irrespective of the market price.
- The objective of the scheme is to check fall of prices of farm produce below certain level and thus support the farmers.
- Government fixes MSP of various kharif and rabi crops every year on the recommendations of Commission for Agricultural Costs & Prices (CACP).
- MSP is announced for 25 crops.

Avni issue

Introduction:

- Recently a tigress called Avni was killed in Maharashtra, arousing various controversies around the country.
- Of the 13 people killed in tiger attacks in the forest in over two years, at least five deaths were attributed to Avni making it come under the man eater category.

What is a man-eater?

- Man-eater is a colloquial term for an individual animal that **preys on humans as a pattern of hunting behaviour**.
- This does not include the scavenging of corpses, a single attack born of opportunity or desperate hunger, or self-defence killing by the animal.
- Most reported cases of man-eaters have involved lions, tigers, leopards and crocodiles.
- However, they are by no means the only predators that will attack humans if given the chance; a wide variety of species have also been known to adopt humans as usual prey, including bears, Komodo dragons and hyenas.

When does an animal turn to be a man eater:

- Loss of habitat and prey.
- Due to old age and disease where in its no longer able to hunt.

Legal provision on man-eater:

- Tigers are protected under the Schedule 1 of the Wildlife Protection Act, 1972 by which hunting the animal has highest penalty.
- However, when the animal poses a threat to human life or disabled or diseased beyond recovery it may be killed after getting permission from the concerned authority under the Wildlife Protection Act, 1972.
- The guidelines state that the chief wildlife warden of a state alone has a permission to permit hunting under the above conditions.

Wildlife Protection Act, 1972:

- The act provides for the protection of wild animals, birds and plants.
- Extends to the whole of India, except the State of Jammu and Kashmir.
- It has six schedules which give varying degrees of protection.
- Species listed in Schedule I and part II of Schedule II get absolute protection — offences under these are prescribed the highest penalties.

- Species listed in Schedule III and Schedule IV is also protected, but the penalties are much lower.
- Schedule V includes the animals which may be hunted.
- The plants in Schedule VI are prohibited from cultivation and planting.

Climate risk from rise in AC units

Why in news?

- As per a report written by the Rocky Mountain Institute, by 2022 India is expected to have a fourth of the world's air conditioning units, and the risks to climate from this could be immense.

Causes of concern:

- The refrigerants used for cooling are the major contributors to global warming, and if left unchecked, they could cause global temperatures to rise by 0.5 degrees Celsius.
- Under a business-as-usual growth trajectory, about 4.5 billion room air-conditioners are estimated to be installed by 2050, a nearly four-fold jump from today's installed base, with emerging economies observing a five-fold increase.

About HFC:

- Hydrofluorocarbons are organic compounds containing hydrogen, Carbon, and fluorine.
- They are commonly used as substitutes for Ozone depleting substances like Chlorofluorocarbons (CFCs) and are used in refrigerators and air-conditioners.
- However, they substantially worsen global warming.

Kigali Agreement:

- Kigali agreement is an amendment to Montreal Protocol.
- As per the agreement, these countries are expected to reduce the manufacture and use of Hydrofluorocarbons (HFCs) by roughly 80-85% from their respective baselines, till 2045.
- This phase down is expected to arrest the global average temperature rise up to 0.5o C by 2100.
- It is a legally binding agreement between the signatory parties with non-compliance measures.
- It will come into effect from 1st January 2019 provided it is ratified by at least 20 member parties by then.

Montreal Protocol:

- The Montreal Protocol is a most effective international environmental treaty to

phase out the Ozone Depleting Substances (ODSs) from the atmosphere.

- It came into force in 1989.
- It has 197 member parties to the protocol and become a first international treaty with complete ratification.
- It has successfully curbed the 98% production of chlorofluorocarbons and other ODSs and significantly contributed to the repair of the ozone hole.

Cyclone Gaja

Why in news?

- A deep depression in the Bay of Bengal has intensified into a cyclonic storm and is set to make landfall between Cuddalore and Pamban on bringing heavy rainfall to Tamil Nadu.
- The state governments of Tamil Nadu and Puducherry have put in several emergency measures to reduce the impact of cyclone Gaja that lay over southwest and adjoining southeast and west central Bay of Bengal.
- The cyclone is very likely to cross coast with a wind speed gusting upto 100 kmph.

About tropical cyclone:

- Tropical cyclones are violent storms that originate over oceans in **tropical areas** and move over to the coastal areas bringing about large scale destruction due to violent winds, very heavy rainfall (torrential rainfall) and **storm surge**.
- They are irregular wind movements involving **closed circulation** of air around a low pressure centre.
- This closed air circulation is a result of **rapid upward movement of hot air** which is subjected to Coriolis force.
- The low pressure at the centre is responsible for the wind speeds.

Conditions Favourable for Tropical Cyclone Formation:

- Large sea surface with temperature higher than 27° C.
- Presence of the Coriolis force enough to create a cyclonic vortex,
- Small variations in the vertical wind speed.
- A pre-existing weak low-pressure area or low-level-cyclonic circulation.
- Upper divergence above the sea level system.

How cyclones are named:

- The present cyclone name Gaja is named by Thailand which means elephant.
- The process of naming cyclones is done under the supervision of the World Meteorological Organisation.

- For the area in and around Indian Ocean, the talks over naming cyclones started in 2000 and in 2004, a formula was agreed upon.
- Eight nations in South and South-East Asia, namely, Bangladesh, India, Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand have come up with their respective sets of names that are assigned to the cyclone storm in a sequence.
- The naming helps the weather forecaster and general people for an easy communication.

Draft Indian Wind Turbine Certification Scheme (IWTCS)

Why in news?

- Ministry of New and Renewable Energy, in consultation with National Institute of Wind Energy Chennai, has prepared a draft of new Scheme called Indian Wind Turbine Certification Scheme (IWTCS) incorporating various guidelines.

More on the guidelines:

- The guidelines include standard of national and international standards.
- Various best practices from various countries are going to be adopted.
- The Ministry of New and Renewable Energy (MNRE), Government of India through various policies and schemes has facilitated the healthy and orderly growth of the wind energy sector.
- The guideline for the recognition of the certification schemes in India by MNRE was paramount for the success of quality wind turbines installed in India.

100% renewable energy in Andaman, Nicobar & Lakshadweep

Why in news?

- Minister of Power New and Renewable Energy in the event of Know India Programme said, we are aiming for 100 per cent renewable energy in Andaman & Nicobar and Lakshadweep and India is ready to share expertise among other small island Nations.

About Know India Program:

- Know India Programme is a flagship programme of Ministry of External Affairs for engagement with Indian origin youth (between 18-30 years) to enhance their awareness about India, its cultural

heritage, art and to familiarize them with various aspects of contemporary India.

- The programme has been in existence since 2003.

Highlights of the event:

- During their interaction with the officials of the Ministry of Power and MNRE, the delegates were exposed to various dimensions of India's power and renewable energy sectors.
- They were informed that as a responsible Nation India has committed to increase share of non-fossil fuel based electric power generation upto 40 per cent by 2030.
- India has already achieve over 33 per cent share of non-fossil fuels in the electric installed capacity and is likely to achieve this target much ahead of the deadline.
- Focused approach and ambitious aims will make India a world leader in the field of renewable energy.

Volkswagen Controversy

Why in news?

- The National Green Tribunal (NGT) directed the auto major Volkswagen to deposit an interim amount of Rs. 100 crore with the Central Pollution Control Board (CPCB).
- The direction was given following a plea that alleged that the company used "cheat devices" in emission tests in its diesel vehicles that must have caused environmental damage.

About NGT:

- National Green Tribunal Act, 2010 is an Act of the Parliament of India which enables creation of a special tribunal to handle the expeditious disposal of the cases pertaining to environmental issues.
- The Chairperson of the NGT is a retired Judge of the Supreme Court, Head quartered in Delhi. Other Judicial members are retired Judges of High Courts.
- Each bench of the NGT will comprise of at least one Judicial Member and one Expert Member.
- Expert members should have a professional qualification and a minimum of 15 years' experience in the field of environment/forest conservation and related subjects.
- Orders can be appealed to the Supreme Court within 90 days.

Saving Sangai deer

Why in news?

- With an aim to spread awareness about the importance of protecting 'Sangai', a brow antlered deer endemic to Manipur, a local cyclist embarked on a State-wide bicycle tour.
- There are less than 260 deer in its natural habitat, the 40 sq. km. Keibul Lamjao national park.

About Sangai deer:

- The sangai is an endemic and endangered subspecies of brow-antlered deer found only in Manipur, India. It is also the state animal of Manipur.
- Its original natural habitat is the floating marshy grasslands of the Keibul Lamjao National Park, located in the southern parts of the Loktak Lake, which is the largest freshwater lake in eastern India.



EIA

Why in news?

- Some of the residents of Uttarakhand have moved to SC against NGT verdict of permitting huge villas that could cause ecological damages.
- It is alleged that these projects did not do environment impact assessment.

About Nainital:

- It is a popular hill station in the Indian state of Uttarakhand and headquarters of Nainital district in the Kumaon foothills of the outer Himalayas.
- It is the home of the Indian leopards.

About Environment Impact Assessment:

- Environmental Impact Assessment (EIA) is a tool that links the environment with developmental activities.
- It is an assessment of the impact of social development on environmental health. It is a participatory tool for informed decision making.
- It ensures that the development of a project is environmentally sound and sustainable.
- The Ministry of Environment and Forest under the Environmental Protection Act of 1986, initiated the Environmental Impact Assessment (EIA) in 1994.
- It was reengineered in 2006

Culture

Tipu Jayanthi

About Tipu Jayanthi:

- The tradition of celebrating Tipu Jayanti on November 10 of every year.
- The day is celebrated to mark the birth anniversary of Tipu Sultan, the 18th-century ruler of the princely state of Mysuru.

About Tipu Sultan:

- Tipu was the son of Haider Ali, a professional soldier who climbed the ranks in the army of the Wodeyar king of Mysore, and ultimately took power in 1761.
- He was born in 1750 and, as a 17-year-old, fought in the first Anglo-Mysore War (1767-69) and subsequently, against the Marathas and in the Second Anglo-Mysore War (1780-84). Haider died while this war was on, and Tipu succeeded him in 1782.
- Tipu a man of imagination and courage, a brilliant military strategist who, in a short reign of 17 years, mounted the most serious challenge the Company faced in India.
- Tipu reorganised his army along European lines, using new technology, including what is considered the first war rocket.
- He devised a land revenue system based on detailed surveys and classification, in which the tax was imposed directly on the peasant, and collected through salaried agents in cash, widening the state's resource base.
- He was killed defending his capital Srirangapatnam in the Fourth Anglo-Mysore War.

Why in news?

- Always when Tipu Jayanthi comes up there are controversy about his legacy.
- While one group sees him as a great national warrior the right wing claims that he was destroyer of Hindu temples and propagated Islam and hence they are against celebration of Tipu Jayanthi.

