

OFFICERS'

Pulse

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Coverage.

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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.



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News @ a glance

Polity and Social issues

Revealing rape victims

Legal provisions that prohibit revealing the identity of the rape victims:

- In two individual cases in 2003 and 2006, there were specific mentions urging the trial courts, HCs and the SC to not to mention the names of rape victims in their judgments, given the pain they already face in conservative society like India.
- Section 228-A of the Indian Penal Code makes disclosure of identity of a victim in sexual assault cases a punishable offence, which **deters** media from making public the name of the victim
- However, the above provisions **did not bar the media** from publishing the names of the victims while publishing the judgements of HCs and SC.

SC observation:

- The SC in a recent case heard on Dec 2018 observed that SC has itself violated many times, a self-imposed rule from 2003, 2006 cases that identity of the sexual assault victim will not be mentioned.
- The apex court further held the name and identity of a victim who was either dead or of unsound mind should also not be disclosed even under the authorisation of the kin.
- The Supreme Court said it was “unfortunate” that rape victims were being treated as “untouchables” in the society.
- Only Special Courts under POCSO can permit the disclosure of the identity of a minor victim, that too, only if such divulgence were in the interest of the child.

Why in news?

- The **Supreme Court** on December 11th, 2018 **laid down an absolute bar on the media** to publish or air the names or any material which may even remotely reveal the identity of victims of sexual crimes.

Partners Forum 2018

About Partners Forum:

- Partners' Forum is a **global health partnership** launched in September 2005 to accelerate efforts to reduce child and maternal mortality, improve adolescent, child, new born and maternal health.
- This partnership is an alliance of more than 1,000 plus members, across 10 constituencies in 92 countries: academic, research and teaching institutions; donors and foundations; health care professionals; multilateral agencies; non-governmental organizations; partner countries; global financing mechanisms and the private sector.

About PMCH mission:

- Partnership for Maternal, New born and Child Health (PMNCH).
- PMNCH's mission is to support the global health community to work successfully towards achieving the Sustainable Development Goals (SDGs), particularly the health related SDGs as articulated in the Strategy for Women's Children's and Adolescents' Health in support of 'Every Woman Every Child' (EWEC) movement.

Agenda of the meeting:

- The Government of India, in association with the Partnership for Maternal, New born and Child Health (PMNCH), is hosting a two-day international conference on 12th and 13th December 2018.
- The invited countries have been selected from across all regions and income levels and include countries that are currently chairing key global and regional bodies (e.g. G7, G20, BRICS, etc.).
- This is the fourth in a series of global high-level multi-country, multi-stakeholder events aimed at sustaining global momentum for issues related to health of women, children and adolescents.

- The event has chosen various theme from various countries that would be given a special focus, From India, Intensified Mission Indradhanush has been selected as one of the case studies.

Why in news?

- The Prime Minister, inaugurated the fourth Partners' Forum on 12th December at New Delhi.

Kala Utsav National Competition

About Kala Utsav National Competition:

- Kala Utsav National Competition was launched in 2015 with a view to promote **arts in education** by nurturing and show case the artistic talents of school students, children with special needs too will have the opportunity to display their talents.
- **Almost students from all states** participate in 4 day event with competition on music, dance and painting.
- Kala Utsav is an initiative of the Department of School Education and Literacy of the **Ministry of Human Resource Development**.

Why in news?

- Union Minister of HRD inaugurated "Kala Utsav" (Festival of Arts) at Bal Bhavan, New Delhi on 12th December, 2018.

Citizen's Charter & e-Governance

About Citizens charter:

- The Citizens' Charter is an instrument which seeks to make an organization transparent, accountable and citizen friendly.
- A Citizens' Charter is basically a set of commitments made by an organization regarding the standards of service which it delivers.
- The Department of Administrative Reforms & Public Grievance (DAPRG) gives guidance on how to formulate citizen's charter.
- Sevottam is a Service Delivery Excellence Model which provides an assessment-improvement framework to bring about excellence in public service delivery through citi
- Three components of sevottom model: Effective display of charter before the public; Public grievance redressal and achieving excellence through action.

About E-Governance:

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- E-Governance is in essence, the application of Information and Communications Technology to government functioning in order to create 'Simple, Moral, Accountable, Responsive and Transparent (SMART) governance.
- The government effort to promote Digital India and online transaction to reduce corruption and increase efficiency are all part of the e-Governance initiative.

Why in news?

- The Department of Administrative Reforms & Public Grievance (DAPRG) is going to hold Inter-Ministerial meetings on Citizens Charter and e-Governance.

Bhasha Sangam

About Bhasha Sangam:

- "Bhasha Sangam" is an attempt by MHRD to familiarise every child in the country with simple dialogues in all the 22 languages, including Kashmiri, under Schedule 8 of the Constitution.

What is the issue:

- Linguists and experts have expressed concern over the withdrawing of Kashmiri language from MHRD language-promoting portal, Bhasha Sangam after Kashmiri Pandits (KP) objected to the version of the language used.
- The Kashmiri language used by the Kashmiri Hindus and Muslims are different.
- This move of the Central Government may further alienate the Kashmiri people.

Why in news?

- MHRD recently removed Kashmiri from Basha Saman portal after a demand from few Kashmiri Pandits.

Women in Nizamuddin dargah

What is a Dargah?

- A Dargah is a shrine built over the grave of a revered religious figure, often a Sufi saint.
- Sufis often visit the shrine for ziyarat, a term associated with religious visits and pilgrimages.

About Nizamuddin Auliya:

- Hazrat Nizamuddin Auliya, was a Sufi saint of the Chishti Order.
- The Saints of Chisti Order were lived in poverty and lead a hermit life. They did not accept State service.

- This order is primarily followed in Afghanistan and Indian Subcontinent.

About the petition:

- In the plea the women contended that Nizamuddin Dargah is a public place and prohibiting women from entering the shrine is gender discrimination and thus highly unconstitutional.
- The plea cited the example of two major Muslim shrines Haji Ali Dargah in Mumbai and Khwaja Moinuddin Dargah in Ajmer that allow entry of women.

Why in news?

- The Delhi high court issued notices to the Centre, state government and the Hazrat Nizamuddin Dargah trust on a plea seeking entry of women into the sanctum sanctorum.
- The court also said that they were awaiting the Sabarimala review verdict before further hearing the case.

Death Penalty

SC observation:

- The SC bench while hearing a death penalty review petition of case of accused called Babasaheb Maruthi Khamble, to stay away from death penalty.
- SC pointed out lapses in the way justice is administered in death penalty cases.
- CJI observed that a number of frivolous PIL due to 100's of death penalty cases pending.
- CJI also remarked that every day the prisoners wake up uncertain of whether they have death penalty or not.
- It ruled that the Special leave petitions filed in cases where the death sentence is awarded by the courts below **should not be dismissed without giving reasons**.
- The apex court also laid down that in death penalty cases, the court was obliged to independently examine the case, "unbound by the findings of the trial court and the High Court."
- The court also batted for the rights of the prisoners with death penalty that they should be allowed to meet their families and consult the lawyers periodically, because as long as they live, they have right to live with dignity.

Why in news?

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- The CJI led bench of SC heard the review petition filed by a death penalty convict Kamble.
- Kamble had filed a review against the apex court's earlier dismissal of his appeal against death with a two-line order which merely said: "Delay condoned. Dismissed."

Cauvery Water Sharing

What is CWMA (Cauvery Water Management Authority)?

- The CWMA has been formed by the Centre.
- This is **to implement the water-sharing award** of the Cauvery Water Dispute Tribunal.
- The CWMA is expected to meet once every 10 days during the monsoon months.

About CWC:

- Central Water Commission is apex Technical Organization of India in the field of Water Resources.
- It is presently functioning as an attached office of Union Ministry of Water Resources, River Development and Ganga Rejuvenation.
- It is charged with the general responsibilities of initiating and coordinating schemes of control, utilization and conservation of water resources throughout the country.
- These schemes are meant for purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development.
- It also undertakes the investigations, construction and execution of any such schemes as required.

Why in news?

- Tamil Nadu moved the Supreme Court challenging the Centre's decision to give Central Water Commission (CWC) chief S. Masood Husain additional charge as chairman of the Cauvery Water Management Authority (CWMA).
- The State told the top court that Mr. Husain's appointment smacked of conflict of interest.

Mekedatu

About Mekedatu dam project:

- Being set up by the Karnataka government, the project is near Mekedatu, in Ramanagaram district, across the river Cauvery from Tamil Nadu.

- Its primary objective is to supply drinking water to Bengaluru and recharge the groundwater table in the region.

About the conflict:

- Tamil Nadu has moved the Supreme Court.
- Its main argument is that the project violates the final award of the Cauvery River Water Tribunal, and that the “construction of the two reservoirs would result in impounding of the flows in the intermediate catchment below the Krishnaraja Sagar and Kabini reservoirs, and Billigundulu in the common border of Karnataka and Tamil Nadu”.
- Karnataka says, the project will not come in the way of releasing the stipulated quantum of water to Tamil Nadu, nor will it be used for irrigation purposes.

Why in news?

- The Supreme Court asked the Centre and the Karnataka government to respond on a petition filed by Tamil Nadu against the unilateral approval granted by the Central Water Commission (CWC) to Karnataka to proceed with the preparation of Detailed Project Report (DPR) for the Mekedatu project in violation of the decisions of the tribunal and apex court for equitable apportionment of Cauvery water.

Citizenship Amendment Bill

About the amendment:

- The contentious Citizenship (Amendment) Bill, 2016, is pending in Parliament, but the Union Home Ministry has notified amendments to the Citizenship Rules, 2009, to include a separate column in the citizenship form for applicants belonging to six minority communities from Pakistan, Afghanistan and Bangladesh.
- Under the amendments, a separate entry in the form will ask the applicant: Hindus, Sikhs, Buddhists, Parsis, Sikhs and Christians from the above 3 countries.

What is the issue:

- The contentious Citizenship (Amendment) Bill, 2016, is pending in Parliament. A parliamentary committee has been examining the Bill.
- It has run into strong resistance in Assam because it will pave the way for giving citizenship mostly to illegal Hindu migrants from Bangladesh in Assam, who came after March 1971, in violation of the 1985 Assam Accord.

- Citizenship rule 2009 is a rule to implement Citizenship Act, 1955. This is being amended because Citizenship (Amendment) Bill, 2016 is under Parliament scrutiny.

What is the Citizenship Amendment Bill 2016?

- The Citizenship Amendment Bill was proposed in Lok Sabha on July 19, amending the Citizenship Act of 1955.
- If this Bill is passed in Parliament, illegal migrants from certain minority communities coming from Afghanistan, Bangladesh, and Pakistan will then be eligible for Indian citizenship.
- In short, illegal migrants belonging to the Hindu, Sikh, Buddhist, Jain, Parsi or Christian religious communities from Afghanistan, Bangladesh or Pakistan would not be imprisoned or deported.
- Moreover, these citizens gain permanent citizenship after six years of residency in India instead of 11 years — as mentioned in the Citizenship Act (1955).
- The registration of Overseas Citizen of India (OCI) cardholders may get cancelled if they violate any law.

What is the Citizenship Act 1995?

- **Citizenship by descent:** Persons born outside India on or after January 26, 1950, but before December 10, 1992, are citizens of India by descent if their father was a citizen of India at the time of their birth.
- From December 3, 2004, onwards, persons born outside of India shall not be considered citizens of India unless their birth is registered at an Indian consulate within one year of the date of birth.
- In Section 8 of the Citizenship Act 1955, if an adult makes a declaration of renunciation of Indian citizenship, he loses Indian citizenship.
- According to the Citizenship Act (1955), an illegal immigrant is defined as a person who enters India without a valid passport or stays in the country after the expiry of the visa permit. Also, the immigrant who uses false documents for the immigration process.
- Citizenship is granted to an individual by the government of the country when he/she complies with the legal formalities, so it's like a judicial concept.
- ***In India, the Citizenship Act, 1995 prescribes five ways of acquiring citizenship:***

- Birth
- Descent
- Registration
- Naturalization
- Incorporation of the territory.

About NRC:

- National Register of Citizens, 1951
- The National Register of Citizens (NRC) is a document manufactured by the Government which contains the names of Indian citizens.
- The updation of the NRC is a periodical process. It requires to be updated at regular intervals so as to ensure proper documentation of the citizens as well as to check possible illegal migration.
- In Assam, the updation of NRC could not be carried out since 1951 due to several political compulsions.
- The Assam Movement in 1980's, the language Movement and such other identity movements fought on ethnic lines have heavily impinged on the system of governance in the state thereby leading to a stalemate on the NRC updation issue.
- After five decades of the stalemate, the present government has initiated steps to update the NRC under the direct supervision of the Hon'ble Supreme Court of India.

What is Assam Accord?

- The Assam Accord (1985) was a Memorandum of Settlement (MoS) signed between representatives of the Government of India and the leaders of the Assam Movement in New Delhi on 15 August 1985.
- The accord brought an end to the Assam Agitation and paved the way for the leaders of the agitation to form a political party and form a government in the state of Assam soon after.
- Some of the key demands were – All those foreigners who had entered Assam between 1951 and 1961 were to be given full citizenship, including the right to vote.
- Those who had done so after 1971 were to be deported; the entrants between 1961 and 1971 were to be denied voting rights for ten years but would enjoy all other rights of citizenship.

Why in news?

- Union Home Ministry has notified amendments to the Citizenship Rules, 2009. The Centre has made the changes

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- The amendment has opened up a Pandora box of various issues.

Land acquisition Law

Amendments to Land acquisition Rehabilitation and Resettlement Act, 2013:

- A SC Bench had issued notice to the Tamil Nadu, Gujarat, Andhra Pradesh, Telangana and Jharkhand governments for amending their land acquisition laws.
- These states amended the laws to the extent that consent of farmers or land owners is not required before their land is acquired for projects like industrial corridors, expressways and highways.
- The petition filed states that the States allow land acquisition without participation of representative local bodies like gram sabha in social impact assessment studies.
- The States have removed the consent clause of PPP, paving the way for many private projects that are running under the garb of PPP.
- There are no provisions for expert appraisal processes, public hearings, objections, and safeguard provisions to ensure food security.
- The petition said the amendments violate the "core spirit" of the Right to Fair Compensation and Transparency in Land Acquisition Rehabilitation and Resettlement (LARR) Act of 2013.

About LARR Act, 2013:

- It mandates that 70% of the affected land owners should consent to the acquisition of land for a public private participation project.
- The 2013 Act replaced its colonial predecessor of 1894 and was intended to uphold the farmers' right to dignity and life.

Recent issue:

- Officials of the Japan International Cooperation Agency (JICA), which is funding the Mumbai-Ahmedabad bullet train project, have apparently found violations of the agency's guidelines in the process of land acquisition.
- The officials held a series of meetings with farmers and their representatives and also activists, who are opposing land acquisition for bullet train project.

- The JICA found that the government authorities followed a unilateral approach in land acquisition which led to protest.

Why in news?

- The Supreme Court decided to examine a plea challenging the legality of amendments brought in by Tamil Nadu and four other States.
- The present law allows authorities to bypass the need to take farmers' consent before their land is acquired for large infrastructure projects.

Appointments of heads of CBI, CVC

Appointment of CBI (Central Bureau of Investigation):

- CBI is the foremost investigative police agency in India.
- It is non-constitutional and non-statutory body.
- It derives power to investigate from the Delhi Special Police Establishment Act, 1946.
- It is headed by Director, an IPS officer of DGP rank.
- He is selected as per the provisions of Central Vigilance Commission (CVC) Act, 2003.
- 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 opposition in Lok Sabha.

Appointment of CVC (Central Vigilance Commissioner):

- It is the apex vigilance institution.
- It was created via executive resolution (based on the recommendations of Santhanam committee) in 1964 but was conferred with statutory status in 2003.
- It has status of statutory autonomous body and free of control from any executive authority as per the provisions of Central Vigilance Commission (CVC) Act, 2003.
- Presently, the body consists of central vigilance commissioner along with 2 vigilance commissioners.
- They are appointed by the President of India on the recommendations of a committee consisting of Prime Minister, Union Home Minister and Leader of the Opposition in Lok Sabha (if there is no LoP then the leader of the single largest Opposition party in the Lok Sabha).

Appointment of Lokpal:

- The 'Lokpal' is the central governing body that has jurisdiction over all members of parliament and central government employees in case of corruption.
- The 2013 Lokpal act stipulated the selection panel will be headed by the prime minister and will include the leader of the opposition, the speaker of the Lok Sabha, the chief justice of India and an eminent jurist.

Appointment of CIC (Central Information Commission):

- CIC was established in 2005 by Central Government under provisions of Right to Information (RTI) Act (2005).
- The Chief Information Commissioner heads the Central Information Commission.
- The Chief Information Commissioner and Information Commissioners are appointed by the President on the recommendation of a committee consisting of—
- The Prime Minister, who shall be the Chairperson of the committee.
- The Leader of Opposition in the Lok Sabha.
- A Union Cabinet Minister to be nominated by the Prime Minister.

Why in news?

- SC asked centre to give its response to a plea which that the appointment process of the CBI Director and the heads of the Central Vigilance Commission (CVC), Central Information Commission (CIC) and the Lokpal – the four regulators of governmental excess – was flawed from the very start.

Sextortion

What is sextortion?

- Sextortion also refers to a form of blackmail in which sexual information or images are used to extort sexual favors from the victim.
- Social media and text messages are often the source of the sexual material and the threatened means of sharing it with others.

Significance of J&K law:

- Jammu And Kashmir Becomes First State To Bring Law Against "Sextortion".
- The law bans sexual exploitation of women by those in positions of authority, having a fiduciary relationship or a public servant.
- Amendments were made to the 'Prevention of Corruption (Amendment) Bill, 2018' and

the 'Jammu and Kashmir Criminal Laws (Amendment) Bill, 2018' and Ranbir Penal code (RPC).

- Now sextortion has been brought under the ambit of 'misconduct' under Sec 5 of Prevention of Corruption Act.

What is Ranbir Penal Code (RPC)?

- Jammu and Kashmir State Ranbir Penal Code or RPC is a criminal code applicable in Jammu and Kashmir.
- Indian Penal Code is not applicable here under Article 370 of the Indian constitution.
- The code was introduced during the reign of Dogra dynasty with Ranbir Singh as its ruler.

Why in news?

- J&K governor approved amendment to RPC to insert section to provide for the offence of 'sextortion'.

Oxytocin

What is Oxytocin?

- It is a female hormone
- It has also been dubbed the love hormone, hug hormone, cuddle chemical, moral molecule, and the bliss hormone due to its effects on behaviour, including its role in love and in female reproductive biological functions in reproduction.
- Oxytocin is a hormone that is made in the brain, in the **hypothalamus**.
- It is transported to, and secreted by, the **pituitary gland**, which is located at the base of the brain.
- It acts both as a hormone and as a brain neurotransmitter.
- The release of oxytocin by the pituitary gland acts to regulate two female reproductive functions: **Childbirth** and **Breast-feeding**.

Why its sale is being limited?

- The drug is used by dairy owners and farmers to boost milk production and make vegetables look bigger and fresher.
- But, it was found that indiscriminate use of Oxytocin in milch animals and by farmers was causing irreversible hormone damage.

HC observation:

- The Bench of HC set aside the government's notification on April 2018 imposing the ban, saying it was "arbitrary and unreasonable".

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- The government did not adequately weigh in the danger to the users of Oxytocin, nor consider the deleterious effect to the public generally and women particularly.
- Of possible restricted supply if manufacture is confined to one unit, to the pregnant women and young mothers, of a potentially life-saving drug.
- It said the Centre's decision to allow only a single, state-run entity with no prior experience in manufacturing Oxytocin to make and sell the drug, was "fraught with potential adverse consequences".
- Correspondingly there was no scientific basis, and insufficient data to support the conclusion that the drug's existing availability or manner of distribution posed a risk to human life.

HC power to quash Centre's order:

- Article 13 of Constitution of India deals with Laws inconsistent with or in derogation of the fundamental rights shall be struck down on the grounds of violating the constitution.
- In this case Women's right to life under Art 21 is being violated due to the ban.

Why in news?

- The Delhi HC quashed the Centre's decision to ban the manufacture and sale of Oxytocin, a drug which induces labour and controls bleeding during the child birth.

Sakhi One Stop Centre

About Sakhi One Stop Centres:

- Ministry of Women and Child Development.
- Aim's to provide integrated services for women affected with violence.
- It is being implemented since April 1, 2015.
- It is funded from Nirbhaya Fund.
- It aims to facilitate access to integrated range of services including medical aid, police assistance, legal aid and case management, psychosocial counselling and temporary support services to women affected by violence.
- Under the scheme, it has been envisaged that Sakhi OSCs will be set up across the country in a phased manner.
- In the first phase, one centre was sanctioned per state/UT.

Why in news?

Government informed in Parliament that almost 2 crore women survivors of violence were benefitted

by One stop centre opened throughout India in last 3 years.

Swasth North East Initiative

What is Swasth North East Initiative?

- It is an initiative of Ministry of health and family welfare and Ministry of Development of North East Region.
- Aims to build medical, education and healthcare facilities and infrastructure in North East Region.
- North East Special Infrastructure Development Scheme (NESIDS), which is fully funded by the Central Government is the source of fund.
- North East Council (NEC) is responsible for sanction and approval of project.

About North East Council(NEC):

- North Eastern Council is a statutory, advisory body established in 1972 via the North Eastern Council Act, 1971.
- The three key objectives viz. balanced development of the North Eastern Region; effecting better inter-state coordination; and maintaining security and public order in the region.
- The eight States of Northeast India viz. Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim, are members of the council, with their respective Chief Ministers and Governors representing them.
- Works under the Chairmanship of Ministry of Home Affairs.

Why in news?

- 56 new infrastructure development projects has been taken up under Swasth North East Initiative.

Sex determination

About PCNPNDT Act:

- The Pre-conception & Pre-natal Diagnostics Techniques (PC & PNDT) Act, 1994 was enacted in response to the decline in Sex ratio in India, which deteriorated from 972 in 1901 to 927 in 1991.
- The main purpose of enacting the act is to ban the use of sex selection techniques before or after conception and prevent the misuse of prenatal diagnostic technique for sex selective abortion.
- Offences under this act include conducting or helping in the conduct of prenatal

Officers IAS Academy, Chennai diagnostic technique in the unregistered units, sex selection on a man or woman, conducting PND test for any purpose other than the one mentioned in the act, sale, distribution, supply, renting etc. of any ultra sound machine or any other equipment capable of detecting sex of the foetus.

Why in news?

- The Rajasthan government's Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) team has arrested seven persons allegedly involved in sex determination tests in three operations.

