

OFFICERS'

Pulse

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Coverage.

The Hindu
PIB
Yojana
Rajya Sabha TV
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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 & Social Issues

Aanchal mother's milk bank

What is it?

- It is a mother's milk bank, set up in 18 district government hospitals of Rajasthan in 2016 for the first time in India

Why is there a need for such a bank?

- Sometimes mothers are unable to feed their infants due to clinical reasons.
- In certain cases, where the infants are orphans or abandoned, they have no scope for getting breast milk.
- If the baby is premature, it is unable to suck.



Why is breast milk important?

- Breast milk fights potential infections and also diseases like diabetes & cancer at an early stage
- It supplies all necessary nutrients needed for the baby and prevents any potential allergies
- Mother's milk reduces neonatal mortality by 22%
- Recovery of newborns admitted to intensive care units increases by 40%
- Breastfeeding has positive health implications for the mothers as well.
- World Breastfeeding Week (WBW) is celebrated by World Alliance for Breastfeeding Action, UNICEF, WHO, held every year from 1st to 7th August.

Why in news?

- The project has seen tremendous growth from 800 donors in 2016 to more than 16,000 donors in 2017.

- More than 20,000 infants have benefited from the programme.

DISHA initiative

What is DISHA initiative?

- Comes under the Ministry of Rural Development.
- It is initiated with a view to ensure better coordination amongst all elected representatives in the centre, State & Local Governments.
- It will also help in monitoring government schemes by geography in real time.
- This is to ensure efficient and time-bound development of districts in our country.
- Will be used in effective development coordination for almost all the programmes of Central Government, whether it is for infrastructure development or Social development

Why in news?

- Centre recently renamed District Development coordination and Monitoring committee is named as (DISHA)
- It announced that the initiative is for effective development coordination and timely implementation of the schemes.
- Currently 41 Central Government Schemes are listed under DISHA

Island Development Agency (IDA)

What is IDA?

- IDA was formed in 2017 for the holistic development of islands.
- It is chaired by the Union Home Minister.
- At present, 26 islands have been listed for such focused, holistic development.

Why in news?

- The PM reviewed the progress towards holistic development of the islands.

- Emphasis was given on steps taken to promoting 'Lakshadweep Tuna' as a brand.

Master of the roster

What does 'master of the roster' mean?

- It refers to the privilege of the Chief Justice to constitute Benches to hear cases.
- It means, the Chief Justice decides the method of organisation of judges and the allocating the cases to specific 'benches'.



Why in news?

- The SC recently held that the CJI is the 'spokesperson of the court' and the 'master of the roster'.
- It says that he/she has the ultimate authority to distribute judicial work among judges.
- This is the 3rd time the SC is ruling that the CJI is the 'master of the roster' in the past 8 months.
- This judgement was given in response to a petition that said that the master of roster may end up being a "absolute, singular and arbitrary power".
- To prevent misuse of the power, the petition asked that the collegium should collectively allocate the cases instead of one man deciding.

Can the CJI be accountable?

- The judgement clearly implies that the moral responsibility the CJI owes to his colleagues and the public at large while exercising his powers as master of roster to allocate cases in the Supreme Court is sufficient to prevent any misuse of power.

Mission Antyodaya

What is Mission Antyodaya?

- A scheme to alleviate the struggles of the rural poor by convergence of all government intervention schemes.

- It assumes Gram Panchayats as the basic unit for planning and follows a 'saturation approach'.
- It is a state-led rural-transformation initiative aiming to target 1 crore rural households in 50,000 Gram Panchayats.

What is 'saturation approach'?

- Saturation Approach signifies total coverage of a targeted population (rural poor in this case) with a number of interventions or developmental schemes, so that with the passage of time, every household, with the support of such interventions; is able to overcome poverty and deprivation, and the covered population of the area is able to lead a socially & economically dignified life.
- Mission Antyodaya strives to saturate its targeted area in line with its developmental activities and cover the entire population under its different interventions depending upon the needs and requirements of the community.

Why in news?

- As many as 166 villages have been identified for the Union government's Mission Antyodaya scheme in Dakshina Kannada.

2021 census

Census of India

- Census means the official count or survey of the population, where various details of individuals are recorded.
- It is conducted every 10 years since 1871 and the first complete census was taken in 1881.
- All Censuses since independence are conducted under Census of India Act, 1948.

Why is Census important?

- Census is the most credible source of information on Demography, Economic Activity, Literacy & Education, Housing & Household Amenities, Urbanisation, Fertility and Mortality, SC/ST, Language, Religion, Migration, Disability and many other socio-cultural data

- It provides valuable information for planning and formulation policies for Central and the State Governments and is widely used by National and International Agencies, Scholars, business people, industrialists, and many more.
- The Delimitation/reservation of Constituencies- Parliamentary/Assembly/Panchayats and other Local Bodies is also done on the basis of the demographic data from the Census.
- Census is the basis for reviewing the country's progress in the past decade, monitoring the ongoing Schemes of the Government and most importantly, plan for the future.

Why in news?

- The data from the upcoming census in 2021 will be stored electronically, for the first time.
- Any tampering of the electronic data will invite punishment under IT Act, 2000.
- Earlier, the "schedules" (a tabular form containing details of individuals), were being stored in a physical form at the government's storehouse in Delhi.

IT Act, 2000

- The IT Act of 2000 was developed to promote the IT industry, regulate e-commerce, facilitate e-governance and prevent cyber crime.
- The Act also sought to foster security practices within India that would serve the country in a global context
- It is based on the *United Nations Model Law on Electronic Commerce 1996* (UNCITRAL Model) recommended by United Nations General Assembly (UNGA)

CWMA & CWRC

Cauvery Water Management Authority (CWMA)

- CWMA is the umbrella body to implement the SC verdict on the Cauvery water dispute.
- CWMA is of the same nature and template of the 'Cauvery Management Board'

(CMB), recommended by the Cauvery Water Disputes Tribunal (CWDT) in 2007

- It is a two tier body with a technical arm: Cauvery Water Regulation Committee (CWRC)
- It consists of a Chairman, 2 whole-time Members (one from Ministry of Water Resources and another from Ministry of Agriculture), 2 Part-Time Members (one from Ministry of Water Resources and another from Ministry of Agriculture) and 4 part-time members from party states

Cauvery Water Regulation Committee (CWRC)

- CWRC will report to CWMA
- The committee will monitor day-to-day activities, including observing the water inflow and outflow of Cauvery basin reservoirs and release of water to irrigation canals

Why in news?