Acharya JB Kripalani & Maulana Abul Kalam Azad

About JB Kripalani

- JB Kripalani was an Indian politician, noted particularly for holding the presidency of the Indian National Congress during the transfer of power in 1947.

- He was a Gandhian socialist, environmentalist, mystic and independence activist.
- He worked on the ideology of social reforms and principles of education that Gandhi promoted in his various ashrams;
- He actively took part in the Salt Satyagraha, Civil Disobedience Movement and Quit India Movement, for which he was arrested and imprisoned a multitude times.
- In 1972, he voiced against Indira Gandhi's authoritarian rule, stating that her governance had transformed from being democratic to dictatorial.
- He raised non-violent protests against her government throughout the country and even launched a civil disobedience movement against Gandhi's government.
- Due to this, he was duly arrested and imprisoned upon the proclamation of Emergency on June 26, 1975.

About Maulana Abul Kalam Azad

- Maulana Azad was a Indian Scholar and Muslim Leader of Indian National Congress during Indian Independence Movement.
- Post Indian Independence, he became the First Minister of Education in Indian Government

Contribution of Maulana Azad

- Maulana Azad was a Prominent Leader in Khilafat Movement in which he came in close contact with National Leaders such as Mahatma Gandhi, Vallabh Bhai Patel and Jawahar Lal Nehru.
- In 1912, Maulana Abul Kalam Azad started a weekly journal in Urdu called Al-Hilal to increase the revolutionary recruits amongst the Muslims.
- Maulana Abul Kalam Azad started another weekly called Al-Balagh with the same mission of propagating Indian nationalism and revolutionary ideas based on Hindu-Muslim unity.
- Maulana Azad was a great Supporter of Gandhiji's Principles of Swadeshi, Nonviolence and Truth.
- Maulana Abul Kalam Azad became the president of Congress in 1940 (Ramgarh) and remained in the post till 1946.
- Maulana criticised Jinnah over Two Nation Theory and believed that Hindu and Muslims can co-exist in Independent India.
- Even Though Gandhi Ji and Congress accepted the Partition, Maulana was a Sole Opposition for Partition and tried hard to

mediate between Congress and Muslim League.

- Indian council for cultural relations was founded in 1950 by Maulana Abul Kalam Azad.

Apatani tribe

About Apatani tribe

- The Apatani's are a tribal group of people living in the Ziro valley in the Lower Subansiri district of Arunachal Pradesh in India.
- Their wet rice cultivation system and their agriculture system are extensive even without the use of any farm animals or machines.
- UNESCO has tentatively added the Apatani cultural landscape as a World Heritage Site for its "extremely high productivity" and "unique" way of preserving the ecology.
- They have two major festivals - Dree and Myoko.
- Dree is agricultural festival celebrated with prayers for a bumper harvest and prosperity of all humankind.
- Myoko is a festival to celebrate friendship it is celebrated for almost a month long, from the end of March to the end of April.

Indian war memorial in France

Why in news?

- The Vice President of India, Shri M. Venkaiah Naidu inaugurated the First World War Memorial constructed by the Government of India at the town of Villers Guislain in France today.
- This memorial will highlight the contribution of the Indian soldiers to the freedom of France in the World War -1.

About Indian participation in WW-1

- During WW-I, India was under British rule. British government declared India's participation without Indian leaders' concurrence.
- India contributed more than 1.5 million troops, of which 1.3 million fought overseas across all theatres and, approximately, 72,000 were killed.
- India also supplied animals, food materials, medicines and lot of money.
- In World War I the Indian Army fought against the German Empire in German East Africa and on the Western Front.
- World over Praising Indian army: The immense sacrifice and contributions of millions of Indian soldiers being

Officers IAS Academy, Chennai recognized and memorial built all over world.

1918 Armistice

Why in news?

- Around 70 leaders, including U.S. and Russian Presidents Donald Trump and Vladimir Putin, marked the centenary of the 1918 Armistice in the French capital at 11 a.m. local time

What is the 1918 Armistice?

- The Armistice of 11 November 1918 was the armistice that ended fighting on land, sea and air in World War I between the Allies and their opponent, Germany
- Also known as the Armistice of Compiègne from the place where it was signed, it came into force at 11 a.m. Paris time on 11 November 1918 ("the eleventh hour of the eleventh day of the eleventh month")
- It marked the victory for the Allies and a defeat for Germany, although not formally a surrender.

What is an armistice?

- An armistice is a formal agreement of warring parties to stop fighting.
- It is not necessarily the end of a war, since it may constitute only a cessation of hostilities while an attempt is made to negotiate a lasting peace

Chhath Pooja

Why in news?

- The President greeted the nation on the occasion of Chhath Pooja

About Chhath Pooja

- Chhath Pooja is one of the oldest festivals of our country wherein devotees worship the Sun God.
- The festival is native to the Indian subcontinent, more specifically, the Indian states of Bihar, Jharkhand, and Uttar Pradesh as well as the Madhesh region of Nepal.
- It is celebrated on Kartika Shukla Shashthi, which is the sixth day of the month of Kartika in the Vikram Samvat.
- People pay respect towards our rivers, lakes and ponds, which are nature's gifts to mankind.
- Chhath does not involve any idol worship.
- It is considered as one of the most eco-friendly festivals.

Burial urn of Megalithic era

Why in news?

- A huge burial urn dating back to the Megalithic era has been unearthed at Hydermettu, near Nedumkandam, Kerala.

About the burial urn

- The urn is said to be one of the largest unearthed from the region measuring 3 feet wide at its mouth.
- The art works on it, which indicate the cultural awareness of a society tells us that it could belong to the pre-historic period

Importance

- This finding in the hinterland of the yesteryears Muziris port is of valuable evidence of a culturally-oriented society.
- This new finding on the hill area bordering Tamilnadu is believed to indicate presence of settled life.

Previous findings

- A large number of burial urns have been unearthed in nearby areas however they were smaller and had no noticeable decorative works.
- The urns unearthed in that region have belonged to 1000 BC – 500 BC.
- Some of the urns had remains of iron weapons and pieces of bones.

Pandit Jawaharlal Nehru

Why in news?

- The Prime Minister paid tributes to the first Prime Minister of India Pandit Jawaharlal Nehru on his birth anniversary.

About Pandit Jawaharlal Nehru

- Pandit Jawaharlal Nehru is India's first and longest serving Prime Minister
- Nehru, fondly called Pandit Nehru, a reference to his Kashmiri Pandit community roots
- He was elected as the president of the Allahabad municipal corporation in 1920.

Officers IAS Academy, Chennai

- In 1929, he was elected as the president of the congress session where purna swaraj was declared.
- He was Mahatma Gandhi's chosen political heir
- He set up temples of modern learning and giant public sector industries that catered to the needs of a growing nation and its people.
- His efforts to create a scientific temper can be seen from his zeal to establish higher centres of learning.
- Credit for India being a vibrant democracy, an industrial powerhouse, a knowledge partner, a globally respected military power and a technology and space innovator, should go to Nehru
- His birthday on November 14 is celebrated as Children's Day.
- He charted a Non-Aligned course for the country based on the policy of Panchsheel.
- He signed the Panchsheel Agreement between China and India that was to serve as the five guiding principles of the relationship between these two sovereign nation

Stan Lee

Why in news?

- Popular author Stan Lee passed away.

About Stan Lee

- Stan Lee was an American comic book author.
- He co-created numerous popular fictional characters, including superheroes Spider-Man, the X-Men, Iron Man, Thor, the Hulk, the Fantastic Four, Black Panther, Daredevil, Doctor Strange, and Ant-Man.
- He was awarded the American National Medal of the Arts.

Miscellaneous

Tower of 'Mother Cauvery'

Why in news?

- The Karnataka government has announced a proposal to build a 38.1-metre (125 ft) tower of 'Mother Cauvery' at the Krishnaraja Sagar (KRS) reservoir in Mandya.

About the proposed tower

- The estimated cost of the project is Rs. 1,200 crore
- It will be constructed under the PPP model.
- The project comprises of a museum complex, two glass towers providing a bird's eye view of the KRS reservoir, a

bandstand, and replicas of historical monuments

- The project is expected to boost tourism in the Mysuru region

Apple bowl of Kashmir

Why in news?

- Kashmir witnessed untimely heavy snowfall leading to destruction of apples ready for harvest.

About apple bowl of Kashmir

- Shopian is known as the apple bowl of Kashmir.
- Kashmir is the prime source of total apple production in India.

News in-depth

General Studies-1

Setting a proper diet plan

Introduction:

- Despite being one of the fastest growing economies in the world, India has been ranked at 103 out of 119 countries, with hunger levels categorised as “serious”, in the Global Hunger Index 2018.
- Strikingly, in July, three girls died of starvation resulting from prolonged malnutrition in the national capital Delhi, which has a high per capita income.
- Growing prosperity has hardly made any significant change in chronic malnutrition of children.
- Faster economic growth has enormous benefits, but it is by no means sufficient if millions of children remain undernourished.
- It not only impacts early childhood health and imposes disease burden but also affects education, wages and productivity when they grow up, which will impact India’s growth

Data evidence from the National Family Health Service:

- As per the National Family Health Survey-2016, the proportion of stunted (low height for age) children under five is significantly higher (38.4%) than global (22.9%) averages.
- The underweight (low weight for age) children rate (35.7%) is a lot higher than the global average (13.5%).
- India is home to over 53.3 million stunted, 49.6 million underweight and 29.2 million wasted (low weight for height) children under five.

Major challenges:

- One problem lies with **the current thinking of growth-oriented development.**
- No doubt, the low income and Empowered-Action-Group (EAG) States face major challenges to improve malnutrition, but, two EAG States, Chhattisgarh and Odisha, have performed better on this front compared to Gujarat and Maharashtra where per capita income is almost double.

- The development path prevalent in Gujarat is more about growth and investment, which, however, has not been able to translate as better nutritional status in the State.
- Odisha, which is a low income State, has a better network of Integrated Child Development Services (ICDS), public health facility/workforce per lakh population and educational attainment among women, which have translated into a better nutritional status when compared with Gujarat.
- Further, tribal, rural, poor and illiterate mothers’ children are badly off in so-called developed States of Haryana, Gujarat and Punjab.
- These groups are also affected in poorer States of U.P., Bihar, Jharkhand and Madhya Pradesh.
- Around two-thirds of stunted/underweight children are from 200 districts of both less developed and developed States.