Space Activities Bill, 2017

Key provisions of the bill:

- The provisions of the legislation shall apply to every citizen of India.
- And also, to all sectors engaged in any space activity in India or outside India.
- **Regulatory mechanism** - The central government is responsible for setting mechanisms and promoting space activity.
- This includes exploration and use of outer space, and development of the sector.
- **The central government** can: grant, transfer, or terminate licenses to any person for commercial space activities; provide professional and technical support, and authorisation to launch or operate space objects; regulate the procedures for conduct and operation of space activity by monitoring the conformity with international space agreements to which India is a party; ensure safety requirements and investigate any incident or accident in connection with the operation of a space activity
- **Licences** - A non-transferable licence shall be provided by the Central Government to any person carrying out commercial space activity.
- A license granted by the central government includes -
- permission for the central government to inspect any space activity and documents related to space activity; obligation on the licensee to insure himself/herself against any liability

incurred due to any activity authorised by the license

- **Liabilities** - A licensee should compensate the central government against claims brought against the government.
- This would be regarding damages arising out of commercial space activities covered under the license.
- **Penalties** - The draft Bill provides for penalties in case of: unauthorised commercial space activity; furnishing false information or documents; causing environmental damage; entry into prohibited areas; disclosure of restricted information.
- Protection of action taken by the central government i.e. no legal proceedings can lie against the central government with

Officers IAS Academy, Chennai respect to anything done in good faith in pursuance of space activity.

- **IPR** - Intellectual property rights developed during the course of space activity will be protected under the law.
- Further, any intellectual property right developed onboard a space object in outer space will be deemed to be the property of the central government.

Why in news?

- The Government has invited suggestions from the public or stakeholders regarding the draft Space Activities Bill, 2017.
- The objective of the Space Bill is to facilitate the overall growth of the space activities in India with higher order of participation of public/ non-governmental/ private sector stakeholders.

Economy

Swaminathan Committee Report

What is Minimum Support Price?

- Minimum Support Price is an important part of India's agricultural price policy. The policy was started in 1966-67 in the wake of Green revolution.
- It is basically the price at which government purchases crops from the farmers, whatever may be the market price for the crops.
- MSP prices for various crops are announced at the beginning of each sowing season.

Who declares and who prepares it?

- The Cabinet Committee on Economic Affairs (CCEA), of the union government, determines the Minimum Support Prices (MSP) of various agricultural commodities in India based on the recommendations of the Commission for Agricultural Cost and Prices (CACCP).

How is the MSP calculated?

- The MSP is calculated using 3 different formulas. A2, A2+FL, C2
- A2 Cost – the price the farmer pays out of his pocket for various agricultural inputs such as seeds, fertilisers, pesticides, land lease, hired labour, hired machinery, etc.
- A2+FL cost – The A2 cost + Imputed cost of unpaid Family Labour
- C2 cost – A2+FL cost + Rentals/Interest forgone on owned land + Fixed Capital Assets
- **National Commission on Farmers** headed by Dr. M. S. Swaminathan submitted its report in 2006. It recommended an MSP of C2+ 50% above the C2 cost.

Why in news?

- In July, the government increased the MSP by 50% for kharif crops based on A2+FL cost.
- However, farmers across the country are protesting against using the A2+FL cost formula instead of the C2 cost, as recommended by the Swaminathan Committee.

Other recommendations of Dr Swaminathan committee

- To **distribute** ceiling-surplus and waste land among farmers: The share of the bottom half of the rural households in the

total land ownership was only 3 per cent and the top 10 per cent was as high as 54 per cent.

- To **prevent diversion** of prime agricultural land and forest to corporate sector for non-agricultural purposes.
- To ensure grazing rights and seasonal access to forests to tribals and pastoralists, and access to common property resources.
- To establish a **National Land Use Advisory Service**: This would have the capacity to link land use decisions with ecological meteorological and marketing factors on a location and season-specific basis.
- To set up a mechanism to regulate the sale of agricultural land, based on quantum of land, nature of proposed use and category of buyer.

Increasing Agri-Export

Agriculture Export Policy 2018

- In order to provide an impetus to agricultural exports, the Union Cabinet has recently approved the **Agriculture Export Policy 2018**.

Key objectives

- To **double agricultural exports** from present US\$ 30 Billion to US\$ 60 Billion by 2022 and reach US\$ 100 Billion in the next few years thereafter, with a stable trade policy regime.
- To **diversify** exports by products and destination with focus on high value-added farm produce and perishables. At present, rice, wheat and marine products account for about 52% of the total farm exports.
- To promote novel, indigenous, organic, ethnic, traditional and non-traditional Agri products exports.
- To provide an **institutional mechanism** for pursuing market access, tackling barriers and deal with sanitary and phytosanitary issues.
- To strive to **double India's share** in world agri exports by integrating with global value chain at the earliest.
- To set up **specialised clusters** in different states for different produce to push exports.
- The policy also envisages removing all restrictions on export of organic and

processed foods, paving way for the growth of the sector. For other agriculture products, govt will remove the restrictions depending on the situation.

Other Exports promotion schemes

- **Trade Infrastructure for Export Scheme (TIES)**
 - To enhance export competitiveness by bridging gaps in export infrastructure, creating focused export infrastructure and first-mile and last-mile connectivity
 - It would focus on projects like customs checkpoints, last mile connectivity, border haats and integrated check posts
 - The Central and State Agencies, including Export Promotion Councils, Commodities Boards, SEZ Authorities and Apex Trade Bodies recognised under the EXIM policy are eligible for financial support under this scheme
- **Market Access Initiatives (MAI) Scheme**
 - formulated on **focus product-focus country** approach to evolve specific market and specific product
 - assistance would be provided to Export Promotion Organizations/ Trade Promotion Organizations/ National Level Institutions/ Research Institutions/ Universities/ Laboratories, Exporters, etc., for enhancement of export through accessing new markets or through increasing the share in the existing markets
- **Merchandise Exports from India Scheme (MEIS)**
 - launched under Foreign Trade Policy of India (FTP) 2015-20 to offset infrastructural inefficiencies and associated costs involved in export of goods and products, which are produced and manufactured in India
 - It seeks to enhance India's export competitiveness of these goods and products having high export intensity, employment potential
 - Notified goods exported are given MEIS duty-free scrips which can be

GeM

About GeM

- The Government e-Marketplace (GeM) was launched in 2016 as a one-stop portal to facilitate online procurement of common use goods and services required by various government departments, organisations and public sector undertakings.
- In 2017, the government made it **mandatory** for all the departments and ministries to source goods and services from the GeM.

Objectives of the GeM

- To bring more transparency and to streamline the government procurement process.
- Achieve cashless, contactless and paperless transaction, in line with Digital India objectives.
- Increase overall efficiency leading to significant cost saving on government expenditure in procurement.

Why in News?

- Minister of State of Commerce and Industry, C. R. Chaudhary in his written reply to Rajya Sabha said that GeM has brought transparency, efficiency, and inclusiveness in public procurement.
- It has reduced the time of procurements, reduced the process and enabled ease of doing business for both buyers and vendors.
- There is huge savings in the cost of procurement, ranging from a minimum of 10% to 45% in different categories. The average saving based on the MRP/Listed price is about 28%.

GeM to soon onboard start-ups

- The government is planning to onboard start-ups on the GeM platform which will allow them to access government market and give them a chance to sell on the GeM platform.
- GeM is also working in a mission mode to onboard maximum number of Micro Small and Medium Enterprises (MSMEs). This is GeM's initiative for the MSME support and outreach programme which is running for 100 days covering 100 districts. This programme was launched by Prime Minister, Narendra Modi, in November

2018 as a national mission to support MSMEs.

- Of the 1 lakh crore CPSE procurement being done by the 170 CPSEs that are procuring their requirements through GeM **25% is from MSMEs.**

e-Pharmacy

Draft rules to amend Drugs and Cosmetics Rules, 1945

- In August 2018, the Ministry of Health and Family Welfare released a draft to amend the Drugs and Cosmetics Rules, 1945.
- The draft rules make provisions for sale of drugs by **e-pharmacy**.

What is an e-pharmacy?

- The draft rules define e-pharmacy as a business of distribution or sale, stock, exhibit or offer for sale of drugs through web portal or any other electronic mode.

Highlights of the Draft

- **Registration and Customer Support:** The draft rules make it mandatory that no person shall sell, stock, exhibit or offer for sale drugs through e-pharmacy portal unless registered. Further an e-pharmacy registration holder shall have a facility for customer support and grievance redressal for all stakeholders.
- **Data Localisation:** Also as per the draft rules the e-pharmacy portals have to be established in India through which they are conducting their business and shall keep the data generated localised.
- **Periodic Inspection:** The premise where the e-pharmacy business is conducted shall be inspected every two years by the Central Licensing Authority.
- **Procedure for distribution of sale of drugs through e-Pharmacy:** The registered pharmacist must verify the details of the patients, registered medical practitioner and arrange for dispense of the drugs.

Why in News?

- Minister of State for Chemicals and Fertilizers, Mansukh L. Mandaviya while addressing concerns on sale of medicines online said that the draft rules has separate guidelines to regulate distribution or sale, stock, exhibit or offer for sale of drugs through e-pharmacy.

Energy justice & Climate justice

What's in the News?

- Speaking at an event related to Energy and natural resources sector, Minister of Petroleum and Natural Gas Dharmendra Pradhan has said that Energy is a key driver of economic growth and thus the govt is focused on fulfilling the twin objectives of energy justice and climate justice.
- India is the third largest energy consumer in the world after US and China and India's per capita energy consumption is around 1/3rd of the world's average. Our energy demand would grow three-fold by 2040.
- He said the four energy pillars viz. Energy Access, Energy Efficiency, Energy Sustainability and Energy Security, has to be seen in tandem for a stable energy future.
- The minister highlighted several initiatives by the govt towards achieving energy security

Initiatives by the Govt

- Work is underway on 2600 km long Jagdishpur-Haldia and Bokaro-Dhamra pipeline project also known as **Pradhan Mantri Urja Ganga project**.
- In order to connect north eastern states with gas grid, **Indradhanush Gas Grid Ltd** has been formed to lay 1500 km pipeline with an investment of Rs 6000 cr.
- **Pradhan Mantri Ujjwala Yojana** has transformed the lives of over 6 crore poor women. Additional 12.5 crore LPG connections have been given in last 4 years taking our LPG coverage today to 90% from 55% in 2014. Ujjwala Yojana has brought about multiple positive benefits in the form of health, economic empowerment and environmental benefits.
- Government has launched a scheme to produce **Bio CNG** by setting up 5000 Bio-CNG plants in the next five years. These plants will not only help tackle the problem of agricultural waste burning but also bring monetary benefits to farmers.
- He said that the government has made significant increase in ethanol procurement price for **Ethanol blending program** to support sugarcane farmers.
- Impetus to acquisition and development of overseas equity oil and gas assets

including efforts to jointly develop oil and gas projects in Russia's Arctic shelf.

- Asia's biggest green oil refinery cum- petrochemical complex is being set up in the state of Maharashtra at a cost of about \$ 40 billion dollars by OMCs along with Saudi Aramco and the Abu Dhabi National Oil Company (ADNOC).
- Mr Pradhan said that as a next step, the govt would soon set up a gas trading hub that will allow easy and ready access to gas suppliers and buyers to freely trade natural gas and in turn help India to develop its own hub based pricing.

Regulation of E-Commerce

Multiple regulations

- The E-commerce sector in the country faces multiple regulations touching different aspects of the sector.
- Information Technology Act 2000 provides legal recognition for the transactions carried out by means of electronic data interchange and other means of electronic communication.
- E-commerce companies have to comply with the Companies Act, 2013 and other applicable laws of the country.
- Such companies with FDI can operate only in activities which are specifically permitted. Any violation of FDI regulations is covered by the penal provisions of the Foreign Exchange Management Act, 1999(FEMA). RBI administers the FEMA and Directorate of Enforcement under the Ministry of Finance is the authority for the enforcement of FEMA.
- Further, activities of e-commerce companies also involve compliance of Shops and Establishments Act of the State concerned.

Draft e-commerce policy

- In July 2018, the govt released the Draft e-commerce policy to achieve harmonisation of laws and regulations covering the e-commerce ecosystem.
- The policy aimed to look into matters of predatory pricing, discounts, data localisation, promotions of Indian entrepreneurship, among other aspects of ecommerce and online-aided retail.

Highlights of the draft policy

- Online retail firms have to store user data exclusively in India (*data localisation*) in view of security and privacy concerns.

- Any group company of an online retailer or marketplace may not be allowed to directly or indirectly influence the price or sale of products and services on its platform, a move that could completely restrict e-tailers from giving deep discounts.
- The draft has also suggested introduction of a pre-set timeframe for offering differential pricing or deep discounts by e-commerce players to customers.
- The draft recommended permitting 49% FDI in inventory-based business-to-customer e-commerce model. Currently, FDI in such businesses is prohibited and it is allowed only in the marketplace model.

(Marketplace based model of e-commerce means providing an information technology platform by an e-commerce entity on a digital & electronic network to act as a facilitator between the buyer and seller. Inventory based model of e-commerce means an e-commerce activity where inventory of goods and services is owned by e-commerce entity and is sold to the consumers directly)

Negative responses

- Many experts have cautioned that the suggestion of introducing a sunset clause for offering deep discounts to customers will impact both customers and e-commerce players.
- NITI Aayog CEO Amitabh Kant said that the government should not get into the market by looking at micro issues of discounts and pricing.
- Domestic e-commerce players have raised objections to the proposal allowing FDI in inventory based model.
- Industry bodies also objected to data localisation proposals which would increase their cost of operations.

Why in News?

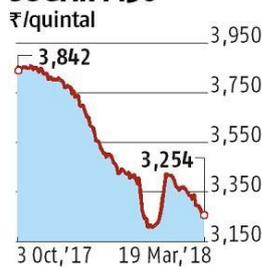
- With concerns being raised on some proposals of the draft e-commerce policy, the government has set up a group of secretaries to look into the issues.
- The group will be chaired by the secretary in the department of industrial policy and promotion (DIPP). The other members of the group include secretaries of the ministry of electronics and information technology and department of commerce. Representatives of Niti Aayog and department of economic affairs are also members of the group.

Minimum Indicative Export Quotas

Issues plaguing sugar mills

- The consistent increase in FRP of sugarcane results in over-production of cane and sugar, which in turn causes sugar prices to fall below cost levels. The mills incur losses, leading to defaults in payments of farmers.
- *(Fair and Remunerative Price (FRP) is an arrangement for the price to be paid to sugarcane farmers by the Sugar Mills and is announced each year by the Centre, on the advice of Commission for Agricultural Costs and Prices (CACP) and after consultation with State Governments and other stakeholders)*
- According to the Indian Sugar Mills Association, India's sugar production is estimated to rise by 10% to touch a new record of 35.5 million tonnes in the next marketing year. It poses a serious risk of causing a glut in sugar production which will further drive down sugar prices.
- Sugar mills are already facing issues from depressed sugar prices with arrears still at alarming Rs 19,000 crore as of June 2018.

SUGAR M30



Source: The Bombay Sugar Merchants Association
Compiled by BS Research Bureau

INDIA'S SUGAR OUTPUT

Year	Quantity (mt)
2010-11	24.4
2011-12	26.3
2012-13	25.1
2013-14	24.4
2014-15	28.3
2015-16	25.1
2016-17	20.3
2017-18F	29.5

F: Forecast
Compiled by BS Research Bureau
Source: Isma

What is Minimum Indicative Export Quotas?

- Govt. use MIEQ to clear surplus stocks of sugar and to improve cash flow to millers for making payment to sugarcane farmers.
- Under MIEQ, mills are allowed to export a fixed quantity of sugar within a specified period.
- It is mandatory to export the fixed quota, failing which the mills shall be deemed to be violating the directives of the government.

Why in News?

- The Central Government has fixed export targets by allocating mill-wise MIEQ of 50 lakh metric tonnes (LMT) of sugar for export in current sugar season 2018-19.

- However, it has been observed that the sugar mills are not undertaking export of sugar at the desired pace.
- The Central Government directed all the sugar mills to undertake export of sugar as per their allocated quantity of MIEQ failing which appropriate action would be initiated against the defaulting sugar mills.

Measures against bank frauds

List of measures

- Government has issued "Framework for timely detection, reporting, investigation etc. relating to large value bank frauds" to Public Sector Banks (PSBs), which provides,
 - All accounts exceeding Rs. 50 crore, if classified as Non-Performing Assets be examined by banks from the angle of possible fraud, and a report placed before the bank's Committee for Review of NPAs on the findings of this investigation;
 - Examination be initiated for wilful default immediately upon reporting fraud to RBI;
 - Report on the borrower be sought from the Central Economic Intelligence Bureau in case an account turns NPA.
- **Fugitive Economic Offenders Act, 2018** has been enacted to deter economic offenders from evading the process of Indian law by remaining outside the jurisdiction of Indian courts. It provides for attachment of property of a fugitive economic offender, confiscation of such offender's property and disentitlement of the offender from defending any civil claim.
- **Central Fraud Registry (CFR)**, based on Fraud Monitoring Returns filed by banks and select financial institutions, has been set up by RBI as a searchable online central database for use by banks.
- For enforcement of auditing standards and ensuring the quality of audits Government has initiated establishment of **National Financial Reporting Authority** as an independent regulator.
- PSBs have also been instructed to ensure implementation, within stipulated deadlines, measures prescribed by RBI for

strengthening the SWIFT operating environment in banks,

About SWIFT

- The SWIFT (Society for Worldwide Interbank Financial Telecommunication) is a global member-owned cooperative that is headquartered in Brussels, Belgium.
- Founded in 1973 by a group of 239 banks from 15 countries to develop a secure electronic messaging service and common standards to facilitate cross-border payments.
- SWIFT does not facilitate funds transfer, rather, it sends payment orders, that must be settled by correspondent accounts that institutions have with each other.
- On receiving this message through SWIFT, banks abroad, mostly branches of domestic banks abroad provide funds to the company.

Loan waivers

What's in the news?

- Former RBI Governor Raghuram Rajan has said that state governments should resist giving farm loan waivers since they will create fiscal stress and not reach the farmers that need them.

Issues with loan waivers

- Mr Rajan said loan waivers often goes to the best connected rather than to the poorest.
- Loan waivers also vitiate the credit culture and stress the budgets of the waiving State or Central government.
- They are poorly targeted, and eventually reduce the flow of credit.
- He warned that government-imposed credit targets are often achieved by abandoning appropriate due diligence, creating the environment for future NPAs.

Need all party consensus

- He stressed that agriculture sector needs serious attention, but not through loan waivers.
- An all-party agreement that there will be no loan waivers would be in the nation's interest, especially given the impending elections.
- Stating that the government should focus on the source of the next crisis, not just the last one, Rajan advised that the government should refrain from setting ambitious credit targets or waiving loans.

Pradhan Mantri Rojgar Protsahan Yojana

About PMPRY

- The Pradhan Mantri Rojgar Protsahan Yojana (PMRPY) Scheme is being implemented by the Ministry of Labour and Employment. It aims to incentivise employers for employment generation.
- Under the scheme, the government pays the employers' contribution of 8.33 per cent of wages to the Employees' Pension Scheme (EPS) for new employees having — a new Universal Account Number (UAN) and who joined on or after April 1, 2016— for first three years.
- Textiles (apparel and made-up) sector is also eligible for 3.67 per cent EPF (Employees' Provident Fund) contribution of employers in addition to the 8.33 per cent EPS contribution.
- The scheme is targeted for employees earning upto Rs. 15,000 per month.
- This Scheme has a dual benefit, where, on the one hand, the employer is incentivised for increasing the employment base of workers in the establishment, and on the other hand, a large number of workers will find jobs in such establishments. A direct benefit is that these workers will have access to social security benefits of the organized sector.

Why in News?

- Minister of State for Labour and Employment has released the beneficiary details of PMRPY.
 - Total No. of Employee beneficiaries - 91,85,937
 - Total No. of Establishments benefitted - 1,14,145
 - Total payment disbursed - Rs.2870.72 Cr.

Prime Minister's Employment Generation Programme

About PMEGP

- Prime Minister's Employment Generation Programme (PMEGP) is a flagship credit-linked subsidy programme of Government of India being administered by the Ministry of Micro, Small and Medium Enterprises (MoMSME).
- The Scheme is aimed at generating self-employment opportunities through establishment of micro-enterprises in the

non-farm sector by helping traditional artisans and unemployed youth in rural as well as urban areas.

- At the national level, the Scheme is being implemented by Khadi and Village Industries Commission (KVIC), a statutory organization under the administrative control of the Ministry of MSME as the single nodal agency.
- At the State level, the Scheme will be implemented through State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs) and District Industries Centres (DICs) and banks.

Beneficiaries

- Under PMEGP, general category beneficiaries can avail of margin money subsidy of 25 % of the project cost in rural areas and 15% in urban areas.
- For beneficiaries belonging to special categories such as Scheduled Caste/Scheduled Tribe/OBC /Minorities/Women, Ex-serviceman, Physically Handicapped, Hill and Border areas etc. the margin money subsidy is 35% in rural areas and 25% in urban areas.
- Any individual above 18 years of age is eligible.
- For setting up of projects costing above Rs.10 lakh in the manufacturing sector and above Rs. 5 lakh in the business /service sector, the beneficiaries should possess at least VIII standard pass educational qualification.
- The maximum cost of projects is Rs. 25 lakh in the manufacturing sector and Rs. 10 lakh in the service sector.
- Benefit can be availed under PMEGP for setting up of new units only.
- Entire process is real time and online. The applicant has to apply on the portal and can track the status of the application on the PMEGP-e-portal.

Why in News?

- Minister of State for Micro, Small and Medium Enterprises informed in Rajya Sabha that 5,02,085 beneficiaries assisted under the PMEGP since its inception in 2008-09.
- The Minister also informed that targets for the year 2018-19 for assistance under PMEGP have been increased by more than 50% due to increased budget allocation for PMEGP. The budgetary allocation for PMEGP, was increased to Rs.1800.64 crore

PCA norms

Prompt Corrective Action (PCA)

- The PCA framework specifies the trigger points or the level in which the RBI will intervene with corrective action if a commercial bank's financial condition worsens below a mark. . It is to ensure that banks don't go bust.
- The parameters that invite corrective action from the central bank are:
 - Capital to Risk weighted Asset Ratio (CRAR)
 - Net Non-Performing Assets (NPA)
 - Return on Assets (RoA)
- Currently, RBI has placed 11 state-run banks under prompt corrective action.

What will happen when a bank brought under PCA?

- When these parameters reach the set trigger points for a bank, the RBI will initiate certain structured and discretionary actions for the bank including
 - Restriction on dividend distribution/remittance of profits;
 - Requirement on promoters/owners/parents to bring in more capital;
 - Restrictions on branch expansion;
 - Higher provisioning requirement; and,
 - Restrictions on management compensation.

Applicability

- The PCA framework is applicable only to commercial banks and not extended to co-operative banks, non-banking financial companies (NBFCs) and FMIs.

Why in News?

- Chief executives of public sector banks have requested the new RBI Governor Shaktikanta Das to relax the PCA norms on the ground that it was hurting credit off-take.
- Bankers highlighted the challenges they are facing to boost loan growth as there are 11 state-run banks under prompt corrective action.