- CWMA has directed Karnataka to release 34 tmcft of water

Fake News and Click Bait

What is Fake news?

- They are news or news sources that intentionally fabricate information, disseminate deceptive content, or grossly distort actual news reports.
- They are inaccurate, sometimes sensationalistic report that is intended to gain attention, mislead, deceive or damage a reputation.
- They may also be used to influence political views or

What is Click-bait?

- It is something (such as a headline or an image) designed to make readers want to click on a link especially when the link leads to content of dubious value or interest
- They are strategically placed and use misleading/exaggerated or questionable headlines or images, thus 'baiting' the user to 'click' it.
- They are generally used to entice a person to visit a website and generate more Ad revenue.

Why in news?

- Union Minister of State for Home has told the states to fight 'Fake News' and 'Click Bait' stories.
- He reckons that 'rumours and fake news' has become a big menace.
- Around 20 people have been lynched across the country following 'Child-lifting' rumours through Whatsapp

Foreign Contributions Regulation Act (FCRA), 2010

What is FCRA, 2010?

- It is a regulating Act that replaces the Foreign Contribution (Regulation) Act, 1976
- It regulates/prohibits the acceptance of 'foreign contribution' as well as 'foreign hospitality' given to a specific list of individuals (eg: political parties, judges, civil servants etc)
- The Act aims to ensure that there are no foreign influences on India's sovereignty or in its decision making

Why in news?

- The SC has sought response from the government on the recent amendments to FCRA which allows foreign funding to political parties.
- Note: Both the ruling as well as the opposition party has been found guilty of accepting foreign contributions in 2014

Background

- The NGO 'Association for Democratic Reforms' has challenged the amendments to the FCRA through Finance Act 2016 and Finance Act 2018.
- The amendments were passed as a money bill with retrospective effect from 1976.
- However, the Representation of the People Act bars political parties from receiving foreign funds.

'cVigil' App

What is it?

- An App released by the Election Commission for citizens to report any violations of the model code of conduct during elections.

Requirement

- The app requires an Android smartphone equipped with a camera, good internet connection and GPS access.



What is the need for such an app?

- Complaints about violations of Model Code of Conduct often could not be followed instantly
- The violators escape from action in most cases
- There is also a lack of documented evidence for the EC to taking action against violators
- Identifying/locating the scene of the violation has been a problem earlier.

cVigil app bridges all these gaps and assists the EC to enforce MCC effectively.

How it works?

- Citizens can immediately report on incidents of misconduct within minutes of having witnessed them and without having to rush to the office of the Returning Officer (RO) to lodge a complaint.
- Photos and videos of malpractices can be uploaded in the app
- After reporting, the vigilant citizen gets a Unique ID (for each report) to track and receive the follow up updates on her or his mobile.
- The uploaded information will be used by flying squads for further action
- The identity of the complainant will be kept confidential.

Prevention from misuse

- It will receive complaints only about Model Code of Conduct violations.

- The app will not allow uploading of the pre-recorded or old images and videos
- The app will not allow saving of the photos or videos recorded using 'cVIGIL' into the phone gallery.
- cVigil will be active only in States where elections have been announced. The moment a citizen exits an election-bound State, the app will become inactive.

DNA Profiling Bill

What is DNA profiling?

- DNA profiling is the process where a specific DNA pattern, called a profile, is obtained from a person or sample of bodily tissue
- DNAs, being unique to individuals help in processing the characteristics of an individual.
- DNA profiling is commonly used as a forensic technique in criminal investigations



Examples

- Comparing the profiles to DNA found at a crime scene so as to assess the likelihood of a person's involvement in the crime.
- Identification of an unidentified body.
- Parentage testing
- Many other research purposes

What is India's DNA Profiling bill about?

- Primary purpose: Expanding the application of DNA-based forensic technologies to support and strengthen the justice delivery system of the country.
- The Bill seeks to ensure that with the proposed expanded use of this technology in the country, there is also the assurance that the DNA test results are reliable and the data remain protected from misuse or

abuse in terms of the privacy rights of our citizens.

- The bill allows the government to collect DNA samples, create "DNA profiles" and special databanks for the purpose of forensic-criminal investigations.
- The intended purpose is to identify persons involved in crimes and for identifying missing persons.
- The bill creates a National DNA Data Bank, and a DNA profiling Board which is the final authority that authorises the creation of state-level DNA databanks approve the methods of collection and analysis of DNA-technologies.
- The databanks will only store information with regards to criminal investigations and delete the details of the suspects

Criticisms

- The main issue is whether DNA technology is foolproof and also, whether the proposed law adequately addresses the possibility of abuse.
- There are remote changes where a false match is generated by DNA profiling, so can the profiling results be taken as the ultimate evidence?

Privacy concerns

- Whose DNA can be collected and under what circumstances?
- Whether the consent of the individual is required?
- Who can access the database?
- To what uses the DNA information can be put apart from identifying an individual?
- What are the circumstances under which a record can be deleted?

Special Category Status (SCS)

What is SCS?

- It is a concept which was introduced in the 5th Finance Commission (1969) where certain disadvantaged states were given preferential treatment in the form of central assistance and tax breaks by the central government
- The constitution does not provide any provision for such categorisation, the National Development Council (a former

body of the erstwhile Planning Commission), awards SCS to certain states.

- These states, by inherent features such as lack of resources, cannot mobilize resources for development.

How are they categorised?

The NDC granted this status based on a number of features of the States which included:

- Hilly and difficult terrain
- Low population density or the presence of sizeable tribal population
- Strategic location along international borders
- Economic and infrastructural backwardness
- Non-viable nature of State finances.

What are the types of central assistance?

- Normal Central Assistance (NCA)
- Additional Central Assistance (ACA)
- Special Central Assistance

What benefits do the SCSs enjoy?

- SCS states receive 30% of the total assistance while the other states share the remaining 70%
- The NCA is split into 90% grants and 10% loans for special category states, while the ratio between grants and loans is 30:70 for other states.
- Special category states also receive specific assistance addressing features like

hill areas, tribal sub-plans and border areas.