Agriculture vs hunger:

- Another prominent idea is the need to link agriculture and nutrition, as agriculture provides answers to most nutrition problems.
- The estimates, show **malnutrition continues to be high in agricultural surplus States like Haryana than Odisha.**
- Recently, Madhya Pradesh has registered double-digit growth in food grain production making it one of the wheat granaries of India, but acute malnutrition is still critical in most of its districts with a high proportion of underweight (42.8%) and stunted children (41.9%).
- **The contradiction between agrarian plenty and malnutrition, lies in diversified food.** With the increase in diversity in food intake, malnutrition status declines.
- Only 12% of children are likely to be stunted and underweight in areas where diversity in food intake is high, while around 50% children are stunted if they consume less than three food item.

- A majority of children across districts in Tamil Nadu consume a reasonably highly diversified food, leading to lower percentage of stunted/underweight children across districts.
- Children in a majority of districts in West Bengal, Odisha, Kerala and Karnataka consume mediocre level of food items and malnutrition is relatively lower than in Rajasthan, U.P., Jharkhand, M.P., Gujarat, Bihar and Haryana (children in many of their districts consume less diversified food).
- The diversified food intake is very low in a majority of Indian districts; just 28% of children consumed over five items of the total 19 food items.

The way forward:

- An inclusive and holistic approach, including controlling/regulating food

The gold standard for a Prime Minister (GA4)

- In a democracy, the person who leads the government (leader) should possess three virtues.

Three virtues of a leader

Service with humility

- The leader must be connected with the masses and at the same time should follow due process and to determine a nation's destiny.

Commitment to the institutions of state

- The two extremes of a leader are being a dictator or a puppet. He should follow due process of law and abide by institutional requirements and traditions.

Quality of the leader's legacy

- The leader should leave a legacy that even the future generations look up to and follow.

price, strengthening the public distribution system (PDS) and income support policies for making food cheaper are important steps.

- The ICDS was a high impact nutrition intervention, but its universal availability and quality are questionable due to poor functioning.
- The government must broaden the ICDS programme by ensuring diversity in food items in worst-hit districts.
- The launch of the National Nutrition Mission as a strategy to fight maternal and child malnutrition is a welcome step towards achieving the targets of underweight and stunted children under five years from 35.7% to 20.7% and from 38.4% to 25% respectively by 2022.

Two faces of a leader

Extrovert

- The leader has to be very active and has to be enthusiastic. He should connect with the masses regarding his policies and acts and also ensure that the officials are executing his policies.

Introvert

- This involves the drawing up of policy frameworks and doing the desk job. It involves going through files and making crucial decisions to ensure good governance.

The different qualities mentioned above were present in the former Prime Minister Jawaharlal Nehru. He is considered as one of the best Prime Ministers of India. His policies were futuristic and laid the foundations of a modern India and earned India its place in the global map.

General Studies-2

Selective histories/the usurpation of Free speech

Introduction:

- Time and again our country has witnessed many protest to exclude controversial history from the text books, movies and not to celebrate certain festivals.
- Largely these protest are led by the majoritarian against the minority.
- Worldwide this usurpation of free speech is now done not by the left wing, who were earlier considered authoritarian but largely by the right wing who call themselves as liberals and propagators of free speech.

Image management:

- So why is this being done? It is done largely to maintain the image of the liberal society and majoritarian that they are flawless.
- The display of opinion by the minority is seen as a threat by them.
- When the minorities are able to justify the other side of the same coin in form of movies and academic theories, the majority does not want the other perspective to be seen by the world.

A reality check on Cooperative Federalism

Introduction:

- Supreme Court in a verdict in 1974 commented that the Constitution makers envisaged cooperative federalism.
- Federalism has come a long way since then.

The evolution of Cooperative Federalism:

- Cooperative federalism, is a concept of federalism in which national, state, and local governments interact cooperatively and collectively to solve common problems.
- Taking the example of imposition of President rule under Article 356, federalism has become far more mature.
- Between 1947-1977 there were 44 instances when President rule was imposed.
- During Indira Gandhi period it was almost imposed 50 times.
- In 1994, in SR Bommai case, the Supreme court imposed a check on frequent use of Art 356.

- In the era of internet it is highly impossible and even unfair to restrict the different perspectives.

Oppression of minority opinion:

- JS Mill a renowned political scientist said "If all mankind minus one were of one opinion, mankind would no more be justified in silencing that one person, if he had the power would be justified in silencing.
- As the above saying goes the minority opinion should not be suppressed, because it is unjustified and one day it may take up the form of violent form. The unsaid opinion may give way to radicalism.
- SC has time and again stood strongly for the freedom of speech and expression. On banning of movies and books, SC remarked that government cannot ban a movie that got clearance from censor board.
- And on varied interpretation of history, it has emphasised authors' freedom of speech and expression unless done purposefully to arouse communal feeling.

Conclusion:

- In the globalised technical world where we are considering about giving artificial intelligence to machines, it is highly unfair if human beings are denied their freedom of speech and expression.
- Apart from this, Indian constitution itself has many features of Asymmetrical federalism like residuary power, Governor as the head of state, Centre's power to create or separate a state etc.
- Given this kind of constitutional framework a question arises on what kind of federalism can one expect from our country.
- The recent Delhi case is an example to it, whereby the people elected state legislative primacy was emphasised over Lt.Gov power.
- These kinds of cases bring out the difference between the Constitution's intention and the political reality.

Contentious terrain:

- Taxation powers are another contentious issue and the Central government has so far won most of the disputes due to the provisions in the Constitution that favour Central government.
- After GST, the issue of sharing of taxes is yet to see how cooperative federalism is going to be unfolded.

- Under Art 269 A the GST council and not the Finance Commission (FC) has power to make recommendations in relation to sharing of taxes from inter-state trade.
- This is important because states have a vote in GST council unlike FC where they have no say.
- So where will there be a contention in the future? Art 270(1A) says that taxes levied under GST laws will be shared on the provision of Art 270, which takes us to FC and not GST council.

When judges legislate

Introduction:

- It has been alleged that Supreme Court has become hyper-active in making laws.

Recent evidences:

- The Supreme Court fixed timings for bursting Diwali fireworks and prohibited the use of non-green fireworks, although there are no laws to that effect.
- The court recently rules that no BS-4 vehicle should be sold after March 30, 2020, and that only BS-6 vehicles can be sold after that date.
- In the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989, SC said that no anticipatory bail will be granted to persons accused under the Act.
- SC felt that Section 498A of the Indian Penal Code was being misused. So it amended that Section by requiring complaints under that provision to be sent to a Family Welfare Committee constituted by the District Legal Services Authority, although there is no such requirement in Section 498A.
- Finally, the National Green Tribunal (NGT) ordered that no 15-year-old petrol-driven

Sabarimala, and the quest for equality/ a question of writ

Introduction:

- The verdict of Sabarimala has aroused many questions regarding equality and individual rights.
- The people who are for the verdict see this as a victory of equality. While the people who are against it see it as violation of religious rights.

The court's mandate:

- The people who are against the verdict says that the constitutional principle has to pass through the test of societal acceptance.

Officers IAS Academy, Chennai

- This possible confusion in roles is likely to face contention in the future.
- For e.g., if centre refuses to allocate fund to state as per GST council, the aggrieved state may move to SC, whose verdict will pave a way.

Conclusion:

- In the 68 years of federalism this kind of taxation issue has not come up so far.
- And hence, this would be a true test of cooperative federalism.

or 10-year-old diesel-driven vehicle will ply in Delhi, and the Supreme Court has directed impounding such vehicles, though neither the NGT nor the Supreme Court are legislative bodies.

Separation of power:

- But can the judges legislate? This question has already been answered in the past by the court. In Ram Jawaya v. The State of Punjab (1955), the court observed: "Our Constitution does not contemplate assumption, by one organ or part of the state, of functions that essentially belong to another."
- This implies that there should be a broad separation of powers in the Constitution among the three organs of the state, and that one organ should not encroach into the domain of another.
- If this happens, the delicate balance in the Constitution will be upset and there will be chaos.

Conclusion:

- If judges are free to make laws of their choices, not only would that go against the principle of separation of powers, it could also lead to uncertainty in the law and chaos.

- The Supreme Court does not, and should not, take into account mystical notions and practices as the foundation for its considered opinion.
- While it does consider the culture of people, every practice of culture or faith must pass the test of the Constitution of India.
- The Constitution is not a heartless, emotionless document; it is a passionate seeking for human up-liftment.
- Therefore, the court should respond with care, compassion and empathy for the citizens of India, especially those who are at the receiving end of a discriminative

practice, disregarding society's majoritarian impulses.

- Religion cannot be cover to deny women the right to worship.

Similar case in Pakistan:

- In a similar case in Pakistan, where a Christian woman called Asia Bibi was accused of blasphemy (Blasphemy is the act of insulting or showing contempt or lack of reverence to a deity, or sacred thing).
- It was alleged that she made certain comments against Prophet Mohammed which was punishable with death sentence in Pakistan.

Can Trump 'roll back the Persians'?

US Iran Policy:

- On November first, US levied sanctions on Iran majorly in sectors of energy, shipbuilding, shipping and banking.
- 6 months back it quit the Iran nuclear deal which was signed in 2015, saying Iran is not obliging the terms. As per IAEA, Iran has restricted to all terms and conditions of the deal.
- The article discusses the agenda of Trump administration which vows to side-line Iran that could help its allies in west Asia mainly Israel and Saudi Arabia.
- It is not the first time, US administration under George Bush and Obama's period has sanctioned Iran but always Iran has stood strong against these waves.

Iran's condition presently

- Iran has strong allies with many of the West Asian countries. Turkey has slowly started to put affection on Iran. Iran is also

Officers IAS Academy, Chennai

- But the Supreme Court released her due to lack of evidences.
- The question of justice is whether the people and the institutions succumb to pressure or adhere to constitution.

Conclusion:

- Finally, one must note that each individual, regardless of birth ascribed identity of minority, is entitled to an individual guarantee of rights protected by the Constitution.
- It is in the adherence to individual rights that the greater public good rests.
- Those who sacrifice a man or woman's liberty for the security of the many will find neither liberty, nor security.

defending Syria, Lebanon, Shia Houthi rebels in Yemen. So the breakdown of Iran means crisis in the regional West Asia.

- Iran with its asymmetrical military policy, moving forward with **the forward defence** which is Iran's core strategic principle, launched to overcome its conventional power deficit.
- Even there is no unity in its rival camp as recent killing of Saudi Arabian journalist Jamal Khashoggi inside the Kingdom's consulate in Istanbul has put Saudi's into a huge trouble.
- But presently as US has moved out of nuclear deal, Iran is in confusion whether to continue (which effects economy) or stop its progress (which proves Americans right and build enemies strong against Tehran).

Way-forward

- Iran has come a long way all severe restrictions in the past, it is time to see whether US plans to roll back the Persians succeeds or not .

General Studies 3

Protect the little helpers

Introduction:

- Across India's agrarian plains, plantations and orchards, millions of birds, bats and insects toil to pollinate crops.
- However, many of these thousands of species of pollinators may be in dangerous decline.