MPC & CRR

About MPC

- The Monetary Policy Committee (MPC) is a committee of the RBI, headed by its Governor, which is entrusted with the task of fixing the benchmark policy interest rate (repo rate) to contain inflation within the specified target level.
- The MPC have six members
 - RBI Governor (Chairperson), RBI Deputy Governor in charge of monetary policy, one official nominated by the RBI Board and remaining 3 members would represent the Government.
- The MPC takes decisions based on majority vote. In case of a tie, the RBI governor will have the second or casting vote. The decision of the Committee would be binding on the RBI.

What is CRR?

- Cash Reserve Ratio (CRR) is the amount of funds that banks have to keep (only in the form of cash) with the RBI as a proportion of their deposits.

Who decides on CRR?

- Though there were expectations that MPC would reduce CRR in its recently held fifth monetary policy review, RBI Governor Urjit Patel made it clear that CRR is not in the ambit of the MPC.
- While MPC votes on repo rate and policy stance, RBI is the authority to fix CRR.

SEZ Policy Review

What is a Special Economic Zone(SEZ)?

- SEZ is a specifically delineated **duty-free enclave** and deemed to be foreign territory for the purposes of trade operations and duties and tariffs.
- SEZs' economic laws are more liberal than a country's typical economic laws. India's SEZ policy offers various fiscal and regulatory incentives to the developers within the zone like exemption from customs duties, central excise duties.
- The idea was to create a level playing field to the domestic enterprises and manufacturers to be competitive globally.

Objectives of SEZs

- The major objectives of setting up a SEZ are
 - To attract FDI
 - Earn foreign exchange and contribute to exchange rate stability

Officers IAS Academy, Chennai

- Boost the export sector especially non traditional exports
- To create employment opportunities
- Introduce new technology
- Develop backward regions etc.

Statutory provisions

- THE SPECIAL ECONOMIC ZONE ACT 2005 provides for the establishment, development and management of the SEZs for the promotion of exports and for the matters connected therewith.

Why in News?

- In June 2018 the government had constituted a group of eminent persons under the chairmanship of Baba Kalyani to study the Special Economic Zone (SEZ) Policy of India.
- The Group submitted its report to the Government last month.

Key recommendations

- Framework shift from export growth to broad-based Employment and Economic Growth (Employment and Economic Enclaves-3Es).
- Formulation of separate rules and procedures for manufacturing and service SEZs.
- Shift from supply driven to demand driven approach for 3Es development to improve efficiency of investment-based on certain industries, current level of existing inventory in the region.
- Enabling framework for Ease of Doing Business (EoDB) in 3Es in sync with State EoDB initiatives. One integrated online portal for new investments, operational requirements and exits related matters.
- Enhance competitiveness by enabling ecosystem development by funding high speed multi modal connectivity, business services and utility infrastructure. Critical to provide support to create high quality infrastructure either within or linked to the zones eg. High Speed Rail, Express roadways, Passenger/Cargo airports, shipping ports, warehouses etc.
- Promote integrated industrial and urban development- walk to work zones, States and center to coordinate on the framework development to bring linkages between all initiatives.
- Procedural relaxations for developers and tenants to improve operational and exit issues.

- Export duty should not be levied on goods supplied to developers and used in manufacture of goods exported.
- Infrastructure status to improve access to finance and enable long term borrowing.
- Promote MSME participation in 3Es and enable manufacturing enabling service players to locate in 3E.
- Dispute resolution through arbitration and commercial courts.

Pradhan Mantri Fasal Bima Yojana

About PMFBY

- The Pradhan Mantri Fasal Bima Yojana was launched in 2016.
- It replaced earlier insurance schemes- National Agricultural Insurance Scheme, Weather-based Crop Insurance scheme and the Modified NAIS.

Objectives

- To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases.
- To stabilise the income of farmers to ensure their continuance in farming.
- To encourage farmers to adopt innovative and modern agricultural practices.
- To ensure flow of credit to the agriculture sector.

Highlights of the scheme

- There will be a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops. In case of annual commercial and horticultural crops, the premium to be paid by farmers will be only 5%. The balance premium will be paid by the Government to provide full insured amount to the farmers against crop loss on account of natural calamities.
- There is no upper limit on Government subsidy. Even if balance premium is 90%, it will be borne by the Government.
- The use of technology will be encouraged to a great extent. Smartphones will be used to capture and upload data of crop cutting to reduce the delays in claim payment to farmers. Remote sensing will be used to reduce the number of crop cutting experiments.
- All farmers growing notified crops in a notified area during the season who have insurable interest in the crop are eligible.

- The scheme is mandatory for farmers who have taken institutional loans from banks. It's optional for farmers who have not taken institutional credit.

Risks covered under the scheme

- Yield Losses
- Post-harvest losses
- Localised Calamities

Exclusions

- However, this scheme excludes risks and losses arising out of War and kindred perils, nuclear risks, riots, malicious damage, theft, act of enemy, grazed and/or destroyed by domestic and/or wild animals. In case of post-harvest losses the harvested crop bundled and heaped at a place before threshing, other preventable risks.

Why in News?

- Minister of State for Ministry of Agriculture & Farmers Welfare said that claims of Rs. 16279.25 crore have been paid to farmers in 2016-17 as against the premium collected from farmers amounting to Rs.4216.04 crore.
- Similarly, claims of Rs.16967.92 crore have been paid during 2017-18 (Kharif 2017) against premium collected from farmers amounting to 3038.70 crore.

Former CEC on Indian Economy

What's in the news?

- Former Chief Economic Adviser Arvind Subramanian said that both demonetisation and implementation of GST have resulted in moderation of the economy and the budget estimate of revenue collection from the GST seems to be unreasonable.
- He warned that the Indian economy is facing a slowdown because of combination of reasons including
 - Stress in the financial system
 - Stress in the agriculture sector
 - Tight liquidity conditions which is not conducive for rapid growth

'RBI's excess capital should not be used to fund deficit'

- Dr. Subramanian said that the autonomy of the RBI should not be undermined.
- He said even though RBI is over-capitalised, it should not be used for funding the fiscal deficit. The excess capital must only be used for the recapitalisation of public sector banks

which would add to long-term growth of the economy.

RBI autonomy and Governor's resignation

Background

- The RBI and the govt are at loggerheads for many reasons including
 - Issue of inadequate control of RBI over public sector banks
 - Govt's threat to invoke section 7 of the RBI
 - Proposal for the creation of Payment Regulatory Authority independent of RBI
 - Govt's push to ease Prompt Corrective Action Plan on PSBs and lending norms on MSMEs
 - Issue of transferring RBI's excess capital reserves to the government to finance Recapitalisation of banks

Urjit Patel resigns as RBI governor

- RBI Governor Urjit Patel has resigned, citing personal reasons, amid tensions between the government and the central bank on various issues.
- Patel is the fifth RBI governor in independent India to have resigned from his post before his term was over. He was appointed the Governor in September 2016.
- Former Governor D. Subbarao said that the market will be concerned because of the perception that the government and RBI cannot establish a working relationship.

Urjit Patel strongly argued with govt. for RBI's autonomy

- Urjit Patel had recently spoken strongly about the need for the central bank's autonomy when he deposed in front of the Parliamentary Panel on Finance.
- Dr. Patel strongly made the point that depositors' interests were of primary importance and that central bank autonomy on this was non-negotiable.
- He added that setting monetary policy must also be the exclusive domain of the RBI.

'Curbing RBI freedom is credit negative'

- Ratings agency Moody's Investors Service reacted to the resignation of Urjit Patel, saying that any government attempt to curtail the central bank's independence

Officers IAS Academy, Chennai will be credit negative. (which means India's credit rating may be lowered)

- The ratings agency said independence of central bank is an important consideration of its assessment of a country's institutional strength.

Pradhan Mantri Kaushal Vikas Yojana

About Pradhan Mantri Kaushal Vikas Yojana

- This is the flagship scheme for skill training of youth being implemented by the Ministry of Skill Development and Entrepreneurship through the National Skill Development Corporation (NSDC).
- It provides short term employable skill training to youth, including class 10 and 12 drop outs, based on the National Skill Qualification Framework (NSQF) and industry led standards.
- The scheme aims to cover 10 million youth during the period 2016 -2020.
- The skill training will involve soft skills, good work ethics, personal grooming, behavioural change for cleanliness etc.
- Individuals with prior learning experience or skills will be assessed and certified under the Recognition of Prior Learning (RPL) component of the Scheme.

Why in News?

- Minister of State for Skill Development and Entrepreneurship announced in Rajya Sabha that 15.94 lakh people were provided short term training under PMKVY during 2017-18.
- Out of these candidates, 9.99 lakh candidates have been placed in various sectors across the country.

Skilling in military affected areas

- Most of the militant affected areas in the country fall under the **Special Areas** for the purpose of PMKVY. These include the state of Jammu & Kashmir, 8 North East States and 35 worst affected Left Wing Extremism (LWE) districts.
- To promote skilling in the Special Areas, many special considerations are given which includes boarding and lodging support; to and fro transport cost; post placement support. In addition, 10% extra cost is provided for training in special areas.
- The Government is also implementing schemes like 'Enhancing Skill

Development Infrastructure in North Eastern States and Sikkim' and 'Skill Development in 47 Districts affected by

Officers IAS Academy, Chennai
Left Wing Extremism (LWE)' to improve the skill development industry in militant affected states.

International Relations

Ex Aviaindra 2018

Why in news?

- Ex AVIAINDRA, a service specific exercise between **Indian Air Force** and **Russian Federation Aerospace Force (RFSAF)** is planned at Air Force Station **Jodhpur(Rajast.**

Background:

- Russia has been a major partner of India in the defence sector** and the cooperation has been steadily growing further.
- In October 2017, India and Russia held a 10-day mega war game involving their armies, navies and air forces for the first time ramp up military ties.
- The **exercise Indra**, which took place in Russia, primarily focused on achieving coordination between forces of the two countries in **tri-services** integrated theatre command scenario.
- It was the first time, India participated in tri-services exercise with a foreign country with large scale participation by the Navy, the Army and the Air Force.

About the exercise:

- First Aviaindra was conducted in 2014, planned as a bi-annual exercise.
- AVIAINDRA-2018 is the second in the series of bilateral joint exercise between IAF-RFSAF(the exercise is unique, where the foreign participants does not bring its assets).
- The aim of the exercise is focused towards anti-terrorist operations in a bi-lateral scenario. This further enhances the co-operation and understanding each other's Concept of Operations.

India-China ties

Why in news?

- Two apex industry organisations, Indian Tea Association (ITA) and China Tea Marketing Association (CTMA), have signed a memorandum of understanding to promote green and black tea consumption in major tea markets in Europe, the U.S., Russia and West Asia, besides India and China. The pact could also involve organisation of joint events.

About the MoU:

- China imported 30 million kg of black tea annually amid its rising popularity in the

country where green tea had earlier held sway.

- Indian exports stood at about 8.7 million kg in 2017 with the market being dominated by Sri Lanka and Kenya.
- An export of 15 million kg was being targeted next year.
- this alliance would promote sustainable development of the tea industry in the two countries, including that of the small tea sector.
- The MoU covers the areas of trade promotion, intellectual property protection and technology exchange.
- The top five producer countries of tea are **China, India, Kenya, Sri Lanka and Turkey.**

Tea crop:

- Tea grows in a **moderately hot and humid climate**, which is preferred for better yield, crop distribution and quality.
- An ambient temperature within 13°C and 28-32°C is conducive for growth of tea.
- Temperature above 32°C is unfavourable for optimum photosynthesis. It is synergically disastrous for the crop if it is accompanied by low humidity.
- In India, the temperature in winters is around or below 12°C and there is hardly any growth during this period. This is called **Winter Dormancy**. Flushing in the tea plants starts from March with the rise in temperature.

Tea Board of India:

- The Tea Board is set up **under the Tea Act 1953**.
- The Tea Board is functioning as a **statutory body** of the Central Government under the **Ministry of Commerce**.
- The Board is constituted of 31 members (including Chairman) drawn from Members of Parliament, tea producers, tea traders, tea brokers, consumers, and representatives of Governments from the principal tea producing states, and trade unions.
- The Board is **reconstituted every three years**.

India-Russia ties

Why in news?

- India and Russia have agreed to simplify export clearances to take forward joint

manufacturing including the Kamov-226 helicopters, naval frigates and projects related to land systems in the defence.

- This decision was made during the 18th meeting of the India-Russia Inter-Governmental Commission on Military Technical Cooperation (IRIGC-MTC) chaired by Defence Minister Nirmala Sitharaman and her Russian counterpart General Sergei Shoigu on 13th December 2018.
- **India is planning for joint production under Make in India.** This includes allowing Indian companies, both Defence Public Sector Undertakings (DPSU) and private sector, to manufacture spares for Russian systems in India.
- So far, four military-industry conferences have been held between Russian manufactures and Indian companies to take the process forward, in this regard.

Extradition of Mallya

Why in news?

- Vijay Mallya failed in his bid to stave off extradition from the UK to India to face charges of fraud and money laundering after the Westminster Magistrates' Court rejected his plea.

What are extradition treaties & arrangements?

- Extradition is a **process which involves one governmental authority formally turning over an alleged criminal to another governmental authority for prosecution for a criminal charge.**
- The consensus in international law is that a state does not have any obligation to surrender an alleged criminal to a foreign state, because one principle of sovereignty is that every state has legal authority over the people within its borders.
- Thus **to ensure extradition, extradition treaties exist between nations.**
- If there doesn't exist any extradition treaty between two nations, then also one country may request the return of the alleged criminal back to the home state.
- In India, the extradition of a fugitive from India to a foreign country or vice-versa is governed by the provisions of **Indian Extradition Act, 1962.**
- The basis of extradition could be a treaty or an arrangement between India and a foreign country.

- India currently (as of March 31 2016) has extradition treaties with 39 countries. The UK is among them.
- The issue of extradition of Indian nationals facing various charges from the UK, has been one of the biggest irritants in bilateral ties. India has asked the UK to extradite 28 people since 2002 but only one Samirbhai Vinubhai Patel has so far been sent home.
- India and the UK signed the extradition treaty in 1992 and it became effective the following year.
- The banks have declared Mallya a wilful defaulter and the Securities and Exchange Board of India (Sebi) has barred him from occupying board positions in any Indian companies.

India-USA ties

Why in news?

- **Cope India 2018**, a 12-day joint exercise is being held between the **U.S. and Indian Air Force in West Bengal.**

Cope India 2018:

- Exercise Cope India 2018 is the **fourth edition** in the series of Bilateral Joint exercise.
- It took place for the first time in 2004 as a fighter training exercise at Air Force Station Gwalior. Similar exercises were held in 2005, 2006 and 2009.
- The aim of exercise is to provide operational exposure and undertake mutual exchange of best practices towards enhancing operational capability.
- The exercise showcases US and India's efforts and commitment to a free and open Indo-Pacific region.

Hand-in-Hand 2018

What's in news?

- The 7th Sino-India joint exercise Hand-in-Hand 2018 was held at the 7th Sino-India joint exercise Hand-in-Hand 2018
- The aim of the exercise is to build and promote close relations between armies of both the countries and to enhance ability of the joint exercise commander to take military contingents of both nations under command

'History's greatest arms race in Asia'

Reasons

- It is a result of rising tensions between the US and China. As a consequence countries in Asia are strengthening their own militaries.
- The US and Japan are seeking maritime allies and losing out the continental power to China based on an ill-defined Indo-Pacific concept. Such an arrangement is not in line with India's purpose as we are a continental and maritime power.

Why in news?

- Former National Security Adviser spoke on the issue while delivering the valedictory lecture at the Indian Forum on China conference.

India-Myanmar ties

Outcomes

- The President inaugurated and reviewed Indian technological projects that are aimed at supporting farmers in Myanmar and are being carried out by the Indian Agricultural Research Institute
- The President formally launched a mobile app that provides technical assistance to farmers as well as distributed soil health cards. This is the first time that soil health cards are being used in Myanmar.
- The M.S. Swaminathan Research Foundation, funded by the Ministry of External Affairs, is undertaking a project to ensure optimal use and value addition of the gamut of bio-sources in a rice farm.
- India is building 250 houses in Myanmar's Rakhine province as part of a developmental project.
- Myanmar has also announced a visa-on-arrival facility for Indian tourists entering the country through the international airports of Nay Pyi Taw, Yangon and Mandalay.
- MoUs were signed between the two countries for training and capacity building of judges and cooperation in science and technology.

India-Tibet ties

The issue

- Despite several requests from Karmapa, Ogyen Trinley Dorje for a visa, he has been unable to visit India as planned.
- The Karmapa wants to surrender the Identity Certificate (the yellow card issued by India to Tibetans for ease of travel) as he

Officers IAS Academy, Chennai has already acquired Dominica's citizenship.

- The government is not agreeing to his demand to surrender the Identity Certificate and is not happy with the Karmapa's decision to overstay in the U.S, where he travelled in March 2017.
- Karmapa is the head of the Karma Kagyu, the largest sub-school of the Kagyu. Kagyu is one of the four major schools of Tibetan Buddhism.

Background

- The Karmapa and his sister fled to Dharamshala in 1999. The government has hosted him and allowed him to set up his congregation (a group of people assembled for religious worship).
- Since then he has grown in prominence and is now considered as a possible successor to the Dalai Lama.

China angle

- There are speculations that India is being hard with Karmapa to please China which has concerns over Tibetan issues.
- In February, planned events to commemorate the 50th year of the Dalai Lama's flight to India, as well as a major parliamentarian's conference on the Tibet issue were cancelled.

Why in news?

- The 13th Religious Conference of the Schools of Tibetan Buddhism and Bon Tradition has been postponed indefinitely.

Yellow vest movement

Yellow vest movement

- The movement, initially against a rise in fuel taxes, now addresses other issues, including education reforms, higher wages, lower taxes, better pensions and easier university entry requirements.
- The protesters adopted the name after a social-media campaign urging people to take to the streets wearing the high-visibility yellow jackets that must be carried in every vehicle in France.
- The protests that began over fuel prices has turned into an anti-Macron revolt (President of France – Emmanuel Macron)

Background

- The President decided to slash taxes on wealthy people. This was justified as move to boost investment and create jobs.
- There were hikes on pensioners' taxes, cuts in housing allowances etc.

Government response

- The unpopular fuel tax rise has been scrapped and tax cut for pensioners and an extra €100 for minimum wage earners.
- The government is freezing electricity and gas prices in 2019.

- The President had said higher taxes on fossil fuels were needed to fund renewable energy investments.

Why in news?

- There have been violent protests in France.

Science & Technology

Siberian unicorn

What's in news?

- The Siberian unicorn was believed to have become extinct between 200000 and 100000 years.
- Carbon dating of fossil found in Kazakhstan show that it is 29000 years old. It has shared the Earth with humans.

About Siberian unicorn

- The Siberian Unicorn was 1.8m tall, 4m long and weighed more than 4 tonnes. It had a big horn that grew out of its forehead.
- The extinction of the Siberian unicorn marks the end point of an entire group of rhinos.
- Range – Russia, Kazakhstan, Mongolia and Northern China
- As the Earth warmed up and started to emerge from the Ice Age around 40,000 years ago, grasslands started to shrink, likely pushing the animal to extinction.

IRIS National Fair 2018

About the fair

- The fair is conducted jointly by the Department of Science and Technology (DST), Intel India and India-US Science and Technology Forum.
- It is open to students of class 8 to class 12. Students will have to display scientific projects and models.
- The objective is to create innovative society and promote scientific temper among students. It also recognizes young scientific minds and boost their talent and pursue a career in science, technology, engineering and mathematics.
- The winners of the fair will participate in the Intel International Science and Engineering Fair which is the world's largest international pre-college science competition held annually in the US.

Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome

About MRKH

- Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome is a disorder that occurs in females and mainly affects the reproductive system.

- This condition causes the vagina and uterus to be underdeveloped or absent, although external genitalia are normal.
- Affected women usually do not have menstrual periods due to the absent uterus but have normal functioning ovaries.
- Although women with this condition are usually unable to carry a pregnancy, they may be able to have children through assisted reproduction.

Why in news?

- For the first time a healthy baby was born from a women who suffers from Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome and underwent uterus transplant from a dead donor.

Study of bacterioplanktons

What's in news?

- A research was conducted by IISER Kolkata to study the bacterial population of sunderbans.

About the research

- The research involves monitoring the bacterial population of Sunderbans.
- Sunderbans biological observatory time series has been established at Sagar islands to map data and understand changing trends.

Significance

- The study will help to understand the natural breakdown property of bacteria, the sustainability of coast and habitat for fishes.
- Scientists study bacteria to understand the change in nutrient level, impact of climate change and the level of pollution.
- The study of bacteria will help understand health of forests in a better way.

Bacterioplankton

- Bacterioplankton is the bacterial component present in water ecosystem which plays an important role in carbon cycle and maintaining aquatic food webs.
- It breaks down nutrients which are then consumed by fauna.

Sunderbans

- Sunderbans is situated at the delta region of the Ganga, Brahmaputra and Meghna along the India-Bangladesh border.

- It has rich flora and fauna and consists of a large network of water bodies, estuaries and creeks.
- It is the largest single block of halophytic mangrove forest in the world covering an area of 20,000 sq km.
- Sunderbans is classified as a moist tropical forest dominated by "Sundri tree"
- It is a UNESCO world heritage site and the only mangrove reserve in the world inhabited by tigers
- The Sunderbans boasts of common features of the both estuarine and mangrove ecosystem and acts as agent of carbon Sequestration
- It acts as shelter belt to protect the people from storms, cyclones, tidal surges, sea water seepage and intrusion.

Information warfare

What is information warfare?

- Information warfare is a concept involving use and management of information and communication technology (ICT) in pursuit of a competitive advantage over an opponent.
- Information warfare is the manipulation of information trusted by a target without the target's awareness Information warfare may involve
 - Collection of tactical information
 - Assurances that one's own information is valid
 - Spreading of propaganda or disinformation to demoralize or manipulate the enemy and the public
 - Undermining the quality of opposing force information
 - Denial of information-collection opportunities to opposing forces

Issue

- At present all forms of weapons, both nuclear and conventional are being managed by computers, India is importing a lot of equipment made by other countries.
- India is dependent on imported information warfare techniques, which could affect us adversely.
- For example, GPRS technology belonging to the U.S. did not perform as expected during the Kargil War

Previous attempt

- In 1992, the Defence Research and Development Organisation came out with a

10-year plan under which the then trend of 80% import of weapons and 20% export was to be reversed.

- However, in 2005 exports had increased to just 30%.
- India was importing 14% of the total arms and ammunition globally, which was more than what China and Pakistan imported collectively.
- India was the world's largest importer of major arms between 2012 and 2016, accounting for 13 per cent of the global total sales, according to a new data released by Stockholm International Peace Research Institute (SIPRI)

Way forward

- Experts advocate a level playing field for private entrepreneurs for boosting defence production in the country in order to make the country self-reliant in military hardware.
- It should be ensured that every jawan should be IT-qualified.
- India should indigenously produce its defence equipment.