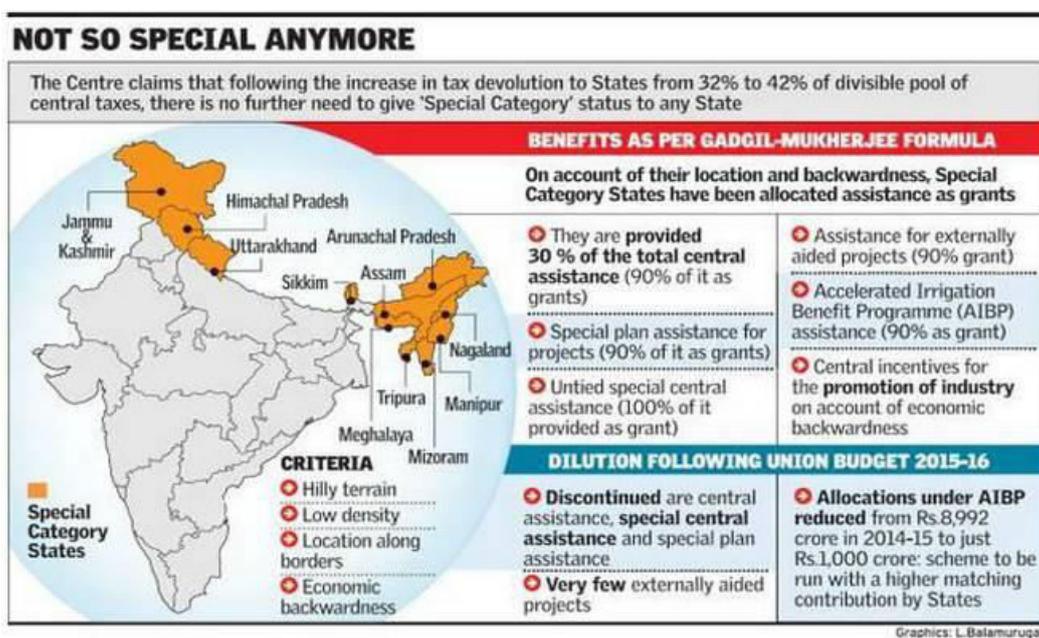
- Beyond that they enjoy concessions in excise and customs duties, income tax rates and corporate tax rates as determined by the government.

What changed after 14th Finance Commission recommendations?

- 14th FC recommendations subsumed central plan assistance in an increased devolution of the divisible pool to all states (from 32% to 42%).
- Besides this, assistance to Centrally Sponsored Schemes for SCS States was given with 90% Central share and 10% State share (as earlier).
- Today only the north-eastern states and the 3 other hilly states (HP, Uttarakhand, and J&K) enjoy SCS benefits.

Why in news?

- The central government has held that it cannot give special category status to Andhra Pradesh and that it had fulfilled all its financial commitments to the state.
- The union government representatives have told that the state has been receiving increased inflow of funds from increased devolution due to the 14th FC recommendations.



Economy

Financial Action Task Force (FATF)

What is FATF?

- An inter-governmental 'policy-making' body that designs and promotes policies & standards to combat financial crimes such as money laundering or terror financing.
- It has no investigative authority.
- Established during the 1989 G7 meet, it has 37 members, with headquarters at Paris.
- India is a member.

FATF Black List

- FATF releases a list of 'Non-Cooperative Countries or Territories' (NCCTs), also known as 'FATF Blacklist'.
- These are countries FATF considers as non-cooperative in the global fight against money laundering and terror financing.

Why in news?

- Pakistan has been put in FATF 'Grey-List' recently for failing to check terrorism financing in its territory.
- To avoid being blacklisted, Pakistan has submitted a plan to curb terror financing to FATF.
- If Pakistan does not implement, it will move from 'grey list' to the 'black list'.

What are the implications?

- Black listing implies adverse economic implications for Pakistan as well as affecting its international standing.
- Borrowing or raising money from international donors or markets will become more difficult for Pakistani businesses as well as the government.
- Currently Iran and North Korea are in the Black List

Tariff war

What is a 'tariff war'?

- The scenario when a country raises the tax rate on products coming from another country and that country, in retaliation raises the tax rate on products exported from the first country, is called a tariff war.

- It is the economic batter between the two countries and it ultimately results in raising the total cost of those products.



Why in news?

- The US and China are engaged in a tariff war.
- They are raising the tariff for each others' products in their respective countries.
- USA has announced a 25% tariff on Chinese products worth \$34 Billion and China has retaliated with 25% tariff on American goods worth the same value

A side-note

- China may be forced to reconsider the ban it has placed on India's 'Oil meal' import as an alternative source for their oil meal requirements.
- Oil meal is the meal made by grinding oil cake and fed to livestock or used as fertilizer.

Import Cover

What is import cover?

- Countries hold Forex reserves and a main reason for it is to protect themselves from external crisis.
- 'Import cover' is the number of months of imports the forex reserve of that country can cover.
- It is also an indicator of the currency stability

How vast should it be?

- Typically, 10 months of import cover is adequate for the stability of a currency.

- Russia and China has more than 2 years' worth import cover.

Why in news?

- India's import cover fell to 10.8 months in December 2017 from 11.3 months in March 2017 – RBI report

FDI & FPI

What is Foreign Direct Investment (FDI)?

- It is the investment made by a person or a company in one country into businesses located in another country
- Generally, FDI takes place when an investor establishes foreign business operations or acquires foreign business assets.
- It may also include establishing ownership or controlling interest in a foreign company.



What is Foreign Portfolio Investment (FPI)?

- It is similar to FDI but here, the investor holds only passive financial assets of a foreign company.
- The investor may simply hold equities or securities of foreign-based companies.

A Key difference

- FDI involves establishing a direct business interest in a foreign country, while FPI refers to investing in financial assets such as stocks or bonds in a foreign country.
- FDI aims to take control of the company in which investment is made whereas FPI aims to reap profits by investing in shares and bonds of the invested entity without controlling the company.

Why in news?

- FDI growth in India hits a 5 year low in 2017-18
- Overseas investors (FPIs) have pulled out nearly Rs. 48,000 crore from Indian capital markets in the first six months of 2018, making it the steepest outflow in a decade.

Confederation of Indian Industry (CII)

What is CII?

- CII is a non-government, not-for-profit, industry-led and industry-managed organization, founded in 1895
- It has members from private as well as public sectors, including SMEs and MNCs
- It works with the government on policy issues and economic reforms.
- CII played a role in the 1991 liberalisation of the Indian Economy.



Why in news?

- According to a CII report on the transition to the Goods and Services Tax (GST), its implementation led to increased efficiency for businesses by reducing their transportation time, on account of absence of state-level barriers.