Causes for the decline of the pollinators:

- The decline of moths, bees, butterflies, hoverflies and other pollinators is undeniably linked to human activity: large

tracts of natural habitats have been cleared for monoculture cultivation.

- Monoculture is cultivation of same kind of crops, hence food for the different pollinators and their habitat loss cause decline of pollinators
- The use of pesticides and fertilisers is pushing out nature's little helpers.
- Indian bees, when exposed to multiple pesticides, suffer from memory impairment so they forget their path to hives and die.

- In other parts of the country like fall of Kashmir apple cultivation and mustard cultivation in North India have also greatly reduced the pollinators' number.

What can be done?

- Apart from promoting organic farming and lowering pesticide usage, landscape management is key.
- The EU Pollinators' Initiative can provide pointers to India, particularly a policy of direct payment support to farmers to provide buffer strips for pollinators for nectar- and pollen-rich plants.
- India has millions of hectares of reserve forests, some of which have been converted to pulpwood plantations. Much of this can

Not Burning Bright: Human-Animal Conflicts

Introduction:

- The tiger is in the news, and yet again for the wrong reasons. Two tigers were killed, one in Yavatmal (Maharashtra) and other in Dudhwa (Uttar Pradesh).
- The big cats were victims of human-tiger interface conflict.
- India is in a leadership position on the tiger front with almost 70 percent of the global tiger population.
- India pioneered tiger conservation with Project Tiger and by conserving 2.4 per cent of its geographical area as tiger reserves.

Repeated Human animal conflicts:

- India's tiger reserves, national parks and sanctuaries exist amidst a vast sea of human, cattle and unsustainable land use.
- The stakeholders are many from primary (local people) to secondary (government departments) and tertiary (business groups, semi-urbanscape).
- **Urbanisation** and growth agendas alter landscape dynamics, which has a cascading effect on the ecological dynamics of wildlife.
- This results in ecological dislocation of sorts, wherein endangered wild animals like tigers either cause distress or land themselves in trouble.
- **One Reason: is population pressure.** India's 3.28 million sq km land area amounts to 2.4 per cent of the planet's geographical area. But we have almost 17 per cent of the world's human population and 16 percent of global livestock.
- Our per capita forest is just 0.064 ha compared to the global average of 0.64 ha,

Officers IAS Academy, Chennai

be restored to become thriving homes for pollinators.

- The same can be done in gram panchayat levels. Fallow areas and government land can be used to plant flowering species for pollinators.

Conclusion:

- The pollinator's contribution in India to be \$0.831-1.5 billion annually for almost six vegetable crops and nearly 70% of tropical crop species are dependent on pollinators for optimal yields.
- Given the importance of pollinators, India an agriculture dependant country. The government needs to take active steps to protect the pollinators.

which partly explains the forest resource dependency of a large number of rural people.

- India's 668 protected areas add up to 14 percent of her forest area and 4.9 per cent of her geographical area. Of these, 50 protected areas are tiger reserves.
- Against this backdrop, we hold two-thirds of the global tiger population, the largest population of Asiatic elephants and so on.

Other reasons of rising conflicts:

- Barring protected areas, our forests are not very rich. And the **concessions in our forests** have caused overuse and abuse of resources.
- **Loss of forest productivity** in terms of food for wild herbivores has meant that the bulk of our forests cannot sustain medium-sized wild herbivores like deer, megaherbivores like elephants or big cats like tigers.
- Successive assessments have revealed that tigers are largely confined to their source areas (core areas of tiger reserves) and their fringes (buffers).
- The bulk of other forests in most of India's tiger states have practically lost their habitat value owing to excessive **biotic pressure**.
- Consequently, agriculture and cash crops beyond protected areas readily lure wild pigs and other preys, which in turn lure big cats.
- The inevitable outcome is "conflict of interface" between wildlife and humans, which cause distress to people.
- And once wild animals earn a pest value, they get trapped in snares or succumb to revenge or avoidance killings, more often than not through a silent method of poisoning using pesticides.

- This “interface” is further influenced by urbanisation, rail and road transport infrastructure and intensive operations like mining or special economic zones — part of the growth agenda in any developing country.

Possible solutions:

- The human-wildlife interface is here to stay. While there can be no “co-existence” with tigers or elephants, a “co-occurrence” agenda with a proactive management control is available.
- The National Tiger Conservation Authority (NTCA) has brought out several Standard Operating Procedures (SOPs) to deal with various challenges of the human-tiger interface.
- An incapacitated tiger or leopard has to be captured on priority. A prime animal straying close to human settlements

Is Point Calimere Wildlife Sanctuary safe for migratory birds?

Introduction:

- The pH and salinity of the waters exceeded permissible limits for ecologically sensitive zones in Point Calimere.
- The water quality at the Point Calimere Wildlife Sanctuary might be unsafe for avifauna to feed and breed, notes a study that examined different pollution indicators in water.
- The research was done by Central Pollution Control Board (CPCB) and the United States Environmental Protection Agency (USEPA).

About Point Calimere:

- Kodaikkarai also called Point Calimere or Cape Calimere, is a low headland on the Coromandel Coast, in the Nagapattinam district of the state of Tamil Nadu, India.
- It is the apex of the Cauvery River delta.
- It is designated as Ramsar Convention site.
- The forests of Point Calimere, also known the Vedaranyam forests, are one of the last remnants of the dry evergreen forests.
- It has three natural habitat types: dry evergreen forests, mangrove forests, and wetlands.
- Point Calimere is home to the endangered endemic Indian blackbuck and is one of the few known wintering locations of the spoon-billed sandpiper.
- It also holds large wintering populations of greater flamingos in India.

The threats that Point Calimere is facing:

Officers IAS Academy, Chennai requires active monitoring and translocation to suitable habitat.

- For example, tigers were shifted from the fringes of Bandhavgarh to Satpura. All this requires 24×7 monitoring using technology, management of corridors, building up the frontline capacity, creating village teams for reporting wild animal presence, and, an intersectoral portfolio at the landscape level akin to the “master plan” envisaged for an eco-sensitive zone.

Conclusion:

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

- The chemical companies and small-scale shrimp farms around the wetland have started to pose a threat to the biodiversity and ecosystem of the sanctuary.
- Atmospheric temperature at a few stations exceeded 36-40 degrees Celsius. This can affect the egg albumen during the pre-incubation period, thereby providing better growth conditions for harmful microorganisms in the eggs.
- The pH and salinity of the waters also exceeded the permissible limits for ecologically sensitive zones.
- Previous studies have shown that high acidic or high alkaline water can affect the metabolic and developmental activities of wild animals and birds.
- There are many salt pans near the sanctuary. This could be increasing the salinity.
- The chemical companies are also letting out untreated effluents into the waters. All this can have a deteriorating effect on the ecology.

How migratory birds are affected:

- The birds have started avoiding the sanctuary. The number of migratory birds has reduced from thousand to hundreds.
- Microbial indicators such as coliform bacteria were also found to be very high at all the five sites. The faecal waste of the birds contains a high level of microbial load besides nitrogen, and this can significantly alter the nutrients in the water.
- Studies have shown that drinking the contaminated water can lead to deformities in birds.

- Coliform infections in the birds have also been reported to cause a change in their natural behaviour and even affect their long distance migration.
- There are also high chances for the prevalence of antibiotic resistance among the birds.

Groundwater depletion alarming in northwest, central India

Introduction:

- With 230 billion metre cube of groundwater drawn out each year for irrigating agriculture lands in India, many parts of the country are experiencing rapid depletion of groundwater.
- The total estimated groundwater depletion in India is in the range of 122–199 billion metre cube.
- The Indo-Gangetic Plain, north western, central and western parts of India account for most intensive groundwater-based irrigation.
- And among these regions, western India and the Indo-Gangetic Plain have more than 90% of the area irrigated using groundwater.

Significant depletion:

- A study by IIT Gandhinagar researched nearly 5,900 wells which have long-term data (1996–2016), found that a majority of districts in India experienced significant depletion in groundwater storage. The satellite data confirms the well data.
- While districts with significant decrease in groundwater are located in the Indo-Gangetic Plain, northwest, and central (Maharashtra) regions, a few districts in Punjab show substantial decline in groundwater table.
- In northwestern India, the amount of groundwater extracted exceeds the total recharge leading to groundwater depletion.
- In contrast, some districts in western India, east coast and peninsular India have witnessed an increase in groundwater levels.

Seriousness of the depletion:

- If groundwater is depleted and the region experiences drought for two–three years

Dangerous Tactics

Introduction:

Way forward:

- Strict environmental regulations should be imposed and salt pan and other aquaculture practices around the sanctuary should be prohibited.
- Eco-tourism is also causing disturbances in this area, which has to be well regulated.

consecutively, there will be serious challenges.

- Availability of even drinking water will be a huge problem.
- Natural recharge during monsoon may not help much if groundwater depletion becomes acute, as rainfall of past several years controls the current groundwater storage levels.
- A study found that carbon dioxide emission from pumping groundwater and release of carbon dioxide into the atmosphere from the soil when groundwater is depleted is less than 2-7% of the total carbon dioxide emissions in India.

Groundwater management: Tensiometer

- Irrigation based information has to be given to the farmers.
- A device called “tensiometer” has been installed in these places. It visually monitors the rice field and waters it only when it is necessary.
- Irrigation based on information provided by the tensiometers helped farmers in the five districts save 10–36% groundwater.
- Using groundwater to irrigate the field only when necessary led to a reduction in electricity consumption and greenhouse emissions.
- The tensiometer is 2–3 feet long and has a ceramic cup containing numerous tiny pores at the bottom.
- It is inserted up to 8 inches into the soil, which is beyond the root zone of rice. The water inside the tensiometer reaches equilibrium with soil moisture, and rises or falls depending on the amount of moisture in the soil.
- Farmers are advised not to irrigate the field when the water level in the tensiometer is in the green zone.
- When the soil gets dry the water level in the tensiometer drops and reaches the yellow zone in the device.
- Farmers should start irrigating the field at this time and never allow the water in the device to reach the red zone.

- There has been a rise in the attacks by the Maoists indicating that their ability to strike remains strong.

Recent position of Maoists:

- There was attack on Chhattisgarh on the first week of November where 5 police personnel were killed.
- The Maoists stronghold Andhra-Odisha border was brought down by the government by developing infrastructure and welfare schemes.
- With the death of the influential leaders and less mobilisation of youth towards radicalisation, the Maoism has been confined to central and some parts of south central India.
- However due to this declining influence Maoists have started adopting Guerrilla techniques and war tactics to get back its influence.