Why in news?

- A former military Lieutenant General said that India needs to improve on information warfare.

Predicting solar activity

What's in news?

- Researchers have developed a way of predicting the intensity of activity in the next solar cycle (approximately from 2020 to 2031) using data spread over the last 100 years.

About the research

- The study finds that the sun's activity would not dip during the next cycle, but it would be similar to the current cycle, perhaps even stronger with the cycle expected to peak in 2024.
- The researchers simulated the behaviour of the sun using magnetic field evolution models and observational data.
- The study shows that we cannot make a prediction beyond the next sunspot cycle (i.e., beyond the next 10 years) because the dynamical 'memory' of the sun (i.e., the length of time over which past states affect future states of the sun) extends only over one sunspot cycle and not beyond

Significance

- This kind of work will be very important for the understanding of the long-term variations of the sun and its impact on our climate which is one of the science objectives of Aditya mission.
- The forecast will be also useful for scientific operational planning of the Aditya mission,

Sunspots

- Sunspots are darker, cooler areas on the surface of the sun in a region called the photosphere.
- The photosphere has a temperature of 5,800 degrees Kelvin. Sunspots have temperatures of about 3,800 degrees K.
- They look dark only in comparison with the brighter and hotter regions of the photosphere around them.
- They are caused by interactions with the Sun's magnetic field which are not fully understood.

Sunspot cycle

- The amount of magnetic flux that rises up to the Sun's surface varies with time in a cycle called the solar cycle.
- This cycle lasts 11 years on average. We are currently in the 24th sunspot cycle since the observation began in 1755.

Effect of sunspots

- They can cause magnetic storms that disrupt or alter radio and cell phone communication and can affect electrical grids, electronics-driven satellite controls and air traffic over polar routes
- It is believed that they are correlated with climate on earth.

Maunder minimum

- The Maunder minimum refers to a period from 1645 to 1715 where observers reported minimal Sunspot activity
- During this some parts of Europe and North America experienced lower-than-average temperatures.
- The connection between the Maunder minimum and the climate on earth is still debated
- There have been predictions that the next cycle (cycle 25) will show reduced sunspot activity.

Asteroid Bennu

What's in news?

- NASA's OSIRIS-Rex has found traces of hydrogen and oxygen molecules which are the components of water in asteroid Bennu.

Asteroid Bennu

- Bennu is near-Earth carbonaceous asteroid about the size of a small mountain in the Apollo group.
- It is carbon-rich asteroid and believed to be the type of asteroids that may have chemical building blocks of life, along with lots of water.
- Every 6 years, Bennu's orbit brings it within 200,000 miles of the Earth, which means it has a high probability of impacting Earth in the late 22nd Century.

OSIRIS- Rex

- Origins, Spectral Interpretation, Resource Identification, Security- Regolith Explorer (OSIRIS- Rex) is NASA's first unmanned asteroid sampling mission heading towards a near-Earth asteroid called Bennu.
- The mission was launched in 2016 by NASA.
- The spacecraft will reach asteroid Bennu in 2018, collect sample and return to Earth in 2023.
- The mission will help scientists investigate how planets formed and how life began, as well as improve our understanding of asteroids that could impact Earth.

Toxic talc

What's in news?

- A draft assessment by Canada's public health department says talcum powder is harmful to the lungs and can cause ovarian cancer.

What is talc?

- Talcum powder is made from talc, a mineral made up mainly of the elements magnesium, silicon, and oxygen.

What are its uses?

- It is used in cosmetics, paints and ceramics.
- It is widely used in cosmetic products such as baby powder and adult body and facial powders, as well as in a number of other consumer products.

What are the risks?

- Breathing in products containing talc can lead to coughing, difficulty in breathing, decreased lung function and scarring of the lung tissue.
- Using products containing talc in the genital area may cause ovarian cancer.
- The American Academy of Pediatrics has warned against the use of baby powder due to the risk of serious respiratory problems.

- International Agency for Research on Cancer has classified perineal use of talc-based body powder as possibly carcinogenic to humans on the basis of limited evidence in humans.
- Doctors warned that the fine particles of talcum powder posed the same health risks as particulate matter (PM) in polluted air as they could get lodged deep in the lungs.

Indian scenario

- In India, talcum powder is among the most widely known talc-based self-care products and the market is estimated to be worth about ₹700 crore.
- Most Indians use talcum powder to get rid of sweat and the odour that it generates and to get a fairer look.
- But talcum powder clogs the pores, which are supposed to remain open. This is the main cause of local infections like folliculitis, boils, and skin eruptions.

Fixed Dose Combinations

What's in news?

- According to the study published in Tropical Medicine & International Health, many Fixed Dose Combinations (FDCs) do not have approval from the Central Drugs Standard Control Organization (CDSCO).

Highlights of the report

- Out of 110 anti-TB FDCs available in India, only 32, (<30%), had approval.
- In the case of malaria FDCs, only eight out of 20 (40%), were approved by CDSCO.
- There is an opaque regulatory framework and ambiguity over licensing powers.
- The CDSCO has approved 1228 FDCs which is higher than its availability in the US which has approved only a few hundred and even the list of WHO's essential medicines has only 24 FDCs.
- The report found that a majority of approved FDCs in Indian market are irrational and lack scientific justification.
- The report took references from the 59th report Parliamentary Standing Committee on Health and Family Welfare (2012) which pointed out multiple deficiencies in the CDSCO's approval process for FDCs such as understaffing, lack of skills, and inadequate infrastructure.
- Most significant observation concerned the issuance of manufacturing licenses by the

Officers IAS Academy, Chennai

State Licensing Authority without the prior clearance of the Drug Controller General of India DCG(I), the head of CDSCO

- There is no data available regarding adverse events of unapproved FDCs because of the absence of strong pharmacovigilance mechanism.

Central Drugs Standard Control Organisation (CDSCO)

- It is the national regulatory body for Indian pharmaceuticals and medical devices under Ministry of Health and Family Welfare.

Functions

- Regulatory control over the import of drugs
- Approval of new drugs and clinical trials,
- Meetings of Drugs Consultative Committee (DCC) and Drugs Technical Advisory Board (DTAB)
- Approval of certain licences as Central Licence

Fixed dose combinations

- Fixed-dose combination drugs are produced when two or more active drugs combine in a fixed ratio into a single dosage.
- The development of fixed-dose combinations (FDCs) is becoming increasingly important from a public health perspective.
- FDCs are used in the treatment of a wide range of conditions and are particularly useful in the management of HIV/AIDS, malaria and tuberculosis

Advantages

- FDCs are used in the treatment of a wide range of conditions and are particularly useful in the management of HIV/AIDS, malaria and tuberculosis
- Potentially lower costs of manufacturing compared to the costs of producing separate products administered concurrently
- Simpler logistics of distribution
- Improved patient adherence

Pharmacovigilance

- Pharmacovigilance, also known as drug safety, is the pharmacological science relating to the collection, detection, assessment, monitoring, and prevention of adverse effects with pharmaceutical products

Deep Submergence Rescue Vehicle System

What's in news?

- The Indian Navy inducted its first Deep Submergence Rescue Vehicle (DSRV) System costing Rs. 1000 crore.

About DSRV

- DSRV is used to rescue crew members stranded in submarines that get disabled deployed and for various other missions, including laying cables on the sea bed.
- The DSRV can be operated at a depth of 650 meters and has an endurance time of 12-18 hrs.
- It is operated by a crew of three and can rescue 14 people at a time
- At present, the US, China, Russia and a few other countries have the capabilities to deploy DSRVs.

Vaccine to protect bees

What's in news?

- Scientists in Finland have developed what is believed to be the world's first vaccine to protect bees from severe microbial diseases such as the American foulbrood.
- American foulbrood is the most globally widespread and destructive bee bacterial disease.
- The treatment is administered to the queen bee via a sugar lump, similar to the way many children are given polio vaccines.
- The queen then passes the immunity to her offspring, spreading it through the bee community.

Threat

- UN-led research in 2016 had found that more than 40% of invertebrate pollinators, particularly bees and butterflies, are facing extinction and 16.5% of vertebrate pollinators, such as birds and bats, are under threat.
- Scientists warn that the death of pollinators will result in higher food prices and the risk of shortages.
- Pesticides and intensive farming have reduced the diversity of insects' nutrition.
- In recent years bee populations around the world have been dying off from "colony collapse disorder"
- Colony Collapse Disorder is the phenomenon that occurs when the majority of worker bees in a colony disappear and leave behind a queen, plenty

of food and a few nurse bees to care for the remaining immature bees and the queen.

Importance

- It also estimated that up to \$577 billion (511 billion euros) worth of food grown every year relies directly on pollinators.
- The study said the volume of food produced that depends on pollinators has risen by 300 percent in the last half century.
- Bees are vital for growing the world's food as they help fertilize three out of four crops around the globe.

Black hole mysteries

What is a black hole?

- It is a place in space where gravity pulls so much that even light cannot get out. The gravity is so strong because matter has been squeezed into a tiny space. This can happen when a star is dying.

How Do Black Holes Form?

- Primordial black holes are thought to have formed in the early universe, soon after the big bang.
- Stellar black holes form when the center of a very massive star collapses in upon itself. This collapse also causes a supernova, or an exploding star, that blasts part of the star into space.
- Scientists think supermassive black holes formed at the same time as the galaxy they are in. The size of the supermassive black hole is related to the size and mass of the galaxy it is in.

Primordial black holes

- Primordial black holes are a hypothetical type of black hole that formed soon after the Big Bang.
- Primordial Black Holes have masses comparable to or less than that of the Earth. These purely hypothetical objects could have been formed through the gravitational collapse of regions of high density at the time of the Big Bang.

Event horizon

- Event horizon is the boundary marking the limits of a black hole.
- At the event horizon, the escape velocity is equal to the speed of light.
- Since general relativity states that nothing can travel faster than the speed of light, nothing inside the event horizon can ever cross the boundary and escape beyond it, including light.

- Thus, nothing that enters a black hole can get out or can be observed from outside the event horizon. Likewise, any radiation generated inside the horizon can never escape beyond it.

Quasar

- Quasar is an astronomical object of very high luminosity found in the centres of some galaxies and powered by gas spiraling at high velocity into an extremely large black hole.

Gamma-ray bursts

- Gamma-ray bursts (GRBs) are short-lived bursts of gamma-ray light, the most energetic form of light.
- Lasting anywhere from a few milliseconds to several minutes, GRBs shine about a million trillion times as bright as the Sun

- Gamma rays are a type of electromagnetic radiation that is released upon the radioactive decay of an atomic nucleus.
- Gamma ray bursts occur as a result of collisions between neutron stars. Another hypothesis proposes that they are the result of a merging between a black hole and a neutron star or the merging of two black holes.
- There are of two types, one which is short duration (less than 2 seconds) and another which is long duration (more than 2 seconds).
- GRBs were first discovered accidentally by the US satellite Vela which was spying Russia in 1969-70.

Environment

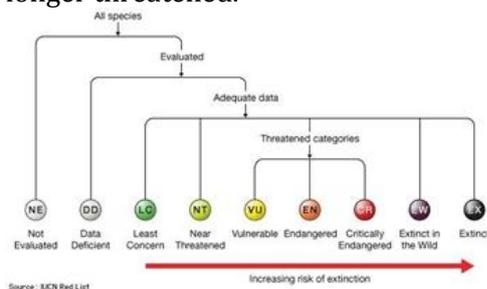
Amazon river dolphins

Why in news?

- The dolphins of the Amazon river have been listed as “**Endangered**” by the International Union for Conservation of Nature (IUCN) in its latest “**Red List**” published in November 2018.
- The study had stated that the primary reason for the decrease in numbers was the dolphins’ use of flesh and blubber as bait for catfish, which have become widely available commercially.

About IUCN:

- International Union for Conservation of nature is an international organization (NGO) working in the field of nature conservation and sustainable use of natural resources.
- It is involved in data gathering and analysis, research, field projects, advocacy, lobbying and education.
- The organization is best known for compiling and **publishing the IUCN Red List**, which assesses the conservation status of species worldwide.
- Headquarter: **Gland, Switzerland**.
- The IUCN Red List of Threatened Species, founded in **1964**, is the world’s most comprehensive inventory of the global conservation status of biological species.
- When discussing the IUCN Red List, the official term “threatened” is a grouping of three categories: **Critically Endangered, Endangered, and Vulnerable**.
- The **pink pages** in this publication include the **critically endangered species**. As the status of the species changes, new pages are sent to the subscribers.
- Green pages** are used for those species that were formerly **endangered**, but have now recovered to a point where they are no longer threatened.



Criteria:

Criterion	Critically Endangered	Endangered	Vulnerable	Qualifiers
A1 Reduction in population size	≥ 90%	≥ 70%	≥ 50%	Over 10 years or three generations in the past, where causes are reversible, understood & have ceased
A2-4 Reduction in population size	≥ 80%	≥ 50%	≥ 30%	Over 10 years or three generations in the past, future or a combination

SMART Project

Why in news?

- Maharashtra** Government has launched **World Bank assisted State of Maharashtra’s Agribusiness and Rural Transformation (SMART) Project** to transform rural Maharashtra.

About the project:

- Aim is to revamp agricultural value chains, with special focus on marginal farmers across 1,000 villages.
- The **objective of project is to create and support value chains in post-harvest segments of agriculture, facilitate agribusiness investment, stimulate SMEs within the value chain**.
- It will also support resilient agriculture production systems, expand access to new and organised markets for producers and enhance private sector participation in the agribusiness.
- It will cover almost one-fourth of Maharashtra.
- Its focus is on villages which are reeling under worst agriculture crisis compounded by lack of infrastructure and assured value chains to channelize farm produce.
- The project is giant **step towards transformation of rural economy and empowerment of farmers and also sustainable agriculture through public-private partnership (PPP) model**.
- It seeks to ensure higher production of crops and create robust market mechanism to enable farmers to reap higher remunerations for the yield. It **unites agriculture-oriented corporates and farmers by providing them common platform**.

RISE 2018

Why in news?

- World Bank** has released its report Regulatory Indicators for Sustainable Energy (RISE) 2018 charting **global progress on sustainable energy policies**.

- The report was released on the sideline of the 24th Conference of the Parties to the UN Framework Convention on Climate Change(COP24).

About the report:

- From 2010-2017, the number of countries with strong policy frameworks for sustainable energy **more than tripled** – from 17 to 59.
- Many of the world's largest energy-consuming countries have significantly improved their **renewable energy regulations** while adopting **clear targets for both renewable energy and energy efficiency** in the run-up to the 2015 Paris Agreement.
- Progress is no longer contained to developed countries: there are **strong performers in every region of the developing world**.

Energy access:

- In countries with an electricity access deficit, policymakers are increasingly turning their attention to **off-grid solutions** to close the gap.
- This is illustrated by the soaring share of low-access countries adopting measures to support mini-grids and solar home systems from around 15 percent in 2010 to 70 percent in 2017.

Renewable energy:

- About 93 percent of countries covered by RISE had adopted an official renewable energy target, compared to only 37 percent in 2010 and 84 percent of countries had regulations in place to support renewable energy deployment, while 95 percent allowed the private sector to own and operate renewable energy projects.
- Still, clean energy policies continue to focus on electricity, while **heating and transportation** which account for 80 percent of global energy use – continue to be overlooked.

Energy efficiency and clean cooking:

- The percentage of countries with advanced policy frameworks on energy efficiency grew more than ten-fold from 2 percent in 2010 to 25 percent in 2017. Most encouragingly, these countries account for 66 %of the world's energy consumption.
- But the global average score on energy efficiency remains low, suggesting significant room for improvement.

- Among the four **SDG7** target areas renewable energy, energy efficiency, electricity access and access to **clean cooking** the last one continued to be the most overlooked and underfunded by policymakers.
- There has been little progress on standard-setting for cookstoves or on consumer and producer incentives to stimulate adoption of clean technologies.
- **India has gained a great success in renewable energy auctions that delivered record-setting low prices for solar power.** However, to realize its full potential, the country needs to address critical gaps, such as failing utilities, clean cooking, and the slow progress on decarbonizing heating and transport

Bio plastics may not be eco-friendly

Introduction:

- A study was conducted by the **University of Bonn in Germany** on the use of bioplastics and its effects on the environment.
- Bioplastics often promoted as a climate-friendly alternative to petroleum-based plastics may lead to an increase in greenhouse gas emissions.

What are bioplastics?

- Bioplastics are biodegradable materials that come from renewable sources and can be used to reduce the problem of plastic waste that is suffocating the planet and contaminating the environment.

How bioplastics helpful?

- Bioplastics are in principle climate-neutral since they are based on renewable raw materials such as maize, wheat or sugar cane.
- These plants get the CO₂ that they need from the air through their leaves.
- Producing bioplastics therefore consumes CO₂, which compensates for the amount that is later released at end-of-life. Overall, their net greenhouse gas balance is assumed to be zero.
- Bioplastics are thus often consumed as an environmentally friendly alternative.

Advantages:

- They reduce **carbon footprint**.
- They providing energy savings in production.

- They do not involve the consumption of non-renewable raw materials.
- Their production reduces non-biodegradable waste that contaminates the environment.
- They do not contain additives that are harmful to health, such as phthalates or bisphenol A.
- They do not change the flavor or scent of the food contained.

Present issue with bioplastics:

- With the current level of **technology**, this issue is probably **not as clear as often assumed**.
- This is because the **production of bioplastics in large amounts would change land use globally**.
- This could potentially lead to an **increase in the conversion of forest areas to arable land**.
- However, **forests absorb considerably more CO₂ than maize or sugar cane annually, if only because of their larger biomass**.

Concerns over the increased use of plastics:

- Plastic is the third most commonly used petroleum derivative in the world; each year 200 million tons of plastic are consumed on the planet.
- It comes from a non-renewable source (petroleum), it is contaminating and non-biodegradable (it can take more than 1000 years to decompose).
- That is why countries such as Bangladesh have prohibited traditional plastic bags (they jam the sewage pipes and cause flooding).
- **Africa has baptized** them as a new '**national flower**' because they are so visible all over the landscape and Europe has considered taxing them.
- In addition, this waste is the cause of the death of marine species and fowl that ingest them (whales, sea turtles, albatross, etc.) and pose a serious environmental problem, such as garbage patches (islands of garbage).



- The carbon embodied in fossil resources is suddenly released to the atmosphere by degradation or burning, hence contributing to global warming.
- This corresponds to about 400 million metric tonnes of CO₂ per year worldwide, almost half of the total greenhouse gases that Germany emitted to the atmosphere in 2017.
- It is estimated that by 2050, plastics could already be responsible for 15% of the global CO₂ emissions.

Way forward:

- New technologies has to be use which does not affect the present forest ecosystem and more researches has be done before using new technologies.
- Promoting use of **PHA (polyhydroxyalkanoate) bioplastics** which are eco-friendly.

PHA

- PHA as bioplastics: These are polyesters produced by fermenting raw vegetable materials with a series of bacterial strains.
- For example, PHAs can be used for injection molding to build automobile parts and for many other uses. Specifically, PHA (polyhydroxyalkanoate) is extracted from bacteria such as pseudomonas.
- In its natural form, it is similar to transparent kitchen film, with the difference that it is an authentic bioplastic.

“ENSURE” portal

Why in news?

- Union **Minister of Agriculture and Farmers’ Welfare** launched a portal **ENSURE – National Livestock Mission-EDEG** developed by **NABARD and operated under the Department of Animal Husbandry, Dairying & Fisheries**.

About the portal:

- Under the Mission’s component **EDEG(Entrepreneurship Development and Employment Generation)**, subsidy payment for activities related to poultry, small ruminants, pigs etc., through Direct Benefit Transfer (DBT) goes directly to the beneficiary’s account.
- To make it better, simpler and transparent, the NABARD has developed an online portal “ENSURE” which makes the information related to beneficiary and processing of application readily available.

- The **flow of information/funds will be quicker and more accountable.**
- Under the new process, controlling officer/branch manager of the bank, after scrutinizing & sanctioning of proposal, **uploads the subsidy claims in the portal.** The subsidy will be **approved within 30 days from the date of sanction of loan.**
- The burden of extra interest due to delay in the disbursal of the subsidy would now be reduced.
- **Accessing the portal will be on real-time basis and list of beneficiaries can be easily prepared.**

International Conference on Sustainable Water Management

Why in news?

- The first International Conference under the aegis of **National Hydrology Project, Union Ministry of Water Resources, River Development and Ganga Rejuvenation** is being organized by **Bhakra Beas Management Board (BBMB)** at Indian School of Business (ISB), **Mohali**.
- Theme : **'Sustainable Water Management'**.

Aim of the conference:

- The main aim is **to bring advancement in water management system to further reduce flood and draughts all over the Globe.**
- To **foster the participation of and dialogue between various stakeholders**, including governments, the scientific and academic communities, so as to promote sustainable policies for water management,
- To **create awareness of water-related problems**, motivate commitment at the highest level for their solution and thus promote better management of water resources at local, regional, national and international levels.

Bhakra Beas Management Board (BBMB)

- As per the **Indus Water Treaty, 1960** signed between India and Pakistan, the waters of three eastern rivers namely the **Sutlej, the Beas and the Ravi** were allotted to India for exclusive use.
- A Master Plan was drawn to harness the potential of these rivers for providing assured irrigation, power generation and flood control.

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- Bhakra and Beas Projects form major part of the plan, and were established as a joint-venture of the erstwhile states of Punjab and Rajasthan.
- Regulation of the supply of Water & Power from Bhakra Nangal and Beas Projects to the states of Punjab, Haryana, Rajasthan, Himachal Pradesh, Delhi and Chandigarh.

Beas River

- **Beas River** is a river rises in the Himalayas in central Himachal Pradesh, India, and flows for some 470 kilometres (290 mi) **to the Sutlej River in the Indian state of Punjab.**
- **Rig Vedic name: Beas-Vipas.**
- **Bhakra Dam** is a **concrete gravity dam** on the **Sutlej River** in Bilaspur, Himachal Pradesh in northern India. The dam forms the Gobind Sagar reservoir.

Disaster is the symbol for 2018

Why in news?

- Japan selected the Chinese character for 'disaster' as its 'defining symbol' for 2018, a year that saw the country hit by deadly floods, earthquakes and storms.
- This symbol displays at Seihan Mori, master of the ancient Kiyomizu temple in Kyoto, writing the character on a huge white panel with an ink-soaked calligraphy brush.
- The country was hit by a series of natural disasters in 2018, starting with massive flooding in western regions that killed over 200 people.
- It was also battered by a typhoon that inundated a major international airport, and an earthquake in the north that triggered landslides and disrupted supply lines.