Base Year

What is a 'base year'?

- It is the year used as the beginning or the reference year for constructing an index.
- For example, suppose the base year is 2001, and the initial value of an index is 100. If the index is 150 in 2009, it means that the value of the index is 50% higher in 2009 than it was in 2001. It is also called the reference year.

Why in news?

- The Ministry of Statistics and Programme Implementation (MOSPI) will soon change

the base year to 2017-18 from the current 2011-12

- This is for GDP calculation and other national accounts (like IIP numbers)
- The change aims to capture changes in the economy in a more accurate fashion

Generalised System of Preferences (GSP)

What is it?

- It is a preferential tariff system by which opportunities are given to the world's poorest countries to use trade to grow their economies and climb out of poverty.
- GSP exempts countries having the programme from WTO's Most Favoured Nation (MFN) principle.

What is MFN principle?

- It means each of the WTO member countries should "treat all the other members equally as 'most-favoured' trading partners."
- Thus it requires a country to provide any concessions, privileges, or immunities granted in a trade agreement to one nation to all other World Trade Organization member countries.
- This principle does not apply in cases of preferential treatment of developing countries, regional free trade zones and customs unions.
- Countries allowing GSP can give preferential treatment to certain nations as they enjoy exemptions from the MFN clause.

Why in news?

- Though India enjoys GSP status from the US, some US lawmakers want to remove India from the list.
- In the ongoing tariff war on each other's products, USA and India are planning to negotiate and prevent any further escalation.
- As per the negotiations, USA is likely to keep India within the GSP, while India will change the price restrictions imposed on medical devices imported from America to trade margin rationalisation.

Purchasing Managers Index (PMI)

What is PMI?

- It is an economic indicator which indicates the business activity, & economic health of the manufacturing and service sectors.
- PMI of India is published by Japanese firm Nikkei but compiled and constructed by Markit Economics.
- Unlike the Index of Industrial Production (IIP) which indicates the changes in production volume or output, the PMI is an investor sentiment tracking index and is more dynamic in nature.

How is it calculated?

- They are derived from monthly surveys of about 400 private sector companies.
- Variables used for calculating the PMI are: Output, New Orders, Employment, Input Costs, Output Prices, Backlogs of Work, Export Orders, Quantity of Purchases, Suppliers' Delivery Times, Stocks of Purchases and Stocks of Finished Goods.

How to read PMI?

- PMI >50 implies expansion of business and economic activity. PMI <50 implies contraction of business and economic activity.

Why in news?

- Services PMI expanded from 49.6 in May 2018 to 52.6 in June 2018
- Also, the composite PMI (manufacturing & service sector combined) has improved from 50.4 to 53.3 in the same period.

Implications

- The index implies that demand in service sector is improving.
- As a result of increased demand, service providers are raising their staff levels at a faster pace

Moody's Investors Service

What is it?

- Founded by John Moody in 1909, it is an American Bond Credit Rating agency held by Moody's Corporation.
- Moody's, along with Standard & Poor's and Fitch Group, is considered one of the Big Three credit rating agencies.

- In India Moody's and leading financial/investment institutions, commercial banks and financial services companies of India has established ICRA
- ICRA is an Indian independent and professional investment information and credit rating agency

What it does?

- The company ranks the creditworthiness of borrowers using a standardized ratings scale which

measures expected investor loss in the event of default.

- Securities are assigned a rating from AAA to C, with AAA being the highest quality and C the lowest quality.

Why in news?

Recently, Moody's Investor Service has noted 3 credit risks for the Indian Economy:

- Oil prices (highest risk)
- Cleaning-up of bank balance sheets
- Investment

International Relations

Iran nuclear deal

What is it?

- Also, known as the Joint Comprehensive Plan of Action (JCPOA), it is a preliminary framework agreement between Iran and a group of world powers (USA, Germany, UK, France, China, Russia, & EU), regarding Iran's nuclear programme.
- Under the deal, Iran agreed to limit its sensitive nuclear activities and allow in international inspectors in return for the lifting of crippling economic sanctions.

Background

- Iran insisted that its nuclear programme was entirely peaceful, but the international community did not believe that.
- JCPOA came after years of tension over Iran's alleged efforts to develop a nuclear weapon.

Why in news?

- The US earlier announced that it is withdrawing from the Iran Nuclear Deal.
- But the other global powers (Germany, UK, Russia, China and France) vowed to adhere to their end of the deal despite US threats of Sanctions.



Science & Technology

Agni V

What is Agni V?

- It is India's longest range (around 5000 km) Intermediate Range Ballistic Missile (IRBM)
- Agni-V is a three-stage solid fuelled missile and the Agni series of missiles constitute the backbone of India's nuclear weapons delivery.
- It brings most parts of China within India striking distance.



How Ballistic Missiles work?

- A ballistic missile is one that has a ballistic trajectory over most of its flight path.
- Once the missile burns up the fuel that propels it, its direction can't be altered.
- It follows the path of any object thrown upwards in parabolic path which falls down.
- Ballistic missiles travel well outside the earth's atmosphere and it depends on gravity to reach its target.

Classification of Ballistic Missiles

- Short-range (up to 480 km)
- Medium-range (up to 480 – 965 km)
- Intermediate-range (up to 965 - 5310 km)
- Intercontinental (More than 5310 km)

Why in news?

- Agni-V will be inducted into the nuclear arsenal very soon, says official sources.

Immunotherapy

What is immunotherapy?

- Immunotherapy is treatment that uses your body's own immune system to help fight cancer.

- Immunotherapy trains the body's immune cells, to detect and kill cancer cells, which otherwise can adapt and hide from the body's immune system.

What is chemotherapy?

- Chemotherapy (chemo) usually refers to the use of medicines or drugs to treat cancer.
- Surgery and radiation therapy remove, kill, or damage cancer cells in a certain area, but chemo can work throughout the whole body.

Chemotherapy vs. Immunotherapy

- Chemotherapy along with cancer cells also kills normal cells thereby making the body weak.
- On the other hand, Immunotherapy fights cancer by training the immune system and does not result in damage of normal cells. In other words, immunotherapy is more specific in treating cancer cells than chemotherapy
- Chemotherapy results in lots of side-effects including nausea, diarrhoea, weight loss, hair loss.
- Immunotherapy however, is a better alternative with very little side effects.

Why in news?