The tactics followed by CPI Maoists:

- The Communist Party of India (Maoist) is a Maoist communist party in India which aims to overthrow the government of India through people's war.
- In 2006, Prime Minister Manmohan Singh referred to the Naxalites as "the single biggest internal security challenge" for India.
- The CPI (Maoist) has sought to project itself as a revolutionary political movement led by peasants and tribals, seeking to rebuild after the failures of the earlier Naxalite movement.
- The party has managed to consolidate its presence across a "Red Corridor" spanning

Initiatives taken to boost MSME Sector

Introduction

- Micro Small Medium Enterprises (MSME) sector has emerged as highly vibrant and dynamic sector of Indian economy over the past 5 decades.
- They play crucial role in providing large employment opportunities at comparatively lower capital cost. But MSME suffers from multiple aspects critical one being access to the timely credit.
- The sector also complements large businesses as ancillary units in fulfilling their business requirements, thereby contributing to the socio economic development and inclusive growth of the country.

Need for strengthening MSMEs

Officers IAS Academy, Chennai central and north-central India, marked by rural deprivation.

- Rather than focussing on socio-economic struggles to uplift peasants and tribals in this region, the Maoists relied on waging a military battle against the state with the intention of capturing power through violent means.

Steps taken by the Government in the Maoist controlled areas:

- Unified Command forces in Chhattisgarh, Jharkhand, Odisha, Andhra Pradesh and West Bengal.
- The SAMADHAN doctrine has been enunciated by Home Minister. The elements of this strategy are S for Smart Leadership, A for Aggressive Strategy, M for Motivation and Training, A for Actionable Intelligence, D for Dashboard-based Key Result Areas and Key Performance Indicators, H for Harnessing Technology, A for Action Plan for Each Theatre and N for No access to Financing.
- The Pradhan Mantri Gram Sadak Yojana (PMGSY) is a nationwide plan in India to provide good all-weather road connectivity to unconnected villages.

Conclusion:

- The Maoists are unlikely to give up this armed tactics despite Government's best efforts, the recent change in leadership and the rise in number of attacks are an evidence to it.
- The Government has to continue its welfare measures to the innocent tribes and deal with the insurgents with iron hand.
- There are many challenges like timely access to credit, infrastructural gaps, technological obsolescence, and access to market and skilled man power.
- With increasing competition from neighbouring countries like China, Indonesia, Philippines, and Thailand, it has become imperative for the sector to adopt robust strategies to become globally competitive.
- MSMEs have relatively inadequate ability to manage technology as they have limited human resources and weak financial standing.
- MSMEs particularly in the unorganised sector show weaknesses in technology development and innovation. This calls for public intervention for technology development through technology transfer.

Initiatives taken by Government to boost MSME sector

- A scheme for promoting innovation and rural entrepreneurship (ASPIRE) was formulated to set up a network of technology centres and incubation centres to accelerate entrepreneurship and startups in agro-industry.
- Government has public procurement policy for MSMEs. Under the policy 20% of the total procurement of any government ministry / department is to be procured from the MSMEs.
- The government has initiated “Framework for Revival and Rehabilitation of Micro, Small and Medium Enterprises” to revive and rehabilitate sick MSMEs.
- Credit Guarantee Trust for MSMEs has been created to access loans without collateral securities.
- To enable MSMEs to have access to equity for green field or brown field, both BSE and NSE have been allowed to create dedicated SME exchanges.
- Various schemes for quality certification of government of India
 1. National Manufacturing Competitiveness Programme (NMCP)
 2. Technology and Quality Upgradation Support to MSMEs
 3. Financial Support to MSMEs in ZED (Zero Defect Zero Effect) Certification Scheme
 4. Quality Certification – ISO Certification Assistance
- The Credit Linked Capital Subsidy Scheme assists in the technological upgradation on MSMEs.

About recently taken initiatives for MSME

- The Prime Minister has launched a support and outreach programme for the Micro, Small and Medium Enterprises (MSME) sector to give a boost to the sector and help generate employment.
- As part of this programme, the Prime Minister unveiled 12 key initiatives which will help the growth, expansion and facilitation of MSMEs across the country.
- **Access to Credit**-Centre has launched a web portal (www.psbloansin59minutes.com) which can be used to receive in-principal approval of loans within 59 minutes.
-

- 2 percent interest subvention for all GST registered MSMEs, on fresh or incremental loans.
- For exporters who receive loans in the pre-shipment and post-shipment period, an increase in interest rebate from 3 percent to 5 percent was announced.
- **Access to Markets**- The public sector companies have now been asked to compulsorily procure 25 percent, instead of 20 percent of their total purchases, from MSMEs.
- **To boost the women entrepreneurs**, 3 percent out of the 25 percent procurement is mandated from them.
- **Social Security for MSME Sector Employees**-Employees working under the MSME sector will compulsorily have to enrol themselves under social security schemes.
- **Ease of Doing Business**- Centre will develop “pharma clusters” in the country and will bear 70 percent of the set-up cost.
- MSMEs would have to file returns under eight labour laws and 10 union regulations only once a year. This would be done once a year against a current practice of twice.

Way forward

- The problems faced by MSMEs need to be looked into by diverse approach for successful policy implementation as they produce very diverse products, use different inputs and operate in distinct environments.
- In general, there is need for tax provisions and laws that are not only labour-friendly but also entrepreneur-friendly.
- More importantly, there is need for skill formation and continuous upgrade both for labour and entrepreneurs.
- While the government has to strengthen the existing skilling efforts for labour, there is an urgent need for managerial skill development for entrepreneurs running MSMEs — an area that is considerably neglected.
- Further, the government could consider dedicated television and radio programmes, similar to agriculture, to help educate entrepreneurs running small businesses.

- India has jumped 23 spots to number 77 in the latest Ease of Doing Business report for 2019 released by the World Bank.

Ease of doing business - Comprehensive outlook

Introduction

- This is a result of the government's efforts over the past few years and its endeavour to strengthen its position as a preferred place to do business.
- India is the only country to rank among the top 10 improvers for the second consecutive year.

About World Bank Ease of Doing Business Report

- The ease of doing business index is an index created by the World Bank Group. Economies are ranked on their ease of doing business, from 1–190.
- A top rank means the regulatory environment of the country is more conducive to the starting and operation of a local firm.

Major factors influenced the improvement

- SWIFT initiative: As a part of ease of doing business initiative, central board of exercise & Customs, Government of India has taken up implementation of the Single Window Project to facilitate the Trading Across Borders in India.
- The Single Window Interface for Trade (SWIFT), has reduced interface with Governmental agencies, dwell time and the cost of doing business. The objective of the SWIFT is along with 'Make In India', 'Digital India' initiatives.
- Reducing the time and cost to export and import through various initiatives, including the
 1. Implementation of electronic sealing of containers,
 2. Upgrading of port infrastructure and
 3. Allowing electronic submission of supporting documents with digital signatures under its National Trade Facilitation Action Plan 2017-2020.
- Other Initiatives like digitization, e-visas, infrastructure status to Logistics, Start-up India, and announcement of National Intellectual Property Rights (IPR) policy.

Areas need to be addressed

- India's "paying taxes" ranking declined from 119 to 121. Initial glitches in GST might have troubled the taxpayers.
- Resolving Insolvency remains critical sector in doing business.
- Enforcing property, starting business, Registering property are the indicator where India has performance is poor.

How will it help India?

- It is significant for countries like India, where foreign investors and Governments look at the investor friendly measures and

Officers IAS Academy, Chennai

this index is considered to be the one which reflects the ground reality.

- In today's capitalistic society (market economy with safeguards for vulnerable sections), this assumes significance as FDI flows are considered necessary for growth of emerging economies.
- Multilateral lending institutions like World Bank, IMF look at these parameters and suggest measures for improvement before giving financial help to the emerging economies/under developed countries.
- Simplifying FDI process by abolishing FIPB (Foreign Investment Promotion Board) as a result, more than 90% of FDI inflows are now through automatic route.

Criticism

- First, they do not capture the out-of-the process issues related to the daily running of a business, the various investigations conducted by the revenue department, or company law matters, or labour-related issues, or, for that matter, the various demands of the inspectors of quality and processes
- Left out, for instance, businesses have a problem of employability, poor skills, corruption, and controls on internal trade, avenues for accessing capital for small and micro-businesses being.
- Input costs, demand factors and infrastructure issues are another class of factors that ease of doing business does not intend to capture.
- The rankings cover only the two cities of Delhi and Mumbai. However, the reforms are being carried on all across India. In fact, states like Andhra Pradesh, Telangana have done remarkable efforts in economic reforms.

Way forward.

- Changes that can do away with such inspector raj require more than simply a technology infusion. They require a rethinking of the many rules and regulations governing this sector and the over-dependence on an ill-motivated bureaucracy and technocracy.
- Tackling the challenges will be key to sustain the momentum towards a higher ranking. The government must work towards further improving the rankings and scale greater economic growth with the mantra of 'reform, perform and transform'.
- Need to work on areas including starting a business, and land reforms.

- Effective implementation of GST and bankruptcy law may improve India's ranking significantly over the coming years.
- Registering property would improve by digitising land records, improving titling and streamlining procedures on transfer of property.

Unnecessary, destabilising and expensive

INS Arihant

- INS Arihant is nuclear submarine capable of carrying nuclear ballistic missiles.
- It belongs to class referred to as **Ship Submersible Ballistic Nuclear (SSBN)**
- It was built with Russia's help under Advanced Technology Vessel (ATV) project started in the 1980s.
- It weighs 6000 tonnes and is 112 metre long. It is powered by 83 MW pressurised light water nuclear reactor with enriched uranium fuel.
- It will be armed with the K-15 Sagarika missiles with a range of 750 km.
- Later it will be armed with much longer range K-4 missiles (3,500 km range) being developed by DRDO.
- With its induction, India has completed its nuclear triad. The Arihant is harder to detect than India's nuclear weapons platforms on land and in the air, giving it a "second-strike" capability.
- This would allow India to retaliate against an enemy who managed to destroy the rest of its nuclear arsenal in a first-strike

What is the advantage of having nuclear submarines?

- A nuclear submarine has an onboard nuclear reactor which fuels it. This allows it to operate underwater for long periods of time. In contrast, a conventional diesel submarines use batteries to operate underwater, but they have to come to surface periodically recharge its batteries using diesel-combustion engines that require oxygen.
- Used in the last resort, these type of submarines are not detected at sea and have a capability to do a counter-strike, assuring the "mutual destruction".

What is the cost spent to purchase submarine and maintenance?

Officers IAS Academy, Chennai

- Coordination across all departments and between the Centre, the States and local level to get the implementation right and fast.
- In enforcement of contracts the establishment of dedicated commercial courts in Delhi and Mumbai can reduce time taken for resolving commercial disputes.
- As per the report of British government it is said that a submarine like Arihant will cost about Rs. 70,000 crore, which also needs between Rs. 2,000 crore and Rs. 5,000 crore in annual operational costs.
- India has a plan of inducting another 4 more SSBN submarines, which can cost India (only for maintenance) of around 3 lakh crores in 40 years of life-cycle.

Why these expenditures are unnecessary?