Tropical cyclones:

- 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 (squalls), very heavy rainfall (torrential rainfall) and storm surge.
- They are irregular wind movements involving **closed circulation of air around a low pressure center**. This closed air circulation (whirling motion) is a result of **rapid upward movement of hot air** which is subjected to Coriolis force. The **low pressure at the center is responsible for the wind speeds.**

- The cyclonic wind movements are anti-clockwise in the northern hemisphere and clockwise in the southern hemisphere (due to Coriolis force).

Region	Cyclone name
Indian ocean	Cyclones
Atlantic	Hurricanes
Western pacific & south china sea	Typhoon
Western Australia	Willy willy

15 new breeds of livestock

Why in news?

- Indian Council of Agricultural Research (ICAR) has approved registration of record 15 new breeds of livestock and poultry in 2018 alone taking the total to 40 during 2014-18.
- These **native breeds are renowned for heat tolerance, disease resistance and thriving on low input system.**
- The process of identification of animal breeds and their documentation is not only important in providing value to the ingenious animal breeds and introducing various development programs of the government for their improvement but also plays a special role in preserving the biodiversity of the country.

Livestock resources:

- Livestock is a natural capital that can act as a living bank with offspring as interest, and an insurance against income shocks in times of crop failure and natural calamities.
- India's rank:
 - First in the total buffalo population in the world
 - Second in the population of cattle and goats
 - Third in the population of sheep (72 millions)
 - Fifth in the population of ducks and chicken
 - Tenth in camel population in the world.

ICAR:

- ICAR is an **autonomous body** responsible for coordinating agricultural education and research in India.
- It is the largest network of agricultural research and education institutes in the world.

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- It reports to the Department of Agricultural Research and Education under the Union Ministry of **Agriculture.**
- The Union Minister of Agriculture serves as its president.

Momentum for Change - Climate action award

Why in news?

- An Indian private project, **HelpUsGreen** is one of 15 ground-breaking projects from around the world that has won 2018 UN climate action award.
- The other 14 projects which won the UN 'Momentum for Change' climate action award showcase how ideas, big and small, are successful in tackling climate change.

About 'Momentum for Change' initiative:

- Momentum for Change is an initiative spearheaded by the UN Climate Change secretariat to shine a light on the enormous groundswell of activities underway across the globe that are moving the world toward **a highly resilient, low-carbon future.**
- Momentum for Change recognizes innovative and transformative solutions that address both climate change and wider economic, social and environmental challenges.

Help us Green:

- The project **collects flowers from temples and mosques across many cities\towns in Uttar Pradesh and recycles them to produce natural incense, organic fertilizers and biodegradable packaging material.**
- The project currently employs 1,260 women in Uttar Pradesh, helps in preventing chemical pesticides from entering into the river through temple waste.
- Developed as the **world's first profitable solution to the monumental temple waste problem**, the Help UsGreen's products are handcrafted by women who earlier used to be manual scavengers.
- The HelpUsGreen aims to provide livelihoods to 5,100 women and recycle 51 tonnes of temple waste daily by 2021.
- Under HelpUsGreen, 11,060 metric tonnes of temple-waste has, so far, been recycled. As a result,110 metric tonnes of chemical pesticides that enter the river through temple waste have been offset.

Eco-Sensitive Zones

Why in news?

- The Supreme Court has directed the Union Environment Ministry to declare 10 km area around 21 national parks and wildlife sanctuaries across the country as 'eco-sensitive zones'.
- A Bench led by Justice Madan B. Lokur took the initiative after its amicus curiae informed the court that the State governments have taken no effort to protect the area around these sanctuaries and parks.

What is ESZ?

- **Eco-Sensitive Zones (ESZs) or Ecologically Fragile Areas (EFAs) are areas notified by the MoEFCC around Protected Areas, National Parks and Wildlife Sanctuaries.**
- The purpose of declaring ESZs is to create some kind of **"shock absorbers"** to the protected areas by regulating and managing the activities around such areas.
- They also **act as a transition zone from areas of high protection to areas involving lesser protection.**
- **The Environment (Protection) Act, 1986 does not mention the word "Eco-Sensitive Zones".**
- However, Section 3(2)(v) of the Act, says that Central Government can restrict areas in which any industries, operations or processes or class of industries, operations or processes shall be carried out or shall not, subject to certain safeguards.
- The same criteria have been used by the government to declare No Development Zones (NDZs).

Defining its boundaries:

- An ESZ could go up to 10 kilometres around a protected area as provided in the Wildlife Conservation Strategy, 2002.
- Moreover, in case where sensitive corridors, connectivity and ecologically important patches, crucial for landscape linkage, are beyond 10 km width, these should be included in the Eco-Sensitive Zones.
- Further, even in the context of a particular Protected Area, the distribution of an area of ESZ and the extent of regulation may not be uniform all around and it could be of variable width and extent.

National Parks and Sanctuarie:

Pobitora sanctuary	Assam
Baghmara Pitcher Plant sanctuary	Meghalaya
Jorepokhri sanctuary	West Bengal
Fakim and Puliebadze and Rangapahar sanctuaries	Nagaland
Siroi National park and Khongjaingamba Ching sanctuary	Manipur
Jogimatti, Thimlapura and Yadahalli Chinkara sanctuaries	Karnatak
Bhimrao Ambedkar bird sanctuary and Pilibhit sanctuary	Uttar Pradesh
Hemis High Altitude and Kishtewar national parks Changthang, Hokersar, Trikuta sanctuaries	Jammu and Kashmir
Deolgaon Rehekuri and Thane Creek Flamingo and Malvan marine sanctuary	Maharashtra

Vehicles on Alternative Fuels

Why in news?

- To promote alternate fuels and to bring down pollution levels across the country, Government has taken proactive steps to promote environment friendly vehicles which are innovative, ushering in proactive use of natural resources.

Some alternate fuels:

- **Compressed Natural Gas (CNG):** It is a mix of hydrocarbon found under-ground in which there is 80% to 90% methyl gas. It produces very low pollution in comparison to petrol and diesel this is the most important benefit of CNG.
- **Gasohol:** It is another alternative fuel in which petrol is mixed in the alcohol obtained from sugarcane juice. Increasing loss in petroleum in India and pollution can be checked by using Gasohol.

- **Bio-diesel:** It is ultra low Sulpture diesel, which is also an alternative fuel produces even low pollution comparing to CNG.
- Hydrogen fuels and Solar batteries.
- Alternative fuels are not available readymade and it requires technological upgradation.
- These fuels are generally modern in their use and these fuels have not gained much importance in use that of yet.

Advantages :

- These are generally renewable and non-exhaustible.
- They are available domestically and don't require to depend on imports.
- These fuels are less expensive comparatively.
- These fuels produce less pollution.
- Bio-diesel will give an economically viable option to farmers.
- Hydrogen has the largest calorie value.

Disadvantages:

- Technological upgradation is required for this.
- Huge investment is required to change today's petrol and diesel running vehicles to adopt such technologies.
- Cultivation of **Jathropa plant** and other types of biodiesel will require land which is very necessary for food crops cultivation.
- Hydrogen is explosive and problem of storage is there also.

About Jatropa:

- **Jatropa Curcas** - warm weather and can grow in barren soil.
- The **oil found in its seeds can be converted into a high-quality diesel fuel.**
- The crude oil harvested from Jatropa seeds needs to be processed into a diesel before it can even begin to compete with other energy sources.
- Jatropa biodiesel is the processed form of Jatropa oil and gets its power from the energy-rich bonds found in fatty acid methyl esters (FAME).
- The land suitable for the crop includes degraded forests, revenue village land close to forests, community lands managed by panchayats, community lands managed by governments, pasture/fallow lands held by the farmers, wasteland, low productivity lands, lands occupied in field boundaries

Government steps:

- The Government has issued various notifications specifying mass emission standards for Compressed Natural Gas, Biodiesel(B-100), flex-fuel (E85) or (E 100)

Officers IAS Academy, Chennai and ethanol (ED 95), LNG and flex-fuel Methanol M15 or M100, Methanol MD 95 and dual fuel vehicles.

- The **Government has also mandated mass emission standard for BS-VI throughout the country with effect from 1st April 2020.**
- Further, for promotion of electric vehicles, Government has notified for **retro-fitment of hybrid electric system or electric kit to vehicles** and has specified the type approval procedure of electric hybrid vehicles.
- The Government has notified that the **registration mark for Battery Operated Vehicles to be in Yellow colour on Green background** for the transport vehicles and for all other cases, in White colour on Green background.
- The government has set up an expert **committee on Integrated Energy Policy** headed by **Kirit Parikh.**
- The committee suggests to realization of full potential of hydro energy and fast growth of nuclear energy, missions on solar technologies for thermal and photovoltaic and bio-fuel as well as bio-gas developments.

Eco Niwas Samhita - 2018

Why in news?

- Giving a further fillip to India's energy conservation efforts, **Ministry of Power** has launched the **ECO Niwas Samhita 2018, an Energy Conservation Building Code for Residential Buildings (ECBC-R).**
- The Code was launched on the occasion of National Energy Conservation Day 2018 (14th December) by Ministry of Power in association with **Bureau of Energy Efficiency.**
- In order to recognise the efforts of industry and other establishments towards promoting energy efficiency, on this Day, Ministry of Power organizes National Energy Conservation Awards.

About ENS:

- It aims to benefit the occupants and the environment by **promoting energy efficiency in design and construction of homes, apartments and townships.**
- The parameters listed in the Code have been developed based on large number of parameters using climate and energy related data.

- **ECBC for commercial buildings was already in place and revised and updated version of ECBC for commercial buildings was launched in June 2017.**
- Initially, Part-I of the Code has been launched which prescribes minimum standards for building envelope designs with the purpose of designing energy efficient residential buildings.

Impact :

- The Code is expected to assist large number of architects and builders who are involved in design and construction of new residential complexes in different parts of the country.
- Implementation of this Code will have potential for energy savings to the tune of 125 Billion Units of electricity per year by 2030, which is equivalent to about 100 million ton of Co2 emission.
- It is estimated that energy demand in the building sector will rise from around 350 billion units in 2018 to approximately 1000 billion units by year 2030.

FAME-India Scheme

Why in news?

- The Phase-II of the FAME-India Scheme proposes to give a push to electric vehicles (EVs) in public transport and seeks to encourage adoption of EVs by way of market creation and demand aggregation.
- The draft scheme envisages the holistic growth of EV industry, including providing for charging infrastructure, research and development of EV technologies and push towards greater indigenization.
- The scheme has not been finalized yet.

About the scheme:

- FAME stands for **Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles. Ministry of Heavy Industries and Public Enterprises.**
- **Aims to provide fiscal and monetary incentives for adoption and market creation of both hybrid and electric technologies vehicles in the country.**
- The scheme has 4 focus areas are technology development, Demand Creation, Pilot Projects and Charging Infrastructure.
- Launched in 2015 under National Electric Mobility Mission Plan (NEMMP). (Phase-1: from 1st April 2015 to 31st March, 2019).

- The FAME India Scheme is aimed at incentivizing all vehicle segments i.e. 2 Wheeler, 3 Wheeler Auto, Passenger 4 Wheeler Vehicle, Light Commercial Vehicles and Buses.
- There is no proposal from Government of India to invest in manufacturing of E-Buses.
- 100 % FDI by automatic route is permitted in the automobile sector.
- Further, automobile sector is in deregulated sector and both private sector and public sector are free to carry out investment in the automobile sector, including for manufacturing of Electric Vehicles and E-Buses.

NOTE:

- **Government has withdrawn subsidy given to mild hybrid vehicles.**
- Earlier, subsidy was given to mild hybrid, strong hybrid, plug-in hybrid and pure electric vehicles.
- A mild hybrid vehicle has an electric motor, which on its own cannot run a vehicle but assists normal engine by using recovered energy stored in a battery and helps save fuel.
- Mild-hybrids are 7-15% more fuel efficient as compared to conventional hybrid systems that can run on pure electric power for short distances too.

Come June, groundwater extraction will invite a fee

Why in news?

- In a bid to promote conservation of groundwater, the **Central Ground Water Authority (CGWA)** has notified a **water conservation fee (WCF)**.
- Industries will need to pay on groundwater extraction starting from June 2019.

Central Ground Water Authority (CGWA):

- **Ministry of water resources, River Development and Ganga rejuvenation.**
- CGWA is under Section 3 (3) of the **Environment (Protection) Act, 1986** to regulate and control development and management of groundwater resources in the country.
- Central Ground Water Authority (CGWA) is regulating groundwater development in 23 States/UTs.
- As per the CGWA notification, industries extracting groundwater, including mining-dewatering units and those that use

groundwater for packaged drinking water, will need to apply for a no-objection certificate (NOC) from the government.

- Individual households that draw groundwater using a delivery pipe of a greater than 1" diameter, too, will need to pay a WCF.
- **Agriculture sector and defence units will be exempt from the water conservation fee.**
- In India, **extracted groundwater is mainly used for irrigation** and accounts for about 228 BCM (billion cubic metre) or **about 90%** of the annual groundwater extraction.
- The rest, 25 BCM, is drawn for drinking, domestic and industrial uses.
- **India is the largest user of groundwater in the world, and accounts for about 25% of the global water extraction.**

Atal Bhujal Yojana (ABHY):Ministry of water resources

- Aimed at sustainable groundwater management with community participation in select over-exploited and ground water stressed areas in seven States (Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh).
- It is a **Central Sector Scheme**.

A rare blitz for trees

Why in news?

- Blitzes are swift, vigorous attacks and usually part of military parley. But there was nothing military about citizens as they looked up at trees across India on December 1 and 2: they were on a 'bioblitz', recording the flowering and fruiting of common trees.
- **Bioblitz is a biological survey where participants try to record all the targeted species within an area.**
- As many as 121 individuals and teams from 50 schools and 34 colleges from across 23 states in India participated in the bioblitz **conducted by SeasonWatch** (a citizen science programme of Bengaluru's National Centre for Biological Sciences).
- Participants uploaded the data on season watch android application and excel sheets.
- **Bioblitzes are useful tool to understand how trees change across seasons.**
- Conducting such bioblitzes would generate a **baseline for tree phenology (periodic events such as flowering and fruiting)** across the India over years helping scientists analyse if climate change is altering tree phenology in future.
- coconut palms were the most-observed trees (1,933 observations from across India), followed by mango, jackfruit, neem and teak.

Culture

President visits Myanmar

Shri Kali Temple

- The Shri Kali Temple was built by Tamil immigrants in 1871.
- It is famous for its colourful exteriors.
- It is richly decorated with sculptures and carvings featuring scenes from Hindu mythology.

Mausoleum of Bahadur Shah Zafar

- The tomb of Bahadur Shah Zafar is present in Myanmar where he spent his last years after he was sent on exile to Burma for his involvement in the revolt of 1857.

Bahadur Shah Zafar

- Born in 1775 into the prestigious imperial Timurid dynasty a famous Urdu poet, a devout patron and a refined calligrapher.
- Zafar became the Mughal Emperor at the late age of 62.
- He ruled as a puppet king and never took much interest in public affairs
- Sepoys of the East India Company made him their commander-in-chief against his wishes, because they saw him as the only leader who could unite all Indians, Hindu and Muslim.
- The British tried him for treason and aiding rebels, but in the eyes of the Indian nation Zafar became a heroic national freedom fighter.

Why in news?

- The President of India visited Shri Kali Temple and Mausoleum of Bahadur Shah Zafar at Myanmar.

Sardar Patel

About Sardar Patel:

- Vallabhbhai Patel (October 31, 1875 – December 15, 1950) was a political and social leader of India who played a major role in the country's struggle for independence and subsequently guided its integration into a united, independent nation.
- He was called the "Iron Man of India", and was often addressed as "Sardar" which means "Chief" or "Leader" in many languages of India.
- He organised the peasants of Kheda, Borsad, and Bardoli in Gujarat in a non-violent civil disobedience movement

against oppressive policies imposed by the British Raj

- He was elected as Ahmedabad's municipal president in 1924 and 1928 and later as the President of the Indian National Congress in 1931
- Patel took charge of the task to forge a united India from the 565 semi-autonomous princely states and British-era colonial provinces.
- He is also remembered as the "Patron Saint" of India's civil servants for establishing modern all-India services
- He was independent India's first Deputy Prime Minister and Home Minister and IB Minister
- Posthumously, he was conferred with Bharat Ratna in 1991

Why in news?

- The Prime Minister of India paid tributes to Sardar Patel on his death anniversary.

Haj pilgrimage – sea route

What's in news?

- The Saudi government has agreed to revive the scheme to ferry Haj pilgrims between Mumbai and Jeddah, which was stopped in 1995 after the ship used on the route was scrapped.
- The Centre has fast-tracked the proposal to take Haj pilgrims by the sea route from 2019
- The proposal is expected to cut the travel expenses by more than 50%.
- Kerala State Haj Committee is not happy with the decision as pilgrims have to travel to Mumbai

Haj

- Haj is an annual Islamic pilgrimage to Mecca, Saudi Arabia, the holiest city for Muslims
- It is a mandatory religious duty for Muslims that must be carried out at least once in their lifetime by all adult Muslims
- In Islamic terminology, Haj is a pilgrimage made to Kaaba, the 'House of God', in the sacred city of Mecca in Saudi Arabia

Jnanpith Award

About the award

- The Jnanpith Award is an Indian literary award presented annually by the Bharatiya Jnanpith to an author for their outstanding contribution towards literature
- It was instituted in 1961 and is bestowed only on Indian writers writing in Indian languages included in the Eighth Schedule of the Constitution and English.
- In 1965, Sankara Kurup was awarded the first Jnanpith Award.

Jnanpith Award 2018

- Amitav Ghosh was awarded the Jnanpith award for 2018
- Ghosh is the first Indian writer in English to have been chosen for this honour.
- Some of his works are The Hungry Tide (2004), The Shadow Lines (1988), The Great Derangement; Climate Change and the Unthinkable (2016) etc.

Why in news?

- The 54th Jnanpith Award was conferred to Amitav Ghosh

Sahitya Academy Award

About the award

- The Sahitya Academy Award is a literary honor in India, awarded annually by the Sahitya Akademi (India's National Academy of Letters)
- It is conferred on writers of the most outstanding books of literary merit published in any of the major Indian languages (24 languages 22 listed in the Eighth Schedule along with English and Rajasthani)
- It was established in 1954 and the award comprises of an engraved copper plaque, shawl and a cheque of rupees one lakh.

Santhal

- The Santhal, or rarely Santhals, are an ethnic group, native to Nepal and the Indian states of Jharkhand, Assam, West Bengal, Bihar and Odisha.

Officers IAS Academy, Chennai

- Santhals are the largest indigenous tribe in Jharkhand in terms of population third largest tribe in India
- Santhals speak Santhali, which belongs to the Austro-Asiatic language family. Santhals have their script called Olchiki,
- Santhals mainly celebrate the Karam festival
- The Santhals revolted in 1855 against the introduction of the Permanent Land Settlement

Why in news?

- Sahitya Akademi Award for 2018 was presented to Shri Shyam Sundar Besra for his novel "Marom" in Santhali language which is primarily based upon natural, social, economic and political conditions of Santhal Pargana.

Mahakavi Subramaniya Bharatiyar

About Subramaniya Bharathiyar:

- Subramaniya Bharathiyar was born on 11th December 1882, in a village called Ettayapuram in Tirunelveli District in Tamil Nadu.
- He was a poet, freedom fighter and social reformer. He was known as Mahakavi Bharathiyar, where Mahakavi means a great poet.
- Most part of his compositions are based on patriotic themes that helped to ignite national freedom movement among people.
- The major works of Bharathiyar are Kannan Pattu, Panchali Sabatam, Kuyil Pattu etc
- He played a great role as a social reformer as he supported women's rights, gender equality, opposed child marriage & dowry and supported widow remarriage.
- Bharathi died on 11th September 1921.

Why in news?

- Subramania Bharatiyar birthday was celebrated in various parts of the country on 11 December 2018.

Miscellaneous

Nobel Peace Prize

Why in news?

- Nobel Peace Prize was presented to Congolese gynaecologist Denis Mukwege and Yazidi activist Nadia Murad.

Important facts:

- **Dr. Mukwege and Ms. Murad** have been awarded the prize for their efforts **to stop rape and sexual violence being used as weapons of war.**
- Dr. Mukwege has been awarded prize for defending victims of war-time sexual violence in African nation of Democratic Republic of Congo.
- Murad is one of an estimated 3,000 Yazidi girls and women who were victims of rape and other abuses by the IS army. Following here escape, she became spokeswoman for Yazidi women abused by the Islamic State group.

About Nobel Peace Prize:

- The Nobel Peace Prize is one of the five Nobel Prizes established by the will of Alfred Nobel (Swedish industrialist and inventor of dynamite. The others include prizes in medicine, physics, chemistry and literature
- Note: The economics award officially known as the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel was created by Sweden's central bank in 1968.

Alternative Nobel Prize:

- The Right Livelihood Award, often known as the Alternative Nobel Prize was established in 1980 by German-Swedish philanthropist Jakob von Uexkull
- The awards are the awards given in fields such as environmental protection, human rights, sustainable development, health, education, and peace.
- It is to be noted that the award **does not have any organizational ties to the awarding institutions of the Nobel Prize or the Nobel Foundation.**

World's tallest railway bridge

Why in news?

- The Northeast Frontier Railway Construction Organisation has put in place the pier near Manipur's Noney town for the tallest railway bridge in the world.
- The bridge, across the valley of river Ijai, is part of the 111-km Jiribam-Tupul-Imphal project.
- Once completed, it will have a pier height of 141 metres.
- The record for the tallest railway bridge is now held by the 139-m Mala Rijeka viaduct, Montenegro.

Dhubri-Phulbari Bridge

Why in news?

- The DPR for construction of Dhubri-Phulbari Bridge over river Brahmaputra has been finalized.
- The project is being funded by Japan International Cooperation Agency (JICA) and loan agreement has been signed in October, 2018.
- India's longest river bridge across the Brahmaputra, connecting **Dhubri in Assam to Phulbari in Meghalaya.**
- The bridge will complete the missing link of NH127B from Assam to Meghalaya.
- At present, the country's longest river bridge **Dr Bhupen Hazarika Setu** between Dhola and Sadiya in Assam is 9.15 km.

Expedition to Mount Vinson

Why in news?

- The Prime Minister, Shri Narendra Modi, handed over the tricolour flag to Arunima Sinha, marking the beginning of her expedition to **Mount Vinson, Antarctica.**
- Ms. Arunima Sinha, the **first female Divyang to climb Mount Everest** and she had earlier conquered the highest peaks in five continents, becoming the first female Divyang to achieve the feat.

News in-depth

General Studies-1

Lack of basic rights for the aged a concern: SC

Introduction:

- A petition was filed in SC by the former Union Law Minister Ashwani Kumar, which expressed shock on the meagre amount of pension paid to the senior citizen and the fall in welfare measures to the senior citizens in the recent past.
- The Centre noted that there had been a steady rise in the population of senior citizens in India. It submitted in court that the number of elderly persons had increased from 1.98 crore in 1951 to 7.6 crore in 2001 and 10.38 crore in 2011.
- It is projected that the number of 60+ in India would increase to 14.3 crore in 2021 and 17.3 crore in 2026. Due to pressure on the exchequer is growing, which has forced government to spend less on senior citizen welfare.