- Immunotherapy is being considered as a turning point in cancer treatment
- Over 30 immunotherapy drugs are in development and can change the face of cancer treatment

Away From Reactor Facility

Spent Fuel Pool (SFP)

- It is the storage pools for spent fuel from nuclear reactors and it is designed for a specific reactor and is situated at the reactor site.

What is an Away From Reactor (AFR) Facility?

- The away-from-reactor (APR) facility is also used for storing the spent-fuel storage.

- However, it is located outside a reactor site boundary, normally involving interim storage of irradiated fuel from one or several nuclear power plants.

Need for AFR storage facility

- Normally, the spent fuel is stored in the reactor pool storage by increasing storage densities.
- However, when the storage space runs up further, AFR facilities are needed
- With AFR, it becomes possible to extend the reactor's operation lifetime.
- AFR storage facility will provide for storage until the future destination or any other plans for the spent fuel are available.

Why in news?

- The SC has given time for the Nuclear Power Corporation of India Ltd. (NPCIL) till April 2022, to build AFR facility for storing the spent fuel for Kudankulam Nuclear Power Plant

NPCIL

- A Public Sector Enterprise under the administrative control of the Department of Atomic Energy.
- Its objective is to operate atomic power plants and implementing atomic power projects for generation of electricity in pursuance of the schemes and programmes of the Government of India under the Atomic Energy Act, 1962
- NPCIL is responsible for design, construction, commissioning & operation of nuclear power reactors.
- It is presently operates 22 commercial nuclear power reactors (capacity: 6780 MW)

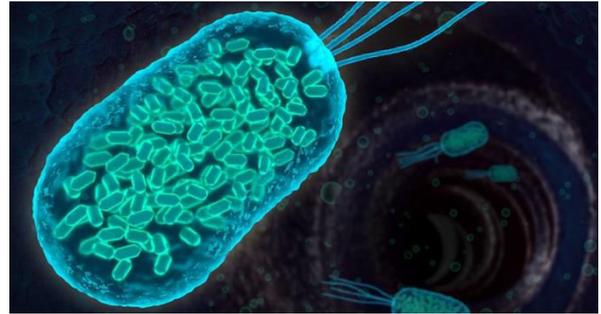
Efflux in bacteria

What is an efflux mechanism?

- The efflux mechanism in bacteria is responsible for ejecting bio-molecules, compounds and toxins.
- For bacteria, the efflux plays a vital role in moving out the antibiotics that enters it, thereby assisting in 'resisting antibiotics'.

Why in news?

- Bacteria are acquiring properties of antibiotic resistance even when they are not exposed to antibiotics.



Exposure to stress

- Bacteria were exposed to varying pH, salt and oxidative stresses.
- The complex and unpredictable stresses were exerted for 30 days (170 generations) and for 100 days (900 generations).

Findings

- After 30 days the bacteria developed tolerance to novel stresses to which it was not exposed to, like antibiotics and heavy metals.
- This ability only increased for the bacteria which were exposed for 100 days
- The efflux pumps of bacteria that throw out the antibiotics that enter it, showed greater activity.
- How the organism developed resistance to antibiotics when exposed to unpredictable stress is astonishing the scientists

A Public Health Alarm

- Scientists say that it is alarming that bacteria exposed to complex, unpredictable fluctuations can lead to resistance to antibiotics or heavy metals, and it could happen in about 30 days.

Why should we be alarmed?

- Climatology studies have shown that variability in the environment has drastically increased in many parts of the world
- As a result, there is a possibility that bacteria could show increased efflux activity and greater resistance to antibiotics even when not exposed to them
- This means, antibiotic resistance can come back to bite us from unknown origins and when we least expect it.

Other examples

- Gut-bacteria of the Amazonian tribe which remained isolated from civilization until recently exhibited resistance to the latest antibiotics including synthetic drugs. And these drugs are not usually found in soil.

'Pad Abort' Test (PAT)

What is a 'Pad abort' test?

- A Pad Abort Test is a trial run for a spacecraft's launch abort system.
- It is also called as 'launch escape system'
- The system is designed to quickly get the crew and spacecraft away from the rocket in the event of a potential failure.
- This is similar to an ejection seat for a fighter pilot, but instead of ejecting the pilot out of the spacecraft, the entire spacecraft is "ejected" away from the launch vehicle.
- USA, Russia and China have their own crew escape system in place

Why in news?

- ISRO has performed a 'Pad abort 'test successfully, by ejecting a 1260-kg crew module which parachuted into the Bay of Bengal and retrieved successfully.
- The crew module has 7 motors which kicks in after ejection and performs different functions
- The Pad Abort System is necessary for India's plans for future manned mission to Space.

Leprosy

What is Leprosy?

- Also known as Hansen's disease, it is a chronic infectious disease caused by *Mycobacterium leprae*.
- Affects the skin, the peripheral nerves, mucosal surfaces of the upper respiratory tract and the eyes
- Occurs at all ages ranging from early infancy to very old age
- It is curable and early treatment averts most disabilities.

Transmission

- Exact mechanism is not known, however, transmission is suspected to happen through nasal secretions or droplets.

Symptoms

- Skin lesions (single or multiple) with definite sensory loss, with or without thickened nerves.
- Loss of sensation in the affected area of the skin, weakness of muscles

Diagnosis

- Positive skin smears

Why in news?

- SC has directed the government to constitute a devoted wing for creating and extending public awareness that leprosy is curable and not contagious by contact.
- The court also directed the government to erase the stigma against those suffering.
- Earlier, the judiciary had asked the government to stop referencing 'leprosy' as a disability as it resulted in 'statutory stigma'.

Pancreatic cancer & Multiple Sclerosis

What is Pancreatic Cancer?

- Pancreas is an organ located in the human abdomen and secreted digestive enzymes as well as hormones.
- Pancreatic cancer is a disease in which malignant (cancerous) cells form in the tissues of the pancreas.
- Desmoplasia (formation of a rich collagen deposition around tumour) is a serious hindrance for delivering the drug to the tumour.
- Gemcitabine is the drug currently used to treat pancreatic cancer, but it itself causes desmoplasia, thereby reducing its own effect

What is Multiple Sclerosis?

- It is a chronic disease which attacks the central nervous system (the brain, spinal cord, and optic nerves)
- It can cause problems with vision, balance, muscle control, and other basic body functions.
- MS happens when the immune system attacks a material called myelin, which

wraps around the nerve fibres to protect them.