- The submarine carries a nuclear weapon whose range is just 750 km, which can either target Pakistan or China. According to the author, Pakistan has threatened to use 'tactical nuclear weapons' to counter India's **cold-start doctrine** (a military doctrine for limited invasion of Pakistan). However, India has capability to counter these are relatively small nuclear weapons by air or land based forces.
- China for last 50 years has promised that it will not use the nuclear weapons first. Even though it changes its plan, India's nuclear weapons have that superiority to damage China even though it doesn't have any SSBNs.
- When the whole world is moving towards nuclear disarmament India's gesture is not along the whole.
- Nuclear submarines' crew have both the custody of nuclear weapons and the ability to launch them at short notice. This increase the risks of an accidental conflict.

Way forward

- State is spending these many crores when they complain for not having resources for services in health and nutrition sectors.
- Author quotes Sardar Patel's speech in Karachi session "We must not... be frightened by the bogey of foreign designs upon India," and turn armed forces into octopus to whom the country bleed to support.

Getting the economy back on track

Introduction:

- Economics is a technical subject of interdependent variables and parameters, that allows for objective mathematical and statistical analysis. It is not dependent on single commodity demand-supply subject.
- Though, the Indian Economy is facing certain crisis, it is not in the verge of collapse and it is still retrievable.

Why is the Indian economy facing crisis?

- **Household savings**, which are the bulk of India's national investment, dropped from a high of 34% of GDP to about 24% of GDP in 2017. This decline happened even before demonetisation and GST.
- **Non-performing assets** of the public sector banks (PSBs) have also risen sharply, higher than the available advances of these banks, making many large PSBs financially unviable and likely to collapse. This could cause financial contagion in 2019 in all sectors.
- **Lack of investment in infrastructure sector**, though infrastructure sector needs \$1 trillion investment, the amount invested in infrastructure sector is much less.

Full disclosure: on the credit rating industry

- The Security and Exchange Board of India (SEBI) has brought out new guidelines to improve the quality of disclosures made by the credit rating agencies.
- SEBI had brought out guidelines in 2016 in its pursuit to improve transparency and credibility among rating agencies.
- However these particular guidelines seem to be in response to IL&FS crisis.

New guidelines

- Credit rating agencies will have to inform investors about the liquidity situation of the companies they rate through parameters like cash balances, liquidity coverage ratio, access to emergency credit lines, asset-liability mismatch, etc.
- When a rating, factors in support from a Parent/ Group/ Government, with an expectation of infusion of funds towards timely debt servicing, the name of such entities, along with rationale for such expectation, may be provided
- When subsidiaries or group companies are consolidated to arrive at a rating, list of all such companies, along

- **The manufacturing and the MSME sector** which provides for bulk employment, is **growing at very slow rate** of 2%-5% per annum.
- **India's agriculture products are cheapest in the world.** The productivity and yield of the products is very less.
- **Fall in the value of rupees**, has made the imports costlier.

Way forward:

- India has many a times faced crisis but never collapsed. Once the policy makers makes the right decision the crisis can be solved.
- India can make rapid economic progress to become a developed country only through a globally competitive economy, which requires assured access to the markets and technological innovations of the U.S. and some of its allies such as Israel.
- Investment in infrastructure sector can be improved by improving the investor confidence.
- The government is providing loans to MSME sector and agriculture loans to increase its productivity.
- What we need is overall structural change in the economy to avoid further crisis.

with the extent and rationale of consolidation, may be provided.

- Credit rating agencies may review their rating criteria with regard to assessment of holding companies and subsidiaries in terms of their inter-linkages, holding company's liquidity, financial flexibility and support to the subsidiaries, etc
- In order to promote transparency and to enable the market to best judge the performance of the ratings, the CRA should publish information about the historical average rating transition rates across various rating categories, so that investors can understand the historical performance of the ratings assigned by the CRAs

Drawbacks

- The credit rating agencies suffer due to structural issues rather than lack of formal rules, therefore these new guidelines may not solve majority of the problem.
- As per the "issuer-pays" model, the company which issues the instrument also pays the rating agencies for its services. This model leads to conflict of interest and results in biased rating.
- The entry of credit rating agencies in India is difficult. There is no competition, thus

leading to poor quality standards in ratings.

Way forward

- Structural reforms must be carried out to deal with rating shopping and the loyalty of credit rating agencies.

Officers IAS Academy, Chennai

- Rating agencies will have to come up with new business models which place the interests of the investors above the borrowers.
- Policy changes also need to be brought out to facilitate easier entry and innovation in credit rating agency.

YOJANA November 2018 – Part I



Introduction: Swachhata-A way of life

- Swachhata or cleanliness is a concept that touches every one's life. A clean person however is not the one who runs away from dirt but who takes time and effort to tidy up his environment as well.
- Father of the nation appealed for cleanliness, in his call for Swachh Hindustan '**Cleanliness is next to godliness**'-for Mahatma Gandhi was not just a thought but a way of life.
- India has registered a sustained economic growth in the last few years but still faces a huge economic loss due to poor hygiene and sanitation.
- According to the World Bank, India loses 6.4% of GDP annually because of this particular reason.
- Perceiving the loss, the Swachh Bharat mission was launched from the ramparts of the Red fort in 2014 and set a target of Open Defecation free (ODF) India by 2019.
- Even though the Ministry of drinking water and sanitation was the core implementing ministry but the mission saw political will, public policy and people's involvement.

Measures taken so far

- Swachhata Pakhwadas, rallies, awareness campaigns, construction of toilets, solid waste management, Swachh survekshan has gradually brought about a change.
- Students, swachhagrahis, sarpanchs, district collectors, civil society and media have carried the message of '**swachhata hi sewa**' to the masses.

- Initiatives like kayakalp, VISHWAS, Bal swachhata Mission, construction of toilets, provision of drinking water facilities in Anganwadis and child care institutions have played role in taking the mission forward.
- Youth serve as a primary messenger and leader for bringing about the change of any kind, joined together by ministries like health and women and child development, human resource development and Ministries like railways, rural development, petroleum, housing and urban affairs added to its value chain. This mission is already on its path to make '**Swachhata a way of life**'.

Terminologies related to Swachhata

- Swachhata Pakhwadas:** It was started in April 2016 with the objective of a fortnight celebration and an intense focus on the issues and practices of Swachhata along with the Government, Ministries and the jurisdictions.
- Swachh Survekshan:** Swachh Survekshan is a ranking done by the Government of India to assess rural and urban areas on the level of the innovative and timely implementation of Swachhata mission. It helps to encourage large scale citizen participation towards cleanliness. The Ministry of Urban Development, Government of India takes up the Swachh Survekshan in urban areas and the Ministry of Drinking Water and Sanitation in rural areas. The Quality Council of India (QCI) has been commissioned the responsibility of carrying out the assessment. **2018 ranking:** India's

Cleanest City – No.1 is Indore (Madhya Pradesh).

- **Swachhata hi Sewa:** The Swachhata Hi Seva (cleanliness as a service) movement, which aims at generating greater public participation towards Swachhata, was organized in the run up to the fourth anniversary of the Swachh Bharat Mission, on October 2nd, 2018, also marking the commencement of the 150th year celebrations of Mahatma Gandhi.
- **Swachhagrahis:** Swachhagrahis are the 'foot soldiers' and motivators who take forward the process of implementation of the Community Approaches to Sanitation (CAS) at the village level.
- **Kayakalp:** It is an initiative launched to promote cleanliness, hygiene and infection

Staircase to Swaraj

From the history:

- In the school of freedom struggle, 'safai' and 'swachhata' was the test to graduation. Vinobha Bhave, Thakkar Baba, JC Kumarappa and innumerable youngsters with sparkling brilliance joined the freedom struggle and took the safai and swachhata root to independence.
- Appa Patwardhan cleared the ICS preliminary exam and had come to meet Gandhiji at his sewage Ashram to seek his blessings. Gandhiji asked him, why he wanted to be ICS and he replied that he wanted to serve India to which Gandhiji advised that 'going to village and doing sanitation work is the best services to India' and Appa Patwardhan turned out to be one of the finest freedom fighters, specialising in the art of 'safai'.

The following were the pre requisite to attain Swaraj according to Gandhiji:

- **Development:** the notion of human development incorporates all aspects of individual's well-being. food security, clean and fresh air, safe drinking water, health and sanitation and to ensure all these, quality education and freedom of choice. Humanity that masters the art of cooking, making instruments of development, should also master the art of disposing off what are its byproducts.
- **Attitude:** Our rail stations, bus stands, markets, even temple premises appear to be a junk yard infested with houseflies, mosquitoes and rodents. Gandhi called it 'stinking den'. We have turned even the

Officers IAS Academy, Chennai control practices in public health facilities and the public healthcare facilities that show exemplary performance will be awarded.

- **VISHWAS:** It is a Village Based Initiative to Synergise Health, Water and Sanitation.
- **Bal Swachhata Mission:** It is a six day long programme launched for sensitizing and involving children in different aspects of hygiene and sanitation by the Union Minister for Women and Child Development on the occasion of Children's Day.
- **Anganwadis:** It is a type of rural child care centre in India started by the government of India in 1975 as part of the Integrated Child Development Services program to combat child hunger and malnutrition.

holy Ganga into mega sewage. He named defecating in open air as uncivilized.

- **Truth:** Gandhiji believed, that sanitation, cleanliness of inner and outer self are means of realisation of God.
- **Swaraj:** Swaraj is a sacred word, a vedic word, meaning self-rule, self-restraint from littering in public places.
- **The act of nation building:** one of the chief causes of our poverty is the non-availability of the essential knowledge of hygiene. Swaraj aimed at the fruit of incessant labour and intelligent appreciation of the environment.
- **An act of sublime joy:** Gandhiji deemed cleaning as an act of purification and drew immense joy from it.
- **Gram rajya:** Gandhiji equated Hind-swaraj-Indian home rule with 'gram rajya' where he proposed cottages with sufficient light and ventilation built of a material obtainable within a radius of five miles of it.
- **Response to sanitation issue:** Gandhiji called satyagraha and constructive programme as two wings of the same bird, without one the other had no sense. This irrevocable connection made toilet cleaning and sanitation work become the qualification of a satyagrahi.
- He felt that the section of Indians known as scavengers or Bhangis who were engaged for generations into the task of removing faeces and were looked down upon were the actual part of the society who executed the most important tasks of organising community sanitation and health.

Institutional impact:

- **Safai Vidyalaya, Dehu:** It is the original branch of the Harijan Sevak Sangh, an

initiative established by Gandhi in 1932 to bring greater sanitation by instilling a sensitivity and removal of untouchability, fostering the designing of toilets and sanitation technologies to meet the population across the state and nation.