SC observation on this issue:

- Terming the rights of the rising elderly population of the country an “emerging situation” not envisaged even in the Constitution, the Supreme Court said the government could not tighten its purse strings in the name of “economic budgeting” to explain the inadequate welfare provided to senior citizens and the aged.
- The court said it was a statutory right of every aged person under the Maintenance and Welfare of Parents and Senior Citizens Act of 2007 to be provided dignity, health and shelter.
- All the three are important components which make the fundamental right to life under Article 21.
- The court ordered the Centre to obtain the “necessary information” from all the State governments and the Union Territories about the number of old age homes in each district and file a status report by January 31.

- The court directed that the Centre should prepare a plan of action for giving publicity to the provisions of Senior citizens 2007 Act and ensure that the State governments carry out and execute the provisions of the law.

Welfare measures for senior citizens:

- **Maintenance and Welfare of Parents and Senior Citizens Act, 2007** is a legislation enacted in 2007, aims to provide more effective provision for maintenance and welfare of parents and senior citizens.
- This Act make it a legal obligation for children and heirs to provide maintenance to senior citizens and parents, by monthly allowance. This Act also provides simple, speedy and inexpensive mechanism for the protection of life and property of the older persons.
- **Integrated Programme for Older Persons (IPOP)**- This programme is run by the Ministry of Social Justice and Empowerment.
- Under this programme, grants are given for running and maintenance old age homes, day care centres, mobile medicare units, multi-facility care centre for older widows, etc.
- The main objective of the scheme is to improve the quality of life of older persons by providing basic amenities like shelter, food, medical care and entertainment opportunities, etc.
- **Rashtriya Vayoshri Yojana (RVY)**- This scheme is also run by the Ministry of Social Justice and Empowerment. This is a central sector scheme funded from the Senior Citizens’ Welfare Fund.
- The fund was notified in the year 2016. All unclaimed amounts from small savings accounts, PPF and EPF are to be transferred to this fund.

- Under the RVY scheme, aids and assistive living devices are provided to senior citizens belonging to BPL category who suffer from age-related disabilities such as low vision, hearing impairment, loss of teeth and locomotor disabilities.
- The aids and assistive devices, viz walking sticks, elbow crutches, walkers/crutches, tripods/quadpods, hearing aids, wheelchairs, artificial dentures and spectacles are provided to eligible beneficiaries.
- **Indira Gandhi National Old Age Pension Scheme (IGNOAPS)**-The Ministry of Rural Development runs the National Social Assistance Programme (NSAP) that extends social assistance for poor households- for the aged, widows, disabled, and in cases of death where the breadwinner has passed away.
- This is in addition to the benefits that the state governments extend to these people. Under this scheme, financial assistance is provided to person of 60 years and above and belonging to family living below poverty line as per the criteria prescribed by Government of India.
- Central assistance of Rs 200 per month is provided to person in the age group of 60-79 years and Rs 500 per month to persons of 80 years and above.
- **Varishtha Pension Bima Yojana (VPBY)**-This scheme is run by the Ministry of Finance.
- It is a social security schemes for senior citizens intended to give an assured minimum pension on a guaranteed minimum return on the subscription amount.
- The scheme is implemented through Life Insurance Corporation (LIC) of India, which is paid the difference between the actual yield earned by the LIC on the funds invested under the scheme and the assured return of 9 percent committed by the government.
- **The Pradhan Mantri Vaya Vandana Yojana (PNVVY)**- was launched in May 2017 to provide social security during old age. This is a simplified version of the VPBY and will be implemented by

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the Life Insurance Corporation (LIC) of India.

- Under the scheme, on payment of an initial lump sum amount ranging from Rs 1,50,000 for a minimum pension of Rs 1000 per month to a maximum of Rs 7,50,000/- for a maximum pension of Rs 5,000 per month, subscribers will get an assured pension based on a guaranteed rate of return of 8% per annum payable monthly/quarterly/half-yearly/annually.
- **National Programme for the Health Care of Elderly (NPHCE)**-The Ministry of Health & Family Welfare had launched the 'National Programme for the Health Care of Elderly' (NPHCE) during 2010-11 to address various health related problems of elderly people.
- The major objectives under district level activities of the NPHCE are to provide dedicated health facilities in district hospitals, community health centres (CHC), primary health centres (PHC) and sub-centres (SC) levels through State Health Society.
- The healthcare facilities, being provided under this programme, are either free or highly subsidised.

Way Forward:

- Economic growth cannot come at the cost of the lives of fellow citizens especially the senior citizens who had worked hard throughout their lifetime.
- Innovative measures like Atal Pension Yojana, National Pension Scheme(NPS) where the Government and individual shares the funding burden can be brought to protect the senior citizens.

Is it time to abolish the death penalty

Why death penalty has to be abolished?

- Death penalty considered to be a huge hit on the human right to life has been abolished by many civilised countries.
- **No study has shown that the death penalty acts as a effective deterrent.** The evidence is all to the contrary.
- **For deterrence to work, the severity of the punishment has to coexist with the certainty and swiftness of the punishment.**

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judicial process, and the execution is also not quick. In past 13 years only 4 has been executed.

- The death penalty has not deterred terrorism, murder or even theft. For over a century, stealing attracted the death penalty in England, where spectators at public hangings often had their pockets picked.
- The death penalty is error prone. Between January 1, 2000 and June 31, 2015, the Supreme Court imposed 60 death sentences. It subsequently admitted that it had erred in 15 of them (25%).
- India's murder rate has declined continuously since 1991, this is not due to the death penalty but due to increasing trend of equal sex ratio.
- Punishment should not imitate crime, but rather to reform the individual.

Why death penalty should stay?

- The death penalty has been criticised for far too long without an understanding of its basics.
- It is criticised mainly on three counts: arbitrariness, irreversibility and human rights. However, the punishment passes all these tests before the death penalty is given.
- Its constitutionality has not only been upheld in India but also in the liberal democracy like U.S.
- The retention of the death penalty is not a reflection of "uncivilised" polity, but a reflection of the "rule of law".
- The Law Commission has batted for the retention of the death penalty in various reports.
- While the 35th Report correctly called for its retention in order to see its impact on a new republic.
- The more recent 262nd Report could not recommend the punishment's absolute abolition because it was needed to face situation like terrorism.
- India's neighbourhood is not as peaceful as West, hanging of Ajmal Kasab and Yakub Khan shows India's respect to the lives of the innocent.
- A punishment cannot be judged by its impact on criminals but by its impact on those who are still innocent.
- And it has to be remembered that the death penalty is imposed only on the "rarest of the rare" cases only.
- The death penalty cannot be called arbitrary because it undergoes a long

Balanced view:

- In 2007, the UN General Assembly passed a resolution calling for a moratorium on the administration of the death penalty by the 59 countries that still retained it, India is one of them.
- In 1962, the Law Commission supported the death penalty stating that India's particular circumstances were such that it could not "experiment" with its abolition.
- In 1991, the Supreme Court cited its use in defending law and order as the reason for its continuance.
- In 1980, in Bachan Singh v. State of Punjab, a Constitution Bench articulated the "rarest of rare" threshold.
- Death must only be imposed where the alternative option is unquestionably foreclosed.

Way forward:

- In 2015, the Law Commission called for abolition of the death penalty for ordinary crimes.
- Any injustice in criminal justice system will affect the fabric of the society and hence has to be used cautiously. And remind the wrong doers the cruellest crime will not go unheard.

Anchored in Human Rights

Introduction:

- December 10 was World Human Rights Day, which is a reminder also that we can only beat TB using an approach anchored in human rights.
- Decades of global neglect have resulted in tuberculosis (TB) becoming the leading cause of adult deaths in most of the global south it kills nearly two million people a year.
- This is shocking given that TB is curable and preventable. But there are signs of change as the spotlight shines on TB; including the United Nations Declaration of September 2018 titled "United to End Tuberculosis: An Urgent Global Response to a Global Epidemic", where heads of state and government have "reaffirmed their commitment to end the global TB epidemic by 2030".

Status of TB in India:

- TB is an infectious disease caused by the bacillus *Mycobacterium tuberculosis*. It typically affects the lungs (pulmonary TB) but can also affect other sites (extrapulmonary TB).
- The disease is spread when people who are sick with pulmonary TB expel bacteria into the air, for example by coughing.
- Despite the efforts of health systems, about 40% of Tuberculosis (TB) patients in India go undiagnosed or if diagnosed, are not reported.
- Moreover, even among those reported and/or diagnosed with TB, many do not turn up follow up treatment, both in cases of drug sensitive and drug resistant TB (MDR-TB; XDR-TB).

Intrusive technologies:

- Not all attention given by the state is good.
- TB that is anchored in human rights and has a human touch. For example, a plan in India is to implant microchips in people in order to track them and ensure they complete TB treatment.
- There are also seemingly endless technological tweaks to the Directly Observed Treatment, short course (DOTS) strategy, which requires patients to report every day to a health authority, who watches them swallow their tablets.
- Now, governments use, or plan to soon use, a strategy of video, tablets, phones and drones to carry the old DOTS strategy into the technology era.
- This kind of obsession with technology has forgotten the basic human right that TB patients do not need surveillance but human touch and care.

Best way to eliminate TB:

- **The first is new treatment:** In contrast to the dozens of whirring and chirping surveillance gizmos are bedaquiline and delamanid, the only new TB drugs to have come to the market in 50 years. These drugs are far more effective against drug-resistant TB.
- **The second is the human touch:** Employ and deploy community health-care workers.
- Many domestic TB policies envision community health-care workers as the backbone of the response, yet, in practice, these front-line workers remain shockingly underused.

- In sufficient numbers equipped with proper training and dignified conditions of employment they would lead the response by bringing care to those furthest from the reach of traditional health-care systems.
- **The last is accountability:** The TB response can only be as good as the health-care systems through which it is implemented, and health-care systems are only as good as the structures that hold them to account.
- Community-based structures such as “clinic committees” ensure accountability while also fostering partnership and trust between communities and their health-care systems.
- Grassroots civil society and community-based organisations also ensure accountability. Such organisations are indispensable and would thrive on comparatively small amounts of funding.

Conclusion:

- We cannot beat TB through a response rooted in control and coercion.
- People with TB do not need to be watched, they need to be heard. People with TB are saying they want what anyone wants including health and dignity.
- The shiny allure of surveillance technology threatens to distract us from the real work of the TB response and work that involves partnering with communities to employ human-rights based strategies to beat TB.

The Big picture: Humanising the prisons

Introduction:

- The Supreme Court has once again on 13 December made a strong observation on the situation of prisoners lodged in jails.

SC observation:

- The Supreme Court has issued instructions to all state governments to make changes in prison rules.
- During the hearing, the court said that in all the states, prisoners' rights should be fully taken care of.
- Also, the court observed that prisoners sentenced to death should be allowed to meet psychiatrists.
- In November, during a discussion on the plight of the jails, the court had said that there are very poor arrangements for prisoners.

- Upkeep of jails has not been undertaken for years. Toilets and sewage system are not cleaned in the jails. There is not enough room for children of prisoners in prison. The list of problems is endless.

Need for Prison Reforms:

- Prison reform is necessary to ensure that human rights of prisoners are protected and their prospects for social reintegration are increased.
- Prisons are not isolated from the society and prison health is public health. It is important to provide adequate health facilities.
- For protecting the rights of inmates with mental health-care needs.
- Most recent statistics reveal that over 67 percent of the prisoners are under-trials and may continue to be held in overcrowded prisons for years. This makes them one of the weakest sections of society.

Prison Reforms:

- Prisons are a subject of state list in Indian constitution.
- The issue of prison reforms came into limelight in early 1970s when K.F. Rustamji highlighted the cause of under-trials and critical conditions of the prisoners.
- Justice Mulla Committee (1983): The government should come up with a National Policy on Prisons. In every state and UT a Department of Prisons and Correctional Services should be set up.
- Justice V. R. Krishna Iyer Committee on Women Prisoners(1987): Highlighted the importance of Women safety in prisons.
- The draft National Policy on Prison Reforms and Correctional Administration is still in draft stage though it calls for placing prisons in concurrent list. Amending the constitution to include principles of prison management and treatment of under-trials under DPSP; and including prisons in concurrent list.

Way forward:

- Union Home Ministry have developed a model prison Manual 2016 in alignment with UN resolutions.
- Prisons should have reformative approach rather than retributive one. Basic human rights of the prisoner should be protected and be given another chance to live a meaningful life.
- Fill up vacancies and augment the staff strength across criminal justice wings.

- Financial assistance to NGOs working for the rehabilitation of prisoners and community-based alternatives to imprisonment for offenders convicted for relatively minor offences.
- Qualified health professionals independent of the prison administration are essential to provide services to inmates.
- Prison and Jail Overcrowding Commission: Should meet regularly and dispose of any prison related issue.
- Ensuring Accountability of Police - any crime like custodial violence must be fast tracked within specified time period through Independent investigation Agency.
- Inculcation of scientific method of investigation in Police force and curtailing the practice of third degree torture.
- Strict Implementation of DK Basu case guidelines as well as NHRC guidelines by States.
- The Supreme Court ordered the Centre and the States to install CCTV cameras in all the prisons in the country. Regular monitoring and functioning is required.
- The women prisoners should be treated more generously and allowed to meet their children frequently.
- The prison legislation should make provision for remedy of compensation to prisoner who are wrongfully detained or suffer injuries to negligent acts of the prison personnel.

Ascent to the temple of democracy

Introduction:

- Kerala which was exceptionally known internationally for its health and education development indicators has faced a hit post the Sabarimala verdict.

The paradox in Kerala:

- When it was first noticed over four decades ago, Kerala's perceived uniqueness had stemmed from the realisation that it was among India's poorest States.
- To have achieved fairly high human development despite relative poverty was considered noteworthy.
- What was not apparent in the usual indicators, however, was something even more unique, the ending of social hierarchy.

- The caste system, which was at the centre of Kerala's social arrangements, disintegrated virtually overnight.
- This was fuelled by the enactment of a land reform programme that ended feudalism. With feudalism went the equivalence between caste dominance and economic power.
- If evidence ever was needed for the Marxian view that it was the economic base of a society that undergirded its 'superstructure' this was it.
- What is significant is that the transition had been smooth, without recrimination for loss or retribution for injustice. Social distance in terms of caste distinctions just died.
- Given the experience of the ending of a feudalism that had persisted for centuries in Kerala, the reception to the Supreme Court's verdict on the practice of excluding women of menstruating age from the shrine at Sabarimala is disappointing.

Linked to representation:

- However, while democracy assures freedom to practise religion, citizens are expected to practise it in a way that is consistent with democracy.
- So, the traditionalists on the Sabarimala issue must recognise that by excluding

Officers IAS Academy, Chennai women, they are not keeping their side of the social contract as it were.

- In a democracy, the social contract is not between the state and the people, it is one entered into by citizens among themselves.
- In a way, the opposition to the entry of women to Sabarimala is reflective of a wider inequality between men and women that may be observed in Malayali society.
- Two indicators point to this, despite the very high literacy levels registered by women and a significant presence of women with higher education.
- First, female labour force participation is low in Kerala in comparison with other States.
- Second, the presence of women in governance roles is very low in Kerala.

Conclusion:

- It is hoped that the Sabarimala shrine, a site of popular worship with a long history and of great beauty, will henceforth be open to women of all ages.
- But for Kerala ending exclusion at this one site can only be the beginning of the much longer journey to gender equality in its society.
- Such endings are few and far between but give rise to hope that women will eventually receive their due in Kerala.

General Studies-2

The fear of the executive courts

Introduction:

- There is a alarming trend observed in the judiciary now a days, where a series of instances where judges have inserted themselves into political controversies through their controversial statements.
- Recent statements by few judges, like Meghalaya High Court Judge observed in a judgment that “anybody opposing Indian laws and the Constitution cannot be considered citizens of the country., India “should ... have been declared... a Hindu country”.
- These kind of statements by the judges shows that the judges are using their prestige and independence of the judiciary in this way.

A frightening prospect:

- In the 1980s, there was a rapid expansion of judicial power. This expansion was motivated by a sense that the judiciary had long been a conservative institution, taking the side of landed interests against “the people”.
- This needed to change. Some of these steps were important and necessary, such as allowing “public interest” cases to be filed on behalf of those who were unable to access the courts.
- Others, however, were double-edged swords, such as diluting the evidentiary standards required to prove disputed facts, and vastly expanding the courts’ discretion to shape and fashion remedies.
- By the 1990s and the 2000s, under the misleading label of “judicial activism”, the court was beginning to engage in a host of administrative activities, from managing welfare schemes to “beautifying cities” to overseeing anti-corruption initiatives.
- The constitutional court had become a **Supreme ‘Administrative’ Court**. This, too, was justified on the altar of necessity: politicians were corrupt, bureaucrats were inefficient, and things didn’t move. Someone had to come and clean it all up.
- A combination of viewing the judiciary as an infallible solution to all social problems, and viewing procedure that would otherwise constrain judicial power as an

irritant that stands in the way of a truer, purer justice has created the perfect storm that we see today.

- Now the judiciary has become an **“Executive court”**, which means court whose moral and political compass finds itself in alignment with the government of the day.
- Instead of checking and limiting government power, an executive court finds itself marching in lockstep with the government, and being used to set the seal of its prestige upon more controversial parts of the government’s agenda.

The meaning of judicial independence:

- We normally think about judicial independence as independence from the government.
- Our Constitution is designed to ensure that judges can do their work “independent” of government influence: fixed salaries, security of tenure, and an appointments process that through the Supreme Court’s judgments is insulated from executive control.
- Independence, however, means something more. It also requires that judges perform their constitutional role independent of personal biases, political and moral beliefs, and partisan ideologies.
- Of course, adjudication is a political task, and there is no doubt that a judge’s political vision will inform work. That, however, does not authorise the judge to turn into a politician.
- The law and constitution should act as checks and balance for their work. Judicial independence, therefore, depends on judges recognising that law, while being influenced by politics, is not reducible to it. Law and adjudication must remain autonomous from partisan politics in important ways.

Way forward:

- Control comes with accountability. The independence given to judiciary has insulated it from any form of accountability.

- Accountability only to oneself, however, is a very weak form of constraint. The temptation to overstep is always immense, more so when such immense power has been placed in one's own hands.
- It is here that **legal culture** plays a critical role in establishing judicial accountability. Legal culture, refers to a set of unwritten, but clearly established, norms that determine what is or is not acceptable in the process of adjudication.
- And a legal culture does not spring up out of a vacuum: it must be created and nurtured by judges, lawyers, legal academics, the press and the citizenry.

The anatomy of a police station

Introduction:

- The death of inspector Subodh Kumar Singh, shot while trying to control a mob of cow vigilantes in Uttar Pradesh, is a vivid expression of the contempt of the rule of law.
- The shock turns into dread as the ruling elite fails to condemn and punish the perpetrators. Mob violence is growing, and the government's efforts to contain it are wanting.
- Underlying these shocking incidents is an equally terrifying lawlessness, which is quiet, insidious and pervasive.

Unable to enforce law:

- The police station was structured to perpetrate lawlessness in two ways. First, it was simply not enabled to enforce the rule of law.
- The police personnel were expected to investigate crime, maintain law and order, and were frequently deployed on VIP duty.
- The personnel rotated through it rapidly, as there was at least one transfer per month. The senior officers complained that postings were based on patronage, and it was not possible to deploy the best people for the most difficult tasks.
-

- The stations were always short of money, and personnel spent from their pocket on stationery and other needs.
- The working style of the police is also demotivating, they are underpaid and not respected not enough recreational time is available.
- Though a police station is expected to respond to the needs and events of the area, it was assigned targets, such as for seizing a certain amount of liquor and issuing a number of challans. Every year, the targets were increased.

Deep rooted corruption:

- The second way in which the police station became an agent of lawlessness was corruption. Interaction with the people showed that the village people feared and avoided the police. They said that the police listened to those who had money.
- When an FIR was lodged, the police evinced sympathy for the victims as well as the accused, and took money off both to solve the case.
- This problem was clearly systemic and not individual, as the environment is such that almost everyone is corrupted.

Way forward:

- Police is a state subject in Schedule VII, State governments needs to take adequate effort to reform the police station.
- Supreme Court in the Prakash Singh vs Union of India case was the landmark in the fight for police reforms in India, which envisaged separation of law & order and investigation and establishment of A police establishment board, instead of the government, would deal with transfers of policemen.
- A separate HR(Human Resource) department within police department to continuously give counselling, training to lower cadre and conducting events to motivate the police force would go a long way in firmly establishing law and order in the society.

General Studies 3

Engaging with climate change

Introduction :

- Thousands of schoolchildren demonstrated on the streets of Australian cities at the end of November, 2018.
- These schoolchildren were protesting against their government's lacklustre response to climate change.
- The summit showed no consensus on climate change, proving the point the children in Australia had made that political leaders are not serious about the environmental crisis.

Issue in Australia:

- Over the recent years Australia has experienced dire consequences of global warming.
- It is important to note the demonstration by the schoolchildren in Australia showed that their collective anger was neither politically engineered nor unruly.
- Experts opine that it is due to this that it elicited a quick, though disapproving, response from the Australian Prime Minister.
- On his way to the G20 summit, the Australian Prime Minister said students should focus on learning and avoid activism.
- In contrast, Australia's Resources Minister, Matt Canavan's response, was sharper. He said students should be learning about geology and mining rather than protesting on streets. He was referring to the coal mining projects some of the children specifically mentioned.

What should we infer from these protests?

- An important thing about the protests in Australia is that many parents and teachers had given their consent and some parents had encouraged children to go out on the streets.
- The deeper inspiration had come from similar plans reported from Swedish schools. Like children in various other parts of the world, Swedish and Australian children have been studying environmental science in their regular curriculum.
- However, in addition to the curriculum, direct experience of endemic forest fires impelled adolescent minds in Australia to

mount public protests. Several students spoke to the media, articulating specific demands. These included the closure of a new coal mining projects.

- How important such projects are to Australia's continued economic prosperity is clear from the sharp reaction that children's mass protest received from the Minister.
- As a matter of fact, critics point out that Mr. Canavan is in a vast company of popular politicians of different countries, among which American President Donald Trump is one of them. **Critics assert that leaders like him (Donald Trump) see climate change as an irritating discourse.**
- Moreover, they feel it confuses and distracts the public. These **leaders believe that no goal should override high industrial and economic growth. As for the threat of climate change, these leaders deny it and blame activist scientists for creating and spreading a myth.**

The distinction between weather and climate:

- Experts point out that why people think that climate change is a myth is easy to explain.
- **Weather changes from day to day and season to season**, according to standard geography texts. **Climate, on the other hand, refers to a permanent frame within we study change in weather conditions.**
- Thus, the term 'climate' is used for classifying the world and each country in zones. These zones constitute the permanent lore of learning.
- In a report released by UNESCO's Delhi-based Mahatma Gandhi Institute of Education for Peace and Sustainable Development, entitled, **"Rethinking Schooling for the 21st Century"**, an analysis of curriculum policy documents from over 20 Asian countries was presented.
- The analysis shows that the **sustainable development goals promoted by UNESCO have been included in the school syllabus across Asia, but their presence is merely nominal in most countries.**

- Policy documents include environmental concerns, but prioritise economic growth. **In the context of globalisation, most countries propagate competitive nationalism.** It is used as a major ground for regimentation of children's bodies and minds in order to ensure that they become proud, loyal citizens.