- Without this outer shell, your nerves become damaged meaning, your brain can't send signals through your body correctly.
- Its exact causes are unknown, it could be environmental or because of an infection.

Why in news?

- Indian scientists have found that a multiple sclerosis drug was effective in treating pancreatic cancer.
- The drug was also found to increase the efficacy of gemcitabine, when used in combination.

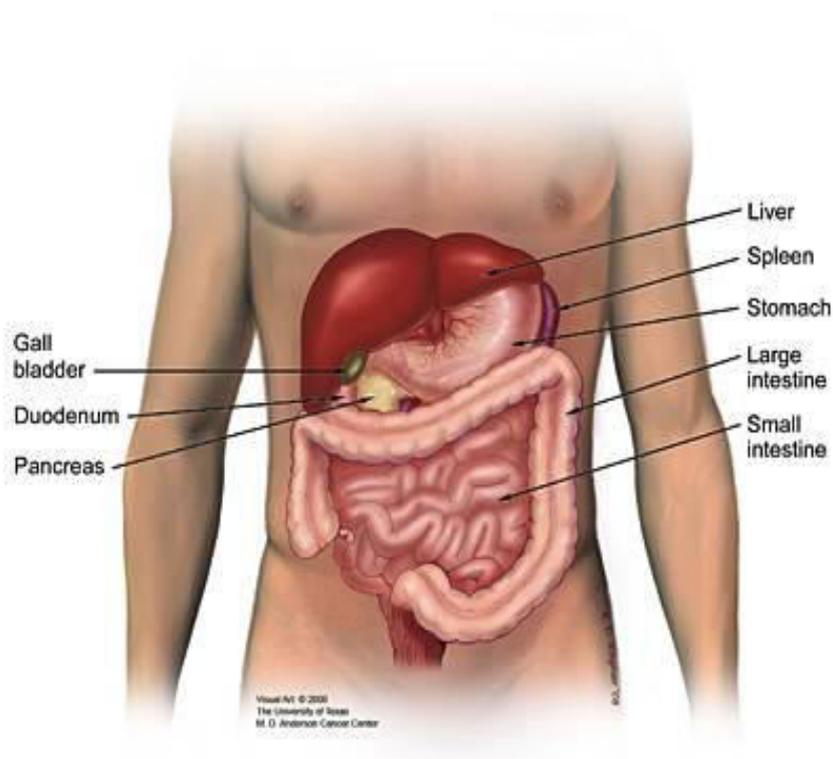
Findings

- The sclerosis drug binds to S1PR1 receptor on the cancer cell and prevents the progression of cancer.

- When the sclerosis drug was used in combination with the gemcitabine, decreased cancer cell proliferation and increased apoptosis (cell death) was observed.
- Also, the sclerosis drug was found to loosen up the tumour and aids gemcitabine to penetrate into the tumour thereby increasing the bio-availability of gemcitabine.

Significance

- The combination strategy showed no toxicity to the normal human and mouse cell lines
- Also, using combination drugs can reduce the dosage of the drugs thus reducing side-effects
- More importantly, repurposing existing drugs cuts down the time taken to bring new drugs to clinical testing



Environment

Alternative cereals

What are alternative cereals?

- They are cereals other than rice and wheat. Example: Millets, sorghum, maize etc.



Why in news?

- The nutrient-rich alternative cereals could reduce the demand for irrigation water by 33%, in comparison to rice and wheat, finds a study. Also, they contain more nutrition than rice or wheat.
- The crop water requirement (CWR) for alternative cereals is less than that of rice or wheat.

Implications of the findings

- Replacing rice with maize, finger millet, pearl millet, or sorghum could save irrigation and improving production of nutrients such as iron by 27% and zinc by 13%
- Moreover, it can help distribute nutrient production across the country and also reduce the impact of a single local climate shock to national grain production.

Crop Water Requirement (CWR)

- It is the product of the water required by a crop and the harvested area.

Bio-plastics

What are bio-plastics?

- Common plastics are petroleum-derived
- A bio-degradable material sourced from a biological substance/biomass.
- Bio-plastics are usually derived from sources such as vegetable fats and

oils, agriculture by-products and other used plastic bottles using microorganisms.

Why in news?

- Over periods of days, weeks or even months, a bioplastic item could present just as much threat to marine life as a conventional plastic item, warns experts

Context

- Every second, 250 kgs of plastics are being dumped in the oceans (8 million tonnes / year)

Significance

- The world wants to move away from single use plastics and towards eco-friendly alternatives.
- Major countries and food giants are moving towards bio-plastics for that cause.
- But it should be understood that even bio-plastic wastes will need a separate collection system if we truly want to be eco-friendly, as they can cause as much damage as plastics if they are simply dumped in the environment (or oceans)

Decreasing greenness of forests

What's in the news?

- By studying NASA's MODIS satellite imaging of Indian forests for about 15 years, Indian scientists have observed that the seasonal greenness of forests (including protected areas) exhibited a negative trend over the years.
- This 'greenness' has reduced in almost all types of forests in different parts of India right from wet evergreen forests of eastern Himalayas and western ghats, to moist deciduous forests of Chhattisgarh, mangrove forests of West Bengal, etc

Why is 'greenness' important?

- Greenness displays the strength of the forests and the ecosystem.
- Reduction in greenness displays vulnerability

How is this finding important?

- The vulnerable areas mapped out in this study can be used for prioritisation and planning of conservation programmes.



The problem

- Though the problem is identified, its cause is not identified yet.
- The reduction in greenness could be due to natural or anthropogenic factors or a combination of both.
- Scientists are still trying to figure out ways to identify it.

'Tow-an-iceberg' plan

Background

- South Africa's Cape Town recently came within weeks of shutting off all its pipes and forcing residents to queue for water rations at public standpipes.
- But due to conscious reduction in the usage of water by the people, averted the cut-off of the water supply in the city.
- Nevertheless, the threat is still looming over the city and return next year.

What is the plan?

- Icebergs are made of freshwater and
- The 'Tow-an-iceberg' plan looks at towing an iceberg from Antarctica to supply fresh water to Cape Town.

Details

- An ice-berg of dimensions 1 km length, 500 meters width and 250 meters deep, with a flat tabletop surface will be selected using drones.
- The block can be dragged using tugboats for 2000 km using ocean currents. The journey can take up to 3 months.
- Once positioned near Cape Town, the melted water could be gathered each day

using collection channels and a milling machine.