- **Nirmal gram Nirman Kendra, Nasik:** It is a voluntary organization devoted to the cause of Environmental Sanitation since 1983. Nirmal Gram Nirman Kendra
-

A people's movement-Swachh Bharat abhiyan

- **In the history of India Swachh Bharat mission is one scheme which the people of India snatched away from the government and converted into a 'people's movement'.**
- We have completed nearly four years of the scheme ,39% rural sanitation coverage has increased to a phenomenal 92%.This wasn't an easy goal to achieve.this involved a behavioural change of the people.
- But this 'people's movement' has today transformed into a 'women's movement' with rural women trained as masons ,with assistance of self help groups.and women becoming a bread earner through construction of toilets added to the family income.
- Global experts believe that the SBM will have saved over 3 lakh lives in the country by the time we become 'open defecation free' in 2019.
- Toilets in several parts of India have been named 'izzat ghar'(izzat: reputation)
- This is for the first time that the subject matter in the toilet construction campaign has taken central stage of the national agenda.

What is ODF?

- The Ministry of Drinking Water and Sanitation, Government of India defines ODF (open defecation free) as:
- ODF is the termination of faecal-oral transmission, defined by:
 1. No visible faeces found in the environment/village; and
 2. Every house as well as public/community institutions using safe technology option for disposal of faeces.
- It has following elements

Officers IAS Academy, Chennai (NIGRANI) is dedicated to the cause of total attitudinal change in the society towards sanitation. NIGRANI considers sanitation as 'Waste Management Activity'.

Conclusion:

- For Gandhiji sanitation wasn't just a biological requirement, it was a way of life, an integral part of truth realisation.He accorded 'sanitation' the status of an essential step to freedom.
- a) Sustainability of behavioural change
 - b) Up gradation and restoration of toilets
 - c) Robust and sustained on ground training and development.

Success story:

- **In news:** Punjab is the first state to launch an ODF sustainability app under its 'my village my pride' campaign.
- **The app has following features:**
 1. Online submission of complaints regarding ODF
 2. Track progress of the company
 3. Any community member who has been left out of the programme can access a toilet application form through the app.
 4. Besides the app has a social media corner and a sanitation gallery where all IEC materials and creative can be viewed.
 5. The app also features various competitions between villages on ODF awareness, morning nigrani, cleanliness drive, women mohallas, soak pit awareness and solid waste segregation.

Swachh Bharat mission (Grameen):

Progress update

- Rural India has crossed the mark of 90% sanitation Coverage,
- 8.2 Crore toilet have been constructed since its launch. In 2014.
- Lakh villages, 434 districts and 19 states/UTs have been declared ODF.

Impact of sanitation:

- **Financial and economic impact:** in an ODF, each family saves over RS.50,000 per year on account of avoided medical costs ,time savings, lives saved: UNICEF 2017.
- **Impact by way of lives saved:** over 3 lakh lives saved by 2019 due to improvement in sanitation under the SBM:WHO ,2018
- **Health impact:** 46%bhhigher cases of diarrhoea among children in non-ODF areas:BMGF
- **Gender equality:** reports from IMF in 2017-18 shows
 1. 1.10% reduction in time spent by women involved in household and child care

2. 2.1.5% increase in proportion of women in the workforce.

On the road to Swachh Bharat

- If providing sanitation infrastructure for 125 crore people was a challenge, then invoking a sense of cleanliness among them and effecting behavioural changes was even more difficult. But fulfilling Mahatma Gandhi's dream of a clean and hygienic India is a major commitment for the government to which the government has worked consistently in this direction which are as follows:

1. Cleaning Ganga

- Ministry of water resources, river development and Ganga rejuvenation has helped a long way in restoring Aviralta and Nirmala (Continuity and purity)
- Ganga has multiple sources of pollution with about 2953 million litres of sewage generated by 97 towns along the banks of the river untreated every day.
- Namami Gange programme launched in 2015 has made good way in this direction. For the first time a separate ministry was made for Ganga rejuvenation in 2014 and Namami Gange was approved as a flagship program, with an outlay of Rs 20,000 crore in 2015.
- The national mission for clean Ganga that is responsible for implementing the programme is the authority under environment protection act, 1986, giving it more powers in 2016, and the district Ganga committees were established in 2017.
- 240 projects have already been sanctioned which includes sewage infrastructure, Ghats and crematoria, river front development, river surface cleaning, institutional development, biodiversity conservation, afforestation and rural sanitation and out of that 64 have been completed.
- Out of 97 towns the ten most polluting towns of Haridwar, Kanpur, Allahabad, Farrukhabad, Varanasi, Patna, Bhagalpur, Kolkata, Howrah and Bally are being covered extensively under the STPs.

2. Innovative models

- Hybrid annuity mode, one city one operator concept where all new and existing STPs will be under charge of one private operator, ensuring better upkeep.
- The STP project coming up in Mathura is a unique one. It has been awarded on HAM mode under one-city one operator mode.

- The IOCL refinery at Mathura will reuse the waste water, buying it at a rate of RS.8.70 Per litre. This will save 2 crore litre of Yamuna water that was being used by IOCL and make it available for other usage.
- 16 projects have been taken up on Ganga tributaries like Yamuna, Ramganga, saryu and kosi.
- Many private companies are also taking up projects to clean Ganga, renovate the Ghats, and crematoria or do afforestation along the banks under their CSR activities.
- Many self-motivated individuals are also coming forward for afforestation, hat cleaning and other such work. Known as Ganga praharis they motivate other people to help keep the river and its banks clean.

What is HAM?

- In India, the HAM is a mix of BOT Annuity and EPC models.
- Under BOT annuity, a developer builds the highway, operates it for a specified duration and transfers it back to the government. The government starts payment to the developer after the launch of commercial operation of the project made on a six month basis.
- Under the Engineering, Procurement and Construction (EPC) Model the cost is completely borne by the government. Government invites bids for engineering knowledge from the private players and also does the procurement of raw material and construction costs are met by the government. The private sector's participation is minimal and is limited to the provision of engineering expertise.
- In the HAM, the government pays only 40%, during the construction stage; the developer should find money for the remaining amount. A developer has to raise the remaining 60% in the form of equity or loans.
- Advantage of HAM is that it gives enough liquidity to the developer and the financial risk is shared by the government.

3. Swachhata in the roads

- Swachhata is also a major priority in ministries -Road transport and highways and shipping.
- Work is already on for developing 10 out of the 111 of waterways including Ganga and Brahmaputra. While promoting the use of cleaner fuel like ethanol, methanol, bio

diesel, bio CNG and electricity in the transport sector.

- the National Highways authority of India is in the process of providing separate ladies and gents toilets on both upside and downside of all toll plazas which will be covered by 2019.
- litterbins and hoardings carrying the swachhata message and message of discouraging littering are being put up
- The ministry is also trying for generation of less waste during road building and using waste material like flash, plastic, oil, slag, and municipal waste for construction of highways.
- The shipping ministry and all organisations under it took up a twenty two point agenda for renovation of rooms and toilets, cleaning of wharfs and sheds, auction and

Sanitation revolution: implementation at scale

How did India move from being the largest contributor to open defecation to implementer of the largest behaviour change campaign in the world?

- From being a major cause of the world's sanitation crisis ,with about 600 million people defecating in open, about 500 million people now have access to toilets through a sanitation revolution.
- In the entire process the Swachh Bharat mission has become a household name with people from all fields-students, teachers, corporates, civil society and the government contributing to making this country clean and green.
- The key strategy to achieve behavioural change was to use techniques such as the community approach to sanitation (CAS) and community led total sanitation (CLTS).

The Swachh Bharat mission (SBM) amplified strategy includes:

1. **Scale:** to meet the need to change the behaviour of 600 million people, the SBM had to acknowledge the scale with a national team Swachh Bharat.
 - The team today includes:
 - a) 120 million school students
 - b) 1 million masons of which 100,000 are women
 - c) 500,000 swachhagrahis
 - d) 250,000 sarpanches
 - e) 700 district collectors
 - f) 400 zila swachh Bharat preraks

Officers IAS Academy, Chennai disposal of all unserviceable items, unclaimed goods, beautification and cleaning of parks.

4. Green ports

- The ministry of shipping has also focused on the setting up of 'green ports' for sustainable, environment friendly and long term development of ports.
- Recently Visakhapatnam port trust was adjudged as the winner in the category of outstanding renewable energy user in the service sector in India by the Indian federation of green energy.
- Four years down the line we,as a country can take collective pride in claiming that we have covered significant ground in this direction and positive results are coming in.

- g) 20 prominent brand ambassadors
- h) Led by the commissioner in chief, the PM of India.

2. Speed: PM-CM-DM-VM MODEL:

- The Prime minister gave the vision of an ODF India by 2019
- The chief ministers lead at the state level
- District magistrates prioritise the sanitation
- And empowered the village motivators,the swachhagrahis,to partake in inter personal communication and lead behavioral change in the villages.

3. Stigmas and myths:

- There were myths that
 - a) toilets are required only for women and children
 - b) Having a toilet within the premises of one's house is impure, cleaning the toilet is not one's own duty and many more.
- **The initiatives got that addressed by :**
 - a) **The Darwaza band campaign:** It has been launched by the center.it is an aggressive new campaign titled 'Darwaza Band' to promote toilet use and freedom from open defecation across the country's villages. The campaign produced by the MDWS under Swachh Bharat Mission was launched in the presence of iconic actor, Shri Amitabh Bachchan and supported by the World Bank.
 - b) The release **of toilet ek Prem Katha:** It is a movie that created awareness on the importance of sanitisation.

their heritage, religious and or cultural significance.

4. Sustainability

- **The key elements are:**

- **ODF-quality (ODF-Q):**

1. There is a geo-tagging done to every Toilet under SBM.
2. All villages are subject to double verification which includes a self-declaration as well as a third party verification.
3. In case of poor quality reports, it facilitates rapid response and action.

- **ODF -sustainability (ODF-S)**

1. Ensures continuous behaviour change communication
 2. Operation and maintenance practices (O&M)
 3. Ministry of drinking water and sanitation is currently working on a ten year sanitation strategy.
- **ODF plus (ODF+):**
 - SBM goes beyond toilets and works towards clean villages by prioritizing solid and liquid waste management in ODF villages.
 - For addressing 4Ss, the SBM has guided discourse in the importance of the 4Ps:
 - **Political leadership:** political will and leadership from the top are critical.
 - **Political funding:** over Rs one lakh crores have been committed by centre and states to the SBM to ensure no shortfall in funding.

- **Partnership:** constant engagement with development partners, NGOs, the private sector, civil society, media etc.

- **People's participation:** sanitation is not a government programme, but a Jan andolan (people's movement).

Initiatives and projects:

- **Swachhata Pakhwadas:** all the union ministers/departments take up swachhata related activities for a fortnight each.
- **Swachh iconic places:** a multi stakeholder Initiative that focuses on cleaning up 100 places across India that is iconic due to

- **Swachhata action plan:** where 76 ministries /department have earmarked funds worth 5248 crore for their swachhata plans and making villages along the banks of the Ganga River ODF.