Conclusion :

- It is also important to note that **all environmental struggles are caught in sharply divided goals of popular politics and people's right to live in a safe and sustainable environment.**
- Further, those who espouse environmental causes are often seen as romantics while people who support fast economic growth based on rapid industrialisation are perceived as practical realists.
- The Australian children have rejected this view. They have figured out that the term 'climate change' means little to their political leaders.

Death in air pollution

Introduction:

- The environmental scourge that killed an estimated 1.24 million people in India in 2017, air pollution should be among the highest policy priorities.
- The Centre and State governments have tended to treat it as a chronic malaise that defies a solution. The deadly results of official apathy are outlined in the Global Burden of Disease 2017 report on the impact of air pollution on deaths, disease burden, and life expectancy across the states of India.

Affected regions:

- Millions of people are forced to lead morbid lives or face premature death due to bad air quality. India's national standard for ambient fine particulate matter, or PM2.5, is notoriously lax at 40 micrograms per cubic metre, but even so, 77% of the population was exposed to higher levels on average.
- No State met the annual average exposure norm for PM2.5 of 10 micrograms per cubic metre set by the World Health Organisation.
- **People living in the worst-affected States of Uttar Pradesh, Bihar, Rajasthan and Jharkhand could add more than 1.7 years to their life expectancy.**

- Similar gains would accrue nationwide, but it is regions with low social development, reflected partly in reliance on solid fuels for cooking, and those with ambient air pollution caused by stubble-burning, construction dust and unbridled motorisation such as Delhi that would benefit the most.

Sustainable energy goals:

- Sustainable solutions must be found for stubble-burning and the use of solid fuels in households, the two major sources of pollution, and State governments must be made accountable for this.
- The Centre should work with Punjab and Haryana to ensure that the machinery already distributed to farmers and cooperatives to handle agricultural waste is in place and working.
- A mechanism for rapid collection of farm residues has to be instituted. In fact, new approaches to recovering value from biomass could be the way forward.
- The proposal from a furniture-maker to convert straw into useful products will be keenly watched for its outcomes.
- A shift away from solid fuels to LPG in millions of low-income homes has provided health benefits. The **Lancet study** says, underscoring the value of clean alternatives.
- The potential of domestic biogas units, solar cookers and improved biomass cookstoves has to be explored, since they impose no additional expenditure on rural and less affluent households.
- Such measures should, of course, be complemented by strong control over urban sources of pollution.

Way forward :

- India's commitments under the Paris Agreement on climate change require a sharp reduction in particulates from fossil fuel.
- Fuels may be relatively cleaner today and vehicles better engineered to cut emissions, but traffic densities in cities have led to a rise in pollution. Real-time measurement of pollution is also lacking.
- There are not enough ground-level monitoring stations for PM2.5, and studies primarily use satellite imagery and modelling to project health impacts.

- Rapid progress on clean air now depends on citizens making it a front-line political issue.

Are drugs discharged into the Yamuna toxic to aquatic life?

Introduction:

- By studying nine different pharmaceutical active compounds in Yamuna river, researchers pointed out that it can “possibly cause chronic toxicity” to aquatic life and to humans who use this water for drinking purposes.

About the study:

- As our body does not use the entire quantity of the drug we take, most of it is excreted and end up in aquatic systems via domestic sewage.
- The report published in **Ecotoxicology and Environmental Safety** looks at the occurrence, fate and ecological risks of these compounds.
- There are six over-the-counter drugs (aspirin, paracetamol, ibuprofen, ranitidine, caffeine, diclofenac) and three prescription drugs (carbamazepine, codeine, diazepam).

Findings of the study:

- The highest concentration of pharmaceutical compounds was located downstream Wazirabad at the point where Najafgarh drain joins the Yamuna.
- This is one of the largest drains of Delhi and has an average discharge of about 25 cubic metres per second.
- This drain is the largest polluter of the river contributing more than 50% of the total discharge into the Yamuna.
- At this site, **ibuprofen and paracetamol** were found at a high concentration of 1.49 and 1.08 microgram per litre respectively.
- Previous studies have shown that even small concentration of ibuprofen could cause an antagonistic effect on aquatic organisms.
- Studies have also shown that ibuprofen exposure could increase cyanobacterial growth in the water.
- Caffeine was found in high concentration in most of the sites.
- **Caffeine is used as a stimulant in medicine. Residue from beverages and other food products may also be a contributor.**

Hazards of the effluents:

- The individual levels of the drugs were small and cannot cause acute toxicity to the marine life.
- But the mixture of compounds can “possibly cause chronic toxicity” to aquatic life and to humans who use this water for drinking purposes.
- This not only affects the biodiversity of the river but can also lead to the rise of superbugs.
- The discharge of drug-containing effluents in rivers and other water bodies can potentially make many microbes drug-resistant.

Way forward :

- The sewage treatment plants are not designed to take care of these pharmaceutical compounds.
- The study thus highlights the need for the government to bring in the guidelines or specific rules to arrest and address this.

Farming in a warming world

Introduction:

- The pervasiveness of climatic aberrations and the associated socio-economic vulnerability are now widely recognised and experienced across the globe.
- The Sixth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) on “Global Warming at 1.5°C” distinctly propagates the need to strengthen and enhance existing coping capacity and to remain committed to the objectives of the Paris Agreement.

Highlights of the report:

- The world has become 1°C warmer because of human activities, causing greater frequency of extremes and obstruction to the normal functioning of ecosystems.
- Climate-induced risks are projected to be higher for global warming of 1.5°C than at present, but lower than at 2°C (a catastrophic situation).
- However, the magnitude of such projections depends on in-situ attributes and the level of developments.
- Moreover, for such a change in global warming, **indigenous populations and local communities dependent on agricultural or coastal livelihoods are very vulnerable to the climate impacts.**

India’s scenario:

- India, with its diverse agro-climatic settings, is one of the most vulnerable countries.
- Its agriculture ecosystem, **distinguished by high monsoon dependence**, and with 85% small and marginal landholdings, is highly sensitive to weather abnormalities.
- There has been less than normal rainfall during the last four years, with 2014 and 2015 declared as drought years.
- Even the monsoon season (June-September) ended with a rainfall deficit of 9%, which was just short of drought conditions.
- Research is also confirming an **escalation in heat waves, in turn affecting crops, aquatic systems and livestock**.
- The Economic Survey 2017-18 has **estimated farm income losses between 15% and 18%** on average, which could rise to 20%-25% for unirrigated areas without any policy interventions.
- These projections underline the **need for strategic change in dealing with climate change in agriculture**.

Steps needed:

- There is a need to foster the process of climate adaptation in agriculture, which involves reshaping responses across both the micro- and macro-level decision-making culture.
- **Micro level:**
- Traditional wisdom, religious epics and various age-old notions about weather variations still guide farmers' responses, which could be less effective.
- Corroborating these with climate assessments and effective extension and promoting climate resilient technologies will enhance their pragmatism.
- **Climate exposure can be reduced through agronomic management practices such as**
- Inter and multiple cropping and crop-rotation,
- Shift to non-farm activities,
- Insurance covers,
- Up-scaling techniques such as solar pumps, drip irrigation and sprinklers.
- Several studies indicate increasing perceptions of the magnitude of climate change and the need for farmers to adapt, but the process remains slow.

- For instance, the NSS 70th round indicates that a very small segment of agricultural households utilised crop insurance due to a lack of sufficient awareness and knowledge.
- Hence there is an **urgent need to educate farmers, reorient Krishi Vigyan Kendras and other grass-root organisations with specific and more funds about climate change and risk-coping measures**.
- **Climate adaptation actions in agriculture are closely intertwined with rural developmental interventions, calling for a holistic new paradigm.**
- **Macro level:**
- Climate adaptations are to be mainstreamed in the current developmental framework.
- Though programmes of the government document the likely consequences of climate change, they lack systematic adaptation planning and resource conservation practices.
- Mainstreaming adaptation into the policy apparatus has the potential to improve the resilience of several development outcomes.
- The approach demands coherence across multiple policy scales as required for developing possible synergy between micro-macro levels and addressing several cross-cutting issues.
- Moreover, this enables identification of several barriers that prevent up-scaling efforts and adaptation by farmers.

Key initiatives:

- Expansion of extension facilities, improving irrigation efficiency, promotion of satellite-enabled agriculture risk management, creating micro-level agro-advisories, providing customised real time data, and capacity building of stakeholders are some initiatives towards building greater resilience in agriculture.
- Interventions such as the Pradhan Mantri Krishi Sinchayee Yojana, Pradhan Mantri Fasal Bima Yojana, Soil Health Card, Paramparagat Krishi Vikas Yojana, National Agriculture Market, or e-NAM, and other rural development programmes are positive interventions that can address the vulnerability of farmers and rural households.
- There are also exclusive **climate and adaptation schemes** being

operationalised, such as the **National Innovations on Climate Resilient Agriculture (NICRA)**, the **National Mission for Sustainable Agriculture (NMSA)**, the **National Adaptation Fund**, and the **State Action Plan on Climate Change (SAPCC)**.

- It is desirable to have a cultural change wherein some of the components under these schemes can be converged with major rural development programmes, which will further enhance their effectiveness at the grass-root level.

Way forward:

- The SAPCC is an important platform for adaptation planning but it **needs to evolve further in terms of climate-oriented regional analysis to capture micro-level sensitivity and constraints**.
- Moreover, convergence of climate actions with ongoing efforts and several Central schemes with similar mandates is a must.
- Greater expertise and consultations are required for a systematic prioritisation of actions and fiscal prudence for building climate resilient agriculture.

Don't believe the anti-GMO campaign

Introduction:

- A paper co-authored by M.S.Swaminathan claimed that bt. cotton is a failure. However Principal Scientific Adviser said that the paper is deeply flawed and has the potential to mislead the public and political system.

The issue

- The research paper says that “only in very rare circumstance (less than 1%) may there arise a need for the use of this technology [GM]”
- However, the concluding part of the paper is in contradiction to this fact and says “Genetic engineering technology has opened up new avenues of molecular breeding. However, their potential undesirable impacts will have to be kept in view. What is important is not to condemn or praise any technology, but choose the one which can take us to the desired goal sustainably, safely and economically.”
- Professor Swaminathan has said “Genetic modification is the technology of choice for solving abiotic problems like drought flood, salinity, etc. It may not be equally effective in the case of biotic stresses since new

Officers IAS Academy, Chennai strains of pests and diseases arise all the time. This is why MSSRF [M.S. Swaminathan Research Foundation] chose mangrove for providing genes for tolerance to salinity.”

- Abiotic stress in crops is a major hazard and does not fall under the less than 1% category mentioned in the review article

Support for GM

- Major science academies of the world such as the U.S.'s National Academy of Sciences, the African Academy of Sciences and the Indian National Science Academy have supported GM technology.
- U.S. National Academy of Sciences published a report in 2016 which said Bt in maize and cotton from 1996 to 2015 contributed to a reduction in the gap between actual yield and potential yield under circumstances in which targeted pests caused substantial damage to non-GE varieties and synthetic chemicals could not provide practical control”.
- In 2016, 107 Nobel laureates signed a letter challenging Greenpeace to drop its anti-genetically modified organism (GMO) technology stance
- Data from a large number of peer-reviewed publications have shown that, on average, GM technology adoption has reduced pesticide use by 37%, increased crop yield by 22%, and increased farmer profits by 68%
- Data from a billion animals fed on GM corn have not indicated any health hazards
- People consuming Bt corn or soybean for over 15 years have not reported any health issues

Bt cotton is not a failure in India.

- The yields hovering around 300 kg/ha at the time of introduction of Bt cotton (2002) have increased to an average of over 500 kg/ha, converting India from a cotton-importing country to the largest exporter of raw cotton.
- The development of resistance can be tackled through practices like Integrated Pest Management and by stacking Bt genes to fight secondary pests

GM Mustard

- Field trails have not been allowed to be conducted. Without conducting trail, yield data cannot be obtained.

- Mustard is difficult to hybridise through conventional methods as it is a self-pollinator.
- GM mustard (DMH-11) is a technology to create mustard hybrids by allowing different parents to be combined easily, helping yields go up substantially.
- The herbicide glyphosate is only used for selection of hybrids and is not meant for farmer fields.
- The carcinogenic potential of the herbicide have not been accepted by major science academies.

Bt. Brinjal

- An expert committee appointed by the Supreme Court recommended a 10-year moratorium on field trials of all genetically modified (GM) food crops and a complete ban on field trials of transgenics in crop
- In 2013, Bangladesh approved the commercial cultivation of bt Brinjal. Reports say that 6000 farmers in Bangladesh cultivated bt Brinjal in 2017.
- India has one of the strongest regulatory protocols for field trails of GM crops. GM crops need to be evaluated on a case by case basis. There is scope for improvement in terms of technology and regulatory protocols.

Merger of Banks

Procedure for merger of banks in India

- The Banking Companies (Acquisition and Transfer of Undertakings) Acts of 1970 and 1980 provide that the Central Government, in consultation with the Reserve Bank of India (RBI), may make a scheme for the amalgamation of any nationalised bank with any other nationalised bank or any other banking institution.
- Various committees, including Narasimhan Committee (1998) constituted by RBI, Leeladhar Committee(2008) chaired by RBI Deputy Governor, and Nayak Committee (2014) constituted by RBI, have recommended consolidation of Public Sector Banks (PSBs) given underlying benefits.
- Government, with a view to facilitate consolidation among public sector banks to create strong and competitive banks approved an approval framework for proposals to amalgamate PSBs through an **Alternative Mechanism (AM)**.

- In September 2018, AM (headed by Finance Minister, including Railways Minister Piyush Goyal and Defence Minister Nirmala Sitharaman), proposed the amalgamation of Bank of Baroda, Vijaya Bank and Dena Bank.
- Banks have since considered amalgamation and the Board of Dena Bank has recommended the same, while Boards of Bank of Baroda and Vijaya Bank have given in-principle approval.

Expected Benefits

- The merger helps in financial inclusion and broadening the geographical reach of the banking operation.
- Merger leads to availability of a bigger scale of expertise and that helps in minimising the scope of inefficiency which is more in small banks.
- It is expected to improve efficiency and serviced delivery among merged banks.
- Merger sees a bigger capital base and higher liquidity and that reduces the government's burden of recapitalising the public sector banks time and again.
- Redundant posts and designations can be abolished which will lead to financial savings.
- It makes RBI have better control on the system and implementation of policies will be easy.

Challenges of merger

- Many banks have a regional audience to cater to and merger destroys the idea of decentralisation.
- Larger banks might be more vulnerable to global economic crises while the smaller ones can survive.
- Merger could only give a temporary relief but not real remedies to problems like bad loans and bad governance in public sector banks.
- One of the biggest challenges for the merger is likely to be human resources management. Even though they are public sector banks, each one has different work culture. The approach and attitude are not to change quickly.
- Cumbersome process in terms of consolidating the accounts, infrastructure, HR management, policies, marketing etc.

Other reforms related to PSBs

- Monitoring of loans above Rs. 250 crore through specialised agencies for effective vigil
- Use of technology and analytics for comprehensive diligence across data sources
- Comprehensive checking of all accounts of Rs. 50 crore and above that turn NPA for wilful default and fraud
- Establishment of Stressed Asset Management Verticals in banks for focussed recovery and timely and effective management of stressed accounts
- Collection of passport details of borrowers for loans above Rs. 50 crore
- Enactment of the Fugitive Economic Offenders Act, 2018 in order to deter economic offenders from evading the process of Indian law by remaining outside the jurisdiction of Indian courts.

Current account woes

Introduction

- According to the latest RBI data, Current Account Deficit (CAD) widened to 2.9% of GDP (\$19.1 billion) for the second quarter (July-September), a four-year high, compared with 1.1% (\$6.9 billion) during the same period of the previous year.

What is CAD?

- Current account is the difference between the value of exports of goods and services and the value of imports of goods and services. The current account also includes **net income** (such as interest and dividends) and **transfers** from abroad (such as foreign aid), which are usually a small fraction of the total.
- CAD means the country is importing more goods and services than it is exporting.

Reasons for the widening CAD

- Rising trade deficit which is now at \$50 billion compared with \$32.5 billion a year ago.
- Sharp rise in oil prices. Being a major oil importer, rising oil prices meant more foreign exchange leaving the country.

Is it a cause for concern?

- Some of the pressure has eased with oil prices falling since October and the rupee strengthening against the dollar. Brent crude is down almost 30% from the high it reached in early October. So the size of the deficit is likely to come down in the quarter ending December.
- However, medium to long-term risks to the external sector remain.
 - There is the threat of price volatility faced by heavy importers of oil. Unless India manages to **diversify its energy base** by tapping into local sources of energy, this will remain a perennial threat to economic stability.
 - India manages its widening current account deficit by using brisk foreign capital inflows into the economy which funds its huge import needs. The trouble arises when foreign inflows dry up and restrict the ability to purchase essential imports.
 - As Western central banks tighten their monetary policy, the RBI will also be forced to tighten its own policy stance in order to retain investment capital and defend the rupee. This will impact domestic economic growth negatively.
- Each time the external account has come under pressure, the government has simply tried to bring in piecemeal emergency measures, such as a little opening up of the capital account or restrictions on imports.
- Such a policy results only in short term temporary relief rather than bring a permanent solution to the problem.

Way Forward

- In order to bring about any meaningful change, the government should also try implementing proper **structural reforms**

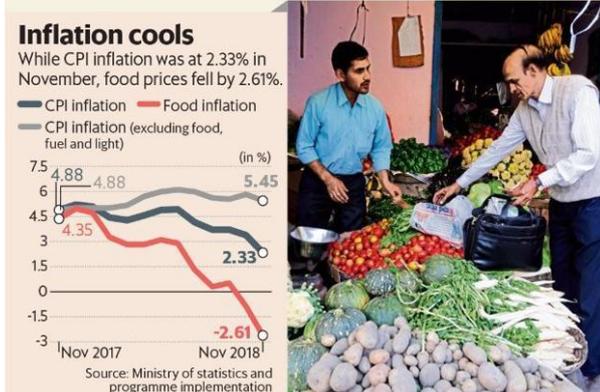
that can boost exports, thus helping fund imports through means other than capital inflows, and end the over-reliance on imported oil.

Negative Signals

Introduction

- Retail inflation measured by consumer price index (CPI) dropped to a 17-month low of 2.33% in November, as compared to 3.31% in October.

Reason for the fall



- It is primarily due to the fall in the prices of various essential food items.
- Food prices fell by a 6.96% compared to a year ago and, at **minus 2.61%**, are now in deflationary territory for the second successive month.

Is it a bad news?

- The fall in inflation is good news for consumers, particularly those in urban India who will be paying less for their purchases.
- But it is bad news for the producers of basic food items who are located in the distress-affected rural parts of the country, with falling farm incomes also impacting landless labour and rural demand.
- At the heart of this problem is the **unpredictability of farm prices**, which are known to exhibit extreme levels of volatility owing to various supply-side issues that plague the agricultural sector.
- Though farmer producer companies (FPOs) have stepped in with help and guidance to farmers to use hedging tools to minimise price risks, they are too few and far between to make a difference.
- And even when their produce finally commanded impressive prices in the retail market, the **cartelised agricultural**

marketing system has made sure that farmers received little to nothing.

Short-term measures

- Ahead of the general election next year, State governments across the country are likely to resort to short-term relief measures such as farm loan waivers to temporarily relieve farmers of their deep distress.
- There will also be pressure to announce higher MSPs for various agricultural goods.
- The Centre may prod the new RBI Governor to adopt expansionary monetary policy stance in the run-up to the election citing falling inflation figures.
- But none of these measures will help farmers, who have increasingly taken the protest route of late to make their demands heard, in any meaningful manner in the long run.

Way Forward

- Real agricultural reforms such as proper implementation of NAM (National Agriculture Market), improving agri infrastructure, providing agri extension services, regulating contract farming, land leasing, etc. are crucial to enable farmers to freely make their own business decisions without the grabbing hand of the government.

Providing health for all

Introduction

- India with the launch of "Ayushman Bharat" has taken vital first step towards providing Universal Health Coverage (UHC).
- According to the World Health Organisation, Universal Health Coverage (UHC) means "ensuring that everyone, everywhere can access essential quality health services without facing financial hardship".
- It sounds basic, yet it pose a major challenge.

Taking cue from Japan

- Japan has been leading the international efforts towards UHC, including its inclusion in the sustainable development goals and health is one of the fundamental rights in Japan.
- Japan created national health insurance coverage in 1961, when it was yet to take off economically. The implementation of UHC could only have been possible

through an early and vast national investment, and through a comprehensive government effort.

- This investment has paid off. UHC has increased the number of healthy people and healthy workers in Japan. It has contributed to the economic miracle of Japan. Moreover, UHC has ensured social equity by functioning as a mechanism for redistribution of incomes. The peace of mind which UHC ensures to the Japanese is an indispensable ingredient of their overall well-being.

Working together in healthcare

- Japan and India are partnering in wide-ranging projects for better healthcare. Japan has previously worked with India to eradicate polio in India.
- Currently, Japanese and Indian doctors are exchanging ideas and expertise at a research. In 17 cities across Tamil Nadu, urban healthcare systems are being strengthened with Japan's cooperation.

Officers IAS Academy, Chennai

- When Prime Minister Narendra Modi visited Japan at the end of October, India and Japan signed a new Memorandum of Cooperation on healthcare to pursue the synergies between Ayushman Bharat and Japan's Asia Health and Wellbeing Initiative.
- Both countries working together in various fields, such as honing skills of doctors in surgery of trauma as well as providing technical training for Indian nurses studying in Japanese caregiving facilities.
- Japan is also willing to learn from India. For instance, Ayurveda can bring a new dimension to Japan's healthcare system.

Conclusion

- The path towards UHC is not short. But India has taken the first bold step, and Japan will march along with India on this path, sharing its lessons, as a friend.

YOJANA DECEMBER

Introduction

- History has been witness to many social and economic revolutions.
- Beginning with agriculture, going on to industrial and then technological, these revolutions have changed the face of humanity and now the digital revolution is transforming society, culture and lifestyles.
- The IT revolution is a boon for the Indian youth as a generator of employment and revenue.
- Earlier one had to go physically or stand in queues for availing services. Now, Passport and visa services, railway bookings, withdrawal of cash, payments etc. have been digitized.
- Aadhar was the first major initiative of the Government to streamline Government services through direct benefit transfer and the JAM Trinity.