- It can contribute 150 million litres of usable water every day for a year.
- However, even if the project is successful, the iceberg can only provide 20-30% of the requirement.

Other measures

- The city authorities are working on desalination & instructing the people to reduce the use of water to mitigate the crisis

Koala Bear

What is unique about it?

- It is an arboreal, herbivores, marsupial found in Australia
- They weigh about 14-kgs and measure about 60-85 cm long.
- They dwell among eucalyptus trees and their diet primarily consists of eucalyptus leaves.
- Because this eucalypt diet has limited nutritional & caloric content, they are largely sedentary and sleep up to 18 hours a day.

Meaning?

- Arboreal implies 'locomotion in trees'
- Herbivore implies, it is a plant eating animal
- Marsupial are mammals which carry their young in a pouch.

Joey

- Newborns are called 'Joey' and they are born after only 34-36 days of gestation
- They weigh ½ a gram at birth and do not have a proper immune system.
- They spend 6 months developing in the mother's pouch.

Why in news?

- Koala bear genome (26,000 genes) has been decoded for the first time

Detoxification

- While eucalyptus leaves are poisonous for most mammals, the P450 gene present in Koalas' liver, help in detoxifying them.
- This is how they are able to live on eucalyptus leaves.

Nursing the young

- Novel lactation proteins were found in Koala's milk, which helps the young in developing a strong immune system.
- The milk may have an antimicrobial role, showing activity against a range of bacterial and fungal species, including *Chlamydia pecorum*, the strain known to cause ocular and reproductive disease in koalas.
- Moreover, scientists have identified genes that allow the koala to fine-tune milk protein composition across the stages of lactation, to meet the changing needs of their young.



IUCN Classification

- The koala bear has a highly specific diet and habitat loss and clearing of native vegetation has brought down its population.
- Around 80% of koala habitat has been lost to human homes, drought and forest fires
- IUCN classifies the species as '*vulnerable*'

What is IUCN?

- IUCN is an organisation headquartered in Gland, Switzerland, composed of both government and civil society organisations.
- Created in 1948, it is the global authority on the status of the natural world and the measures needed to safeguard it.
- IUCN is the world's largest and most diverse environmental network, that provides public, private and non-governmental organisations with the knowledge and tools that enables sustainable use of natural resources.
- It releases the IUCN Red List of Threatened Species which is the world's most comprehensive inventory of the

global conservation status of biological species

- It has observer and consultative status at the United Nations

The 9 Categories under IUCN Red List

1. Extinct (EX) – No known individuals remaining
2. Extinct in the wild (EW) – Known only to survive in captivity, or as a naturalized population outside its historic range
3. Critically endangered (CR) – Extremely high risk of extinction in the wild
4. Endangered (EN) – High risk of extinction in the wild
5. Vulnerable (VU) – High risk of endangerment in the wild
6. Near threatened (NT) – Likely to become endangered in the near future
7. Least concern (LC) – Lowest risk (widespread and abundant taxa are included in this category.)
8. Data deficient (DD) – Not enough data to make an assessment of its risk of extinction
9. Not evaluated (NE) – Has not yet been evaluated against the criteria

The vulnerable, endangered and critically endangered species are colloquially called 'threatened' species.

Oxybenzone and Octinoxate

What is it?

- Oxybenzone is the main active ingredient in most sunscreens.
- Octinoxate, is an active ingredient in sunscreens. It is also found in shampoos, lipsticks and other products.
- Octinoxate absorbs Ultra Violet Rays and prevents burns.

Why in news?

- Hawaii has banned the use of sunscreen containing Oxybenzone and Octinoxate, which is also the world's first ban on sunscreens containing the two chemicals.
- The ban kicks in from 2021
- Sunscreens containing these chemicals will only be available to those with a prescription from a physician.

Impact of chemicals

- Oxybenzone disrupts coral reproduction, causes coral bleaching, and damages coral DNA (present in 70% of sunscreens)
- Octinoxate is shown to cause coral bleaching. (present in 8% of sunscreens)

Significance

- Climate change is the biggest contributor to the depletion of coral reefs around the world.
- However, swimmers wearing sunscreens are dumping 14000 tonnes of the chemicals in oceans, causing more destruction.

Culture

Ramanuja

Who is Ramanuja?

- A Bhakti Saint who is also the central philosopher of 'Sri Vaishnavism', a denomination within the Vaishnavism tradition of Hinduism
- He developed the Vishishtadvaita ("qualified non-dualism") Vedanta sub-school of Hindu philosophy.
- He lived in the 11th century CE and preached equality

Why in news?

- A giant statue of Saint Ramanuja is being erected in Shamshabad in Telangana
- At 216 ft, it is the world's 2nd tallest statue of a seated figure after the Great Buddha of Thailand (302 ft)
- The statue will be made of Pancha Loha (a combination of 5 metals)
- The entire project is named 'The Statue of Equality Project', a dedication to Saint

Ramanuja who himself was against all forms of discrimination 1000 years ago.

Languages in India

Why in news?

According to the recently released census data:

- More than 19,500 languages or dialects are spoken as mother tongues
- There are 121 languages which are spoken by 10,000 or more people
- Urdu has a unique status among major Indian languages in the sense that its speakers are not confined to any particular region and are spread across the country
- Hindi has added about 10 crore speakers between 2001 and 2011.
- 96% of the population have one of the 22 scheduled languages as their mother tongue.



Miscellaneous

Golden Globe Race (GGR)

About GGR

- It is a race, to sail around the world (30,000 miles) without the use of modern technology.
- Participants will rely on traditional means of navigation, such as physical maps and observing stars.
- The sailors are provided with a satellite phone for medical emergencies.

Who is conducting it?

- 2018 GGR is taking place 50 years after the 'Sunday times' Golden Globe Race in 1968.
- 50 years ago, Sir Robin Knox-Johnston sailed around the world on-board the

Indian-built boat Suhaili, in 1968, without the use of modern technology.

- He is conducting the 2018 GGR.

Why in news?

- Commander Abhilash Tomy of the Indian Navy is participating in the race
- There are 18 participants and he is the only invitee from Asia to the prestigious GGR.
- He is sailing in the indigenously built sailing vessel Thuriya, a replica of Suhaili.
- He is also the only Indian to complete (in 2012-13) solo, non-stop circumnavigation of the globe yet.