- **Swachh survekshan Grameen 2018:** under this an independent sanitation survey was conducted across 6980 villages in 698 districts of the country.

Significant initiatives undertaken by sanitation teams:

1. **Nazardari and Gandhigiri:** this team comprises of natural leaders and self-help groups(SHG) members who visited OD prone areas.

2. **Toilets for all:** community facilitators met with people from every single household and discussed with them the importance of toilet usage. To cater to the differently abled, solutions such as fixing a bar or ramp. Safe disposal of children's faeces was another document area.

3. **Kachha toilet Todo abhiyan:** demolish the unsafe toilets was observed across the districts where thousands of insanitary toilets were demolished and areas cleaned.

4. **Sanitation cards:** they were issued to every household that was using toilets

5. **MUKTI:** under this the district identified places of open defecation and made palms to transform and beautify those places by land reclamation, plantation and greenery through MGNREGS.

6. **Child cabinet:** were formed in all schools with representation of students to check hygienic practices among students

7. **Addressing flood prone areas:** it is common for people to take shelter in high schools or community halls.to address that the district administration has started constructing sufficient toilet units for use during floods.

- The SBM is setting an example for the rest of the world to move towards improving sanitation for all and achieving the United Nation's sustainable development goals 6.

- SDG 6: Ensure availability and sustainable management of water and sanitation for all.

- The government is making all efforts to bring about large scale development in the villages and cleanliness is the most important component of this effort.

- If the villages are not clean then the development of the villages will remain incomplete and transforming the destiny of

Towards clean and healthy villages

- Our country lives in her villages and only when the villages are developed the holistic and inclusive development of the country is possible.

our villages Include the SBM (grameen) for an inclusive development.

Unique initiatives

- SHG have helped by investing their savings in cleanliness related works.
- The panchayats have made efforts in not only connecting the masses with the cleanliness program, but with the cooperation of all made the village ODF.

Managing waste water with the help of MGNREGA

- Telangana state soakage pits are being constructed through MGNREGA at family and community level
- In the Nanded district of Maharashtra MGNREGA funds were utilized for making soakage pits which has helped to get rid of the mosquitoes in the villages.
- construction of Lingpui water tank of tlanguam in Mizoram was started as an innovative experiment under MGNREGA. This water tank has been build in the shape of an airplane along the road leading to the airport in Aizawl district.
- Toilets constructed in the tank premises helps earn income for gram panchayat.
- Haryana government has developed a five pond system in rural areas for stabilization

Swachh rail, swachh Bharat

- Indian railways have more than 8700 stations, running an average of over 13000 trains every day.
- Maintaining and improving cleanliness of these stations and trains is a mammoth task due to heavy footfalls/overcrowding, uncontrolled usage and passenger habits, particularly on trains and at major stations where passengers tend to remain for long hours.

“Swachh rail, Swachh Bharat ” initiatives:

- Outsourcing of cleanliness of all major stations.
- improving flooring of platforms to enable mechanised cleaning
- providing separate dustbins for different types of waste
- employing CCTVs to monitor cleaning practices
- installation of bio toilets in passenger coaches
- development of a "customer complaint" web portal and mobile application to collect continuous citizen feedback
- Introduction of pay and use toilets at various stations.
- Introduction of on board housing services (OBHS), clean my coach and coach mitra

Officers IAS Academy, Chennai of waste water under MGNREGA with an objectives is to ensure proper disposal of waste water and provide better living conditions.

- Ariad gram panchayat in Thrissur district of Kerala has started a project to produce construction material like cement which was used for MGNREGA works like construction of individual household toilet.
- Using MGNREGA, vermicomposting units are also being constructed.

Physical achievements under MGNREGA in the year 2017-18

- About 9 lakh toilets
- 219000 soakage pits
- 183000 solid waste management through constructing vermilion/NADEP compost pits
- 384000 water conservation work.

Meeting challenges

- Considering the diversity of the villages in the country it should be kept in mind that no one model of sanitation can be adopted for all 238617 gram Panchayats in India.
- We have to focus on developing such measures which are easy to adopt, economical and have. Minimum technical limitations.

services, clean train services (CTS) for passing trains during their stoppages.

- Employing 24*7 public grievance system through Twitter and provision of medical, security and other emergency assistance to passengers.
- Create awareness among passengers and to assess the impact of cleanliness by a third party survey on cleanliness indicators at 407 major stations.

Cleanliness drive: Modalities

- General conditions of contracts (GCC) for service contracts have been introduced in Indian railways to guide the zonal railways to tackle various situations governing the execution of service contracts.
- The new standard bid document issued for housekeeping of stations, coaching depots and trains has a minimum of 70% scoring criteria in the technical evaluation stage will qualify for opening of financial bids.
- Provision of biometric attendance , payment linked to users feedback and price variation clause to ensure payment of minimum wages.

Effective customer engagement

- Theme based drives; charitable institutions/social organisations have been associated in undertaking awareness

campaigns along with the use of social media, electronic media, and public announcements.

- Indian railways have already introduced social media platform for customer engagement through twitter handles of the ministry of railways@ Rail Min India, Facebook page "ministry of railways – India,As well twitter handles of divisional railway managers and general managers of indian railways for effective customer engagement.
- in the "clean my coach" wherein one can SMS his PNR no.to 58888 to get their complaint registered for cleanliness at his seat and helpline no.138.
- Online complaint management system (COMS) is also functional where users can register their complaints.

Bio friendly technology

- Railways actively supported and participated in the drive launched by government of India against open defecation on Sept, 25, 2016.
- Bio toilet technology has been developed jointly by Indian railways (IR) and defence research and development organization (DRDO).
- This environment friendly, low cost and robust technology is the first of its kind in the railways system in the world.
- The efficacy of the bacteria used in the system has been tested by DRDO conditions like those at Siachen Glacier. The biggest advantage of the technology is that the colony of anaerobic bacteria converts human waste mainly into water and biogases (mainly methane CH₄ and carbon dioxide CO₂).
- The gases escape into the atmosphere and the waste water is discharged after disinfection on to the track. Raw human waste does not fall on the railway tracks and this keeps the stations premises /tracks clean.

North East diary: Sikkim learns to fly

In news:

- On September 24, 2018, Sikkim got its first airport at Paykyong ,

In detail

- The foundation of the airport was laid in 2009 approximately 33 KMS fro, the state capital.

Officers IAS Academy, Chennai

- to educate the passengers on 'how to use bio toilets -dos and don'ts are regularly conducted by zonal railways by providing stickers in coach toilets , playing audio/video clippings and model display etc.
- The first train, Gwalior -Varanasi - Bundelkhand express, fitted with IR-DRDO bio toilets was introduced in service in January 2011.
- With an aim to provide clean and efficient toilets and to reduce the water consumption in toilets, IR is doing a trial of bio vacuum toilets .This has aircraft type vacuum toilet on the passenger interface and bio digester tank is fitted beneath the toilet area on the coach.

Solid waste management

- Towards conversion of water to energy, pilot plants are being set up at Jaipur and New Delhi which will convert bio degradable waste to energy through bio methanation process, energy generated from these plants would be utilised for suitable services at or near the stations.
- For the first time in 2016, railways stations (407 stations of AI and A category) were audited for cleanliness by an independent third party agency.

The key areas of achievement of cleanliness behind the success stories are as under-represented

- Reduction of plastic waste through bottle crushing machines.
- personal hygiene at railway stations through bottle crushing machines
- outsourcing of cleanliness at major railway stations
- Awareness initiatives carry out in schools, NGOs and communities.
- Railways are conscious of its duties and responsibilities towards providing a reasonably safe, clean and healthy mode of transportation to its passengers. The task also requires active cooperation of the individuals.
- Spread over 201 acres of land and located 60 km from Indo China border
- The airport is built on the top of a hill 4500feet above sea level.

Design of the airport

- It is engineered to include soil reinforcement and slope stabilization techniques keeping in mind the rough terrain
- The Greenfield airport has been constructed without remodelling and

renovating the existing geographical structure using the technique of 'cut and fill' wherein land is carved out from the mountainside.

Facilities

- ATC ,tower cum fire station,
- CFTs
- technical building for passengers
- And other facilities like lighting and parking

Advantages attaches

J&K window-River pollution abatement project

In news:

- To supplement the efforts of state government in pollution abatement in identified stretches of various rivers through national river conservation plan(NRCP) for implementation of projects on cost sharing basis between the centre and the state government, the MOEFCC has sanctioned a project for 'pollution abatement of rivers Devika and Tawi;

Advantages

- Reduction of pollution load in 2 rivers
- Improvement in air quality

Mahatma Gandhi international sanitation convention (MGISC)

In news:

- A four day international convention on sanitation MGISC was organized by the ministry of drinking water and sanitation in New Delhi to mark the beginning of the 150th birth anniversary celebrations of Mahatma Gandhi also coinciding with the fourth anniversary of the launch of Swachh Bharat mission.

Important Details of the convention

SATAT

In news:

- SATAT initiative to promote compressed Bio gas as an alternative ,green transport fuel

What is it?

- It is an innovative initiative to set up compressed bio gas(CBG) production plants and make available CBG in the market for use in automobile fuels
- It was launched by the union minister of petroleum and natural gas and skill

Officers IAS Academy, Chennai

- The airport will not only circumvent the five hour journey through the mountainous roads but Improve connectivity, Tourism sector
- A convenient Indian air force landing will also be facilitated with the upcoming construction of 75 meters adjacent runway to the main runway.

Speciality

- The airport is the 100th airport of the nation.

- Improve aesthetics and sanitation conditions
- Support the Swachh Bharat Abhiyan

Implementing agency: The urban engineering and environment department (UEED)

Components of the project

- Laying of sewer lines
- Sewage pumping stations
- Sewage treatment plants
- Non -sewerage works like the river front development of the bathing Ghats, mela Ghats where mass gathering during any religious or festival occasion takes place
- Improved wood crematorium to minimise wood consumption and ash disposal.

- As said by the President an ODF India is the best 150th birthday gift that we could give Mahatma Gandhi.
- The foreign delegates and the sanitation ministers visited sites on life and work of Mahatma Gandhi on "Gandhi trail".
- The delegation showed keen interest in the twin pit toilet technology used in India, which is a low cost, eco-friendly and easy to use toilet technology, suitable for rural India.
- MGISC also brought together sanitation-ministers and other leaders in WASH (water, sanitation and hygiene) from around the world.

development and entrepreneurship with PSU oil marketing companies (OMCs) inviting expression of interest(EoI) from potential entrepreneurs .

- SATAT is aimed at providing a sustainable alternative towards affordable transportation as a developmental effort that would benefit vehicle users as well as farmers and entrepreneurs.
- This initiative holds great promise for efficient municipal solid waste management and in tackling the problem of

polluted urban air due to farm stubble –
burning and carbon emissions.