What is direct Benefit transfer (DBT) and JAM trinity?

- DBT is transferring benefits of the central government's social welfare directly to the bank accounts of beneficiaries.
- It ensures a simpler and faster flow of funds/information to the accurate beneficiaries thereby reducing duplication and fraud.
- JAM Trinity i.e. JanDhan, Aadhaar and Mobile are DBT enablers.
- The reason for promoting the concept of DBT is to reduce the leakage in the Public Distribution System.
- **Jeevan pramaan** has made life easier for the old who can now get verification of life through digital certificates to draw their pension. It is a Aadhar based Digital Life Certificate for Pensioners.
- **Common service centres (CSCs)**, digital classrooms and e-hospitals have enabled access to services in rural and remote areas.

What are Common Service Centers (CSCs)?

- Common Services Centre (CSC) programme is an initiative of the Ministry of Electronics & IT (MeitY) under the Government of India.
- They are the access points for delivery of electronic services of the government to the remote parts of India where the availability of internet and electronics is negligible.
- They contribute to make the society, socially, financially and digitally inclusive.
- But this also had seen challenges in terms of fake content, online frauds, cyber – bullying to which the Government has taken several cyber security measures to ensure robust data delivery systems.
- The journey to digitization has been one of inclusive growth, transforming India into a global economy.

Towards an inclusive and empowered nation

Introduction

- Today India is recognized in the world for its thriving IT industry.
- Growth in IT industry in India can be divided into 3 phases:
 - **Phase 1:** Indian IT professionals and companies travelled different parts of the world and established their presence.
 - **Phase 2:** Global IT giants started investing in India and tapped its vast domestic market.
 - **Phase 3:** This is the current phase where India is witnessing great growth in entrepreneurship led by start-ups.

Transformative impact of digital India

1. Digital identity

- To provide a unique digital identity Aadhar has covered around 122 crore residents of

the country supplementing the physical identity of the individuals.

2. Digital infrastructure

- **Bharat net** aims to provide high speed internet in rural areas of India by building optical fibre network connecting all the 2.50 lakh Gram panchayats of India.
- **National knowledge network**
NKN is a state of the art network to promote collaboration and exchange of knowledge among educational and research Institutions.
- **GI cloud (Meghraj)**
To utilize the benefits of cloud computing, this initiative aims to accelerate delivery of e-services in the country while optimising ICT spending of the Government.
- **eSign**
Electronic signature service is an innovative initiative for allowing easy, efficient and secure signing of electronic documents by authenticating signer using e-KYC(know your customer) services.

3. Digital payments

- **BHIM-UPI**
Bharat Interface for Money (BHIM) is a mobile app developed by National Payments Corporation of India (NPCI), based on the Unified Payment Interface (UPI) to facilitate e-payments directly through banks and drive towards cashless transactions.
- **RuPay debit cards**
RuPay is an Indian domestic card scheme conceived and launched by the National Payments Corporation of India (NPCI). RuPay facilitates electronic payment at all Indian banks and financial institutions.

4. Digital delivery of services

- **UMANG** is a single mobile app that offers more than 307 Government services.
- **National scholarship portal**
It has become a one stop shop for all the scholarships needs of students.
- **e-hospital and online registration services**
It aims to ensure that patients can get easy access to doctors.
- **Soil health card**
National soil health card scheme was launched in 2015 to provide information on soil health digitally.

- **eNAM**
Electronic national agricultural market (eNAM) is a pan -India electronic trading portal which networks the existing agricultural produce marketing committee (APMC) Mandi to create a unified national market for agricultural commodities.
 - **Digi locker**
Various important documents like PAN card, driving licence, Aadhar card etc can be stored in digital form on digilocker.
 - **eVisa**
It involves complete online application for which no facilitation is required by any agents .E-tourist Visa has been introduced for tourists coming from 163 countries at 24 airports and at 5 sea ports.
 - **eCourts**
With eCourts mobile app and Portal it has become easy to keep a track of case status of cases going on in different courts across India. Lawyers and litigants can also available notification services about their cases.
 - **National judicial data Grid**
It provides information on cases pending, cases disposed, and cases filed in both high court and district court in the areas of civil and criminal cases.
 - **GeM**
Government e-marketplace (GeM) is a transparent online market place for Government procurements and also created opportunities for micro, small, and medium enterprises to sell their products.
- ## 5. Digital India for employment , entrepreneurship and empowerment
- **Common services centres** have undertaken Stree Swabhiman(women's self-respect) initiative to create awareness about menstrual health and hygiene among rural woman under which more than 300 micro sanitary pads manufacturing units have been opened in rural areas.
- ## 6. Digital literacy for the masses
- Two schemes namely National Digital Literacy Mission (NDLM) and DISHA and Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) strive to make one person e-literate in every household.
 - **BPO promotion in small towns**

India BPO promotion scheme and north east BPO promotion scheme have been launched under digital India Programme.

7. Digital India for make in India

- There are about 35 manufacturing units of LCD/LED TVs and 128 units of LED products in the country under electronics manufacturing cluster (EMC) scheme.

8. Digital Initiatives in emerging technologies

- Centres of excellence (CoE) are being set up in the areas of internet of things (IoE), internal security, large area flexible electronics, intellectual property rights, medical tech, health informatics, gaming and animation and biometrics.

9. Cyber security

- **Cyber Swachhata Kendra** (Botnet clearing and malware analysis centre) has been set up to provide alerts to users for preventing losses of financial and other data.
- **National cyber coordination centre** has been made operational in 2017.

Way forward

- India is today among the top three economies of digital consumers.
- Concerted efforts permeating the economy have the potential to create a trillion-dollar digital economy by 2025.

Towards a Digital future

Introduction

- Early efforts at digitization were largely Government focused used especially in department like income tax and statistics etc.
- Substantial efforts and progress were seen in departments that dealt beneficiaries like rural development, PDS etc. during 1976-1996.
- In 1997 the first steps to a citizen focused e-governance program were taken, in Andhra Pradesh.
- Approval of SWAN (State Wide Area Networks) project led to discussion on national e-governance plan in 2003 which culminated in the approval of the plan and the game changing common services center

Officers IAS Academy, Chennai (CSCs) project in 2006, expanding to panchayats.

- During the period 2004-2013 some more ambitious projects like UID (Aadhar), passport seva, MCA 21(e-governance project under the Ministry of Corporate affairs) etc. were initiated.
- The country went from 100 to 1000 million telecom subscribers in a little over a decade.
- The national optical fibre network (NOFN) player known as Bharat Broadband was launched.
- Meanwhile global development in technology led to use of powerful, affordable technologies like social media, mobile data analytics, IoT, 3-D printing etc.

What is IoT?

- Internet of Things (IoT) is an ecosystem of connected physical objects that can be accessed through the internet.
- The computing devices, mechanical and digital machines, people are provided with unique identifiers to transfer data over a network without requiring human-to-human or human-to-computer interaction.

Digital services

- In India healthcare such as Medicea technology solutions is a technology driven pharmaceutical distribution services that uses private blockchain.
- Artoo is an intelligent lending system used by Micro enterprises.
- Dheeyantra enables interactions with end customers using Artificial Intelligence (AI) and Natural Language Processing (NLP).
- Krishi Hub is a free AI powered mobile app that enables farmers to make data driven decisions in around 17 states.
- Deepmind technologies analyses digital scans of eyes to diagnose eye disease.

Challenges

- Some people have welcomed the recent drone policy while others feel it is still sub optimal.

Drone policy 2018

- It has been announced by the Directorate General on civil use of Remotely Piloted Aircraft Systems, commonly known as "Drones".
- This New Drone Policy allows personal, recreational and commercial use of drones only within the "line of sight" of the person flying it.
- The policy will open the way for commercial use of drones (unmanned aircraft) for works in agriculture, health and disaster relief.

Conclusion

- Availability, power and affordability of technology are no longer the limitation.
- Technology has been solutions for poverty, employment, education and skilling, healthcare, agricultural productivity, financial inclusion etc.

Regulating the digital revolution

Introduction

- The digital revolution is often called as the **fourth industrial revolution**.
- **First three are the steam engine, followed by science and mass production, and then computers.**
- Under TRAI's recommendation, the ecosystem used for the delivery of digital services consists of multiple entities like telecom service providers (TSPs), mobile handsets tablets, personal computers, M2M (machine to machine) devices, communication networks, browsers, operating system, over the top (OTT) services providers, applications etc.

What is TRAI?

The Telecom Regulatory Authority of India (TRAI) is a statutory body under the Telecom Regulatory Authority of India Act, 1997 that regulates the telecommunications sector in India.

Challenges

- Business challenges include pacing up with the regulations as it includes intervention by multiple regulators.

- Technical challenges are related to data digital privacy, data ownership and AI based challenges.

Conclusion

- In order to protect the consumers interests TRAI has launched various apps like MySpeed app for data speed measurement, Mycall app to report voice call quality and do not disturb app for crowd sourcing of data about offending messages and calls.
- Recently TRAI has launched an online portal for presenting and comparing the tariffs offered by various telecommunications services providers.
- TRAI has a role in not only regulating the digital revolution but also adaptively regulating emerging technologies.

Digital India- at the heart of Poorna Swaraj

Introduction

- The promise of freedom and true empowerment at national, organizational and individual level was the intent behind the freedom movement championed by founding fathers like Bhagat Singh and Gandhi.
- But unfortunately hundreds of millions still suffer under the yoke of poverty and exploitation.
- Digital India providing information equality to everyone is the final realisation of Poorna Swaraj for every individual. It was observed that under the PDS the grains do not reach 25-50% of the poor.
- Digital India spans 3 fundamental blocks
 - Universal broadband
 - 100% digital services
 - Open APIs

Solutions

- Unleashing India's vast potential requires a level of transparency, efficiency in implementation-including elimination of leakages and giving pure freedom to our professionals, innovators and enterprise to conduct business at a speed that makes them global leaders.

- Universal affordable broadband at speeds of 10-15 Mbps for each person and home ensures that each of our 1.3 billion citizens is empowered.
- Availability of an open application programming interface (API) ensures uniformity of access like Aadhar, GSTN, eSign and is solely responsible for India's leadership position in the global Fintech revolution.

Fintech Revolution

Fintech or financial technology is used to describe new technologies that seek to automate the delivery and use of financial services.

Digital technology advantages

- This will create an environment of zero friction enterprise.
- These enterprises will help grow 20-30 % CAGR.

What is CAGR?

The compound annual growth rate (CAGR) is a useful measure of growth over multiple time periods.

Challenges and way forward

- The number of jobs created by these singularity enterprises will be miniscule, employing less than 5% of the country. What about the rest 95%? To which Gandhiji answered years back- 'humble, local and sustainable work'.
- India is not just a country of 1.3 billion, it is also a country of about 160 million small and micro enterprises which if truly empowered will at scale they solve two problems
 - They will solve the problem of agricultural income by collaborating with farmers to augment farm produce where at least a third of the net value of farm output will rest with the farmer.
 - In parallel, micro business will solve the employment problem at a massive, hyper local scale.

Conclusion

- In a world where governance (digital India), marketing (online ads), supply chains (digital logistics), and distribution

Officers IAS Academy, Chennai (e-commerce) are all digital, there will be no friction in the way of India.

- That is what modern India will look like when developed.

Aadhaar: The digital Highway to New India

What is Aadhaar ?

Aadhaar is a 12-digit unique identity number obtained by residents of India which is based on their biometric and demographic data.

Introduction

- Aadhaar brought in unique identity, privacy, data protection, digital security etc on the national agenda.
- Critics alleged that Aadhaar was unconstitutional as it infringed on individual liberty, privacy, personal autonomy freedom of choice etc and was looked upon as a tool of denial and exclusion
- Here are examples of how developed democracies used unique identification numbers to cleanse their system.
 - USA introduced social security number (SSN) through an enactment in 1935 for providing social security benefits during the great depression (when the US 's economy went into a recession)
 - In UK too, almost every important service requires a National Insurance Number (NIN).
- In India too, Aadhaar has to undergo several legal challenges.
- After 6 years of prolonged litigation, 5 judges constitutional bench of the Supreme Court of India delivered its historic and landmark judgement which upheld Aadhaar as constitutional.
- This judgement is a big win for the people of India, particularly for the marginalized and underprivileged section of the society who would now use Aadhaar to access any service anytime anywhere.
- It is the first and biggest public owned world's largest biometric technology platform which would empower 122 crore

people to receive their entitlements and exercise their rights.

- Aadhar enabled payment system (AePS) makes it possible for people to use their Aadhar and fingerprint to withdraw or transfer money at their doorsteps.

Conclusion

- Aadhar is just beginning to unfold new paradigms of development besides laying firm foundation and opening of innovative horizons for new India.

Electronic Manufacturing: Scope and future in India

Introduction

- The demand for the electronic hardware products is driven by the increased demands for mobile handsets, smart phones, and IT hardware products.
- Government of India attaches high priority to promote electronics manufacturing in the country under the 'Make in India' and 'Digital India' flagship programs.

Make in India

- It is an initiative with an aim to give the Indian economy global recognition in terms of manufacture and investment.
- It is a type of Swadeshi movement covering 25 sectors of the economy with 100% Foreign Direct Investment (FDI) permitted in all 25 sectors, except for Space industry, defence and Media(26%).
- During 2017-18 India has overtaken Vietnam to become the 2nd largest mobile handset production geography after China.

Digital India

- Digital India aims to empower every citizen with access to digital services, knowledge and information.
- Over 120 manufacturing units have been established the across the country, which has generated both direct and indirect employment and has led to the

Officers IAS Academy, Chennai corresponding reduction of imported handsets.

- Mobile handsets and its component manufacturing is considered to be in the champion category under the 'Make in India' flagship program of the Government.
- Government of India has implemented the phased manufacturing program (PMP) to widen and deepen the components manufacturing ecosystem in the country in volume and value.
- Make in India Initiative to encourage and promote electronics manufacturing:
 - Robust differential duty structure (a multiple rate structure -0, 5, 12, 18 and 28% under the Goods and services tax) encouraging domestic manufacture of handsets.
 - Extension of applicability of investments under M-SIPS(Modified Special Incentive Package Scheme) that offsets disability and attracts investments in Electronic manufacturing.
 - Outreach programs by ICEA (India cellular and electronics association) to various locations such as China, Taiwan, Japan, USA, Korea and Germany etc.
 - Establishment of the fast track task force (FTTF) to catalyze growth in mobile handset and component manufacturing ecosystem in India.

Conclusion

- It has clearly been an established fact that no giant manufacturing eco system has ever been able to be established unless focus of the manufacturing is displaced from completely domestic market to export oriented outlook. Government of India is very keen to replicate similar success stories.

Technology Areas for Indian languages

Introduction

- Indian language technology can enable people to access material in their own

language that gets translated automatically.

- Similarly computers can read out Information to the illiterate or the blind through text to speech systems.
- Digitally scanned books and other materials are made more accessible by using optical character readers.

Technology Areas

- **Localization:** Electronic device is enabled with Indian languages using the standards. The standards ensure that the data created is usable (displayable, editable and processable etc) on other electronic device.
- **Creating e-content in Indian languages:**
 - In India a large number of people do not know English for which translation among Indian languages can be used to generate content in all the Indian languages by following ways:
 - **Automatic machine translation (MT):** It translates a given text in one language to another instantly.
 - **Optical character recognition (OCR):** It recognizes the character and converts in into text form.

Way forward

- Indian languages technology should be deployed to translate all central government websites into 22 Indian languages.
- Similarly speech processing can be done along with MT to provide spoken language translation.
- The national digital library of India should use services of an OCR for indexing the scanned images in Indian languages in making them searchable.

Digital library in India -A paradigm Shift

Introduction

- The concept of digital libraries in India began in the mid-1990s with the spread of information technology, the internet and support of central government to be a learning resource to students and other users.

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- It is a library in which collections are stored in digital format (as opposed to print, microform) and accessible by computers locally and remotely, bridging both time and space.
- The National Digital library of India (NDLI) is a project under Ministry of Human Resource Development, Government of India.

Digitization of libraries -few initiatives

- **Digital library of India (DLI)**
 - It started in 2000 with a vision to archive all the significant literary, artistic and scientific works of mankind and to preserve digitally for its availability in education, study etc.
 - Digital library of India has currently 550,603 books.
- **Information and library network (INFLIBNET)**
 - It is an independent inter University centre formed in June 1996 of the university grants commission (UGC) of India involved in modernizing University libraries in India.
 - It is promoting scholarly communication among academicians and researchers in India.
- **Shodhganga**
 - It is a digital repository of Indian electronic theses and dissertations setup by the INFLIBNET centre.
- **Shodhganga Gangotri**
 - While Shodhganga is a repository of full text theses, Shodhgangaotri hosts synopsis of research topics submitted to the universities in India by research scholars for PhD programme.
 - A link to the full text theses would be provided from Shodhgangaotri to Shodhganga.
- **National library and information services Infrastructure for scholarly content (N-LIST)**

- It is a cross subscription to e-resources subscribed by the two consortia i.e. subscription to
 1. Indian National Digital Library in Engineering Sciences and Technology (INDEST) -AICTE resources for universities and
 2. UGC -INFONET resources for technical Institutions.
 3. **e-ShodhSindhu** is a merger of three consortia initiatives, namely UGC -INFONET,NLIST and INDEST-AICTE consortium that are covered under UGC Act.

- **National digital library (NDL)**

Ministry of human resource development has entrusted IIT Kharagpur to host, coordinate, and set up a single window access with e-learning facility to users ranging from primary to higher education.

Conclusion

Presently there are 659 universities, 33,023 colleges, and 11356 in India. Under this setting, India truly needs digitization of traditional libraries for the growth and development in education and research.

Secure digital India

Introduction

- India as a global 'Digital Village', is shaping the contours of democratization of technology and harnessing digital inclusion supporting both G2C and B2C services.
- Industry 4.0 strives to converge the digital world with physical to drive smart factories and enable advanced manufacturing.

What is a G2C service?

- It is known as Government to Citizen Services.
- There is a relationship between the public administration body and the citizens that comes under the e-governance model.

What is a B2C service?

- Business to consumer (B2C) refers to the transactions that are conducted directly between a

Officers IAS Academy, Chennai company and the consumers who are the end-users of its products/services.

- Here the services differ from business to business model.

What is Industry 4.0?

'Fourth Industrial Revolution'.

- Industry 4.0 is the convergence of real and virtual worlds together known as Cyber-physical systems that brings together conventional and modern technologies in manufacturing.
- This will result in the Smart Factories, smart robotics,3-Dprinting and the internet of things(IoT).

1st industrial revolution: water and steam power replaced human and animal power.

2nd industrial revolution: it saw the revolution and availability electricity, transportation, chemicals, steel, telephones, airplanes.

3rd industrial revolution: applied electronics, internet and information technology took a major boost.

Concerns of digital space

- Cyber security risks are faced by the BFSI (banking and financial services industry) and the CII (critical information infrastructure) sectors.
- **Cyber space is now the fifth domain of warfare.**
- **The world economic forum 2018 risk report called out cyber risk as one of the top three risks along with environment disasters.**
- Tracking cyber criminals, collection of evidence, applicability of laws, jurisdiction issues and ineffective international framework to address cyber-crimes poses a major challenge.

Way forward

- Government-Industry partnership within India and with global stakeholders can help address the cyber challenge.
- Organizations are focusing on building resilient systems which can withstand

attacks and replace disaster recovery as a concept.

- Policy and regulatory response to drive sectors towards cyber security preparedness:
 - The cyber security frameworks by RBI, IRDAI for banking and insurance sectors.
 - Cyber security framework for smart cities by MoHUA (Ministry of Housing and Urban Affairs, Government of India)

What is IRDAI?

- The Insurance Regulatory and Development Authority of India is an autonomous and Statutory body.
 - It ensures financial stability of insurers and regulates and promotes the insurance and re-insurance industries in India.
- Coordination and collaboration for collective defence:
 - Need for sectoral CERTS and state level CERTs, to beef up capability of law enforcement
 - Digital literacy and cybersecurity awareness and adopting safe and secure practices online.

What is a CERT?

- CERT stands for Computer Emergency Response Team (CERT).
- It is an expert group that handles computer security incidents.
- It is also known as Computer Emergency Readiness Team and Computer Security Incident Response Team (CSIRT).

North East diary

Report on the vision document for digital North East 2022.

What is the agenda of Digital North East 2022?

- Digital North East is envisioned as an integral part of the Digital India programme that would help in leveraging the power of information technology to transform lives of North East region

towards more sustainable and inclusive growth.

- The vision document identifies 8 digital thrust areas that are
 - Digital infrastructure
 - Digital services
 - Digital empowerment
 - Promotion of electronic manufacturing
 - Promotion of IT and ITeS including BPOs
 - Digital payments
 - Innovation and startups
 - Cyber security

Including promotion of local tourism, art and culture, handicrafts, handlooms, startups etc.

Stakeholders under the vision

- Central ministries
- Ministry of development of North Eastern region (DoNER)
- Department of telecommunication (DoT)
- State governments

Way forward

It will help in fulfilling the goals of Digital India and will accelerate progress towards a trillion dollar digital economy.

What is a trillion Dollar Economy?

A Trillion dollar economy is an unofficial classification of the world's major economies with a gross domestic product (nominal GDP) of more than US\$1 trillion per year.

Digital signature

What is a digital Signature?

- Digital signature or eSign is an online electronic signature service.
- It is a part of Government's flagship programme - 'Digital India'.

Objective

- To offer an on-line service to citizens for instant signing of their documents in a legally acceptable form.

How does a digital signature works?

- A digital signature takes the concept of traditional paper based signing and turns it into an electronic fingerprint.
- This fingerprint is a coded message, which is unique to both the document and the signer and binds them together.

Salient features of digital signature

- Non repudiation(Validity can't be denied)
- Integrity
- Authenticity

Agencies involved

- The information technology Act 2000 provides the required legal sanctity to digital signatures under which digital signatures are accepted at par with handwritten signatures.
- In January 2015, Government announced this method.

Benefits

- Aadhar based authentication is carried out to address the challenge of the authentication of the user.
- Public key infrastructure (PKI) is used to securely sign the user document and establish the trust.
- It also offers multiple ways of authentication such as one time password

Officers IAS Academy, Chennai (OTP-received through registered mobile in Aadhar database), biometric (fingerprint or iris scan).

OTP: A one-time password (OTP) is type of password which is valid for only one use which is a secure way to provide access to an application or perform a transaction.

Biometric: Biometric identification consists of determining the identity of a person through a photo of their face or record of their voice, or an image of their fingerprint. This data is unique to just one individual that is the self.

- The IT act also provides for the comptroller of certifying authorities (CCA) to licence and regulate the working of certifying authorities.
- The certifying authorities (CAs) issue digital signature certificates for electronic authentication of users.