News in-depth

The Hindu Editorials

The dream of being an AI powerhouse

- **Artificial intelligence means the use of computers to make decisions instead of human beings.** Examples of Artificial intelligence: Spam filters; uber driverless cars.



- Recently, NITI Aayog in its report has chalked out an ambitious strategy for India to become an artificial intelligence powerhouse.
- NITI Aayog also envisioned that if India is able to harness its human potential well India can have up to 40% of the world's AI projects in the future.
- NITI Aayog sees AI solutions for India especially in 5 key areas: Agriculture, Smart cities, healthcare, education, infrastructure, and transport.
- In Agriculture sector, machines will be helpful in the following manner:
 - Provide information to farmers on various aspects related to agriculture like quality of soil etc.
 - India could see a farming resolution because the country has 30 million farmers with smart phones but poor extension services.

- With India planning to install 100 GW of solar power by 2022, such AI will play central role in power planning.

- However, there are various hurdles in achieving these goals:

Lack of data

- India is largely a data deficit country.
- Deep Learning is an artificial intelligence function that imitates the workings of the human brain in processing data and creating patterns for use in decision making.
- Deep learning is a subset of machine learning in Artificial Intelligence (AI) that has networks capable of learning unsupervised from data that is unstructured or unlabeled.
- Deep learning is not able to work for all companies in India because of lack of data.
- Presently, the firm uses traditional machines learning technologies such as regression analysis that work with less data.

Finding the right people

- As per the NITI Aayog's report, only about 50 Indian scientists carry out serious research and are concentrated in elite institutions.
- Only 40% of AI professionals have worked in emerging technologies like deep learning.
- According to survey of LinkedIn, only 386 out of the 22,000 people with PhDs in AI across the world are Indians.

What can be done?

- The government must collect and digitize data under its existing programmes.
- To close the skill gap, NITI Aayog suggested setting up a network of basic

and applied AI research institutes. These institutes must collaborate with agricultural universities, medical colleges and infrastructure planners.

Fears about joblessness due to AI

- Demographically rich India is also worried about job loss due to AI because already service sector has led the country into “jobless growth”.

- However experts say that AI will only increase the “blue coloured job” for which Indian government has to take quick steps to provide skill education.

Conclusion

- NITI Aayog’s ambitious road map does not mention deadlines or funding.
- Without these, it lacks accountability.
- The government must specify its commitments on these fronts.

Aiming to be like Sikkim

Background

- Last week the Maharashtra government banned the usage of consumer plastic.

Imposition and dilutions of rules

- Various State governments as well as the Centre are trying to curb the growing menace of virtually indestructible plastic waste that is choking our planet.
- The fight against plastic goes as far back as 1999 in India, when the Centre notified rules controlling the manufacture, sale and usage of plastic. The rules have been amended since then.
- Changes introduced in 2016 were considered the most environment friendly, extending responsibility to producers and generators of plastic, and imposing responsibilities on industry, consumers and civic bodies for segregating, managing, recycling and reducing the usage of plastic.

So, why are the rules not working?

- India has a large consumer base which gets a plastic cover for almost any product bought.
- Alternatives to plastic are either costly or inefficient in protecting the product from rain, dust etc.
- Blanket ban will not work until behavioural change is brought like Sikkim.

How Sikkim is working to end-plastic-pollution?

- Despite being small and isolated, and with its people leading their lives in extremely tough mountainous terrain, Sikkim has emerged as one of India’s environmental leaders.
- Sikkim, in 1998 became the 1st Indian state to ban disposable plastic bags, is also among the first to target single-use plastic bottles.
- In 2016, Sikkim took two major decisions. It banned the use of packaged drinking water in government offices and government events.
- Second, it banned the use of Styrofoam and thermocol disposable plates and cutlery in the entire state in a move to cut down toxic plastic pollution and tackle its ever-increasing garbage problem.
- Through penalties, state-level policies and a mass awareness programme, this tiny state is well on its way to becoming free of the scourge of plastic pollution.

Conclusion

- Above all, we need social change. Sikkim has shown the way.
- Massive awareness campaigns backed with policy change has led to a noticeable decline in plastic use in the tiny State.
- Unless India does a Sikkim, the dystopian earth of Wall-E will be the home of future generations.

How to list cases better

- Chief Justice of India (CJI) recently flagged rising pendency in appeals lying with High Courts based on the findings of the Supreme Court's Arrears Committee. The work of the Arrears committee is to formulate strategy to reduce pendency.
- He has since directed High Courts to prepare action plans for disposal of five and 10-year-old cases. The CJI also requested the courts to function even on vacation to reduce the pendency.
- He has also asked for High Court Arrears Committees to periodically review the situation.
- Accelerate case movement is by making case listing more systematic. Instead of listing 100 cases a day, number of quality hearing can be focussed.
- The list preparation can be made more *scientific* if supported by a consistent study of the variance in the number of cases listed across courts, identifying the exact stages at which cases are clogging the pipeline for the longest duration, and the nature of cases left over.
- The court can decide on a minimum and maximum number of hearing for particular matters.
- The disposing of old and pending matters must be prioritised.

The pendency of cases:

- The total number of pending cases in the apex court as on December 2017 was 54,719
- Over 30% of cases in the Supreme Court are more than five-year-old.
- Fast disposal of the cases reduces the credibility and efficiency of judgement.
- And the pendency causes the ignorant and the victims to wait too long for the justice.
- Listing system of cases in the court is seen to be inefficient in causing huge backlog.

What can be done?

Conclusion

- The quality and efficiency of court functioning can be improved with simple tweaks
- Therefore, it is time that the judiciary as an institution opens itself to the services of ***competent external agencies*** that can help them record, manage and analyse their data better, to build and sustain a healthy institution.

Reforming higher education

- The government is set to replace the apex higher education regulator, University Grants Commission (UGC), with a higher education commission by repealing the UGC Act, 1951, for better administration of the HE sector.

The Draft Bill

- The draft bill takes away funding powers from the proposed regulator and gives it powers to ensure academic quality.
- While Higher Education Commission of India (HECI) will be in charge of ensuring academic quality in universities and

colleges, the Ministry of Human Resource Development (MHRD) will be responsible for funding universities and colleges.

- Another key feature is that the Regulator will have powers to enforce compliance to the academic quality standards and will have the power to order closure of sub-standard and bogus institutions.
- Moreover, non-compliance could result in fines or even a jail sentence (Till now, the UGC had no such powers. All it could do was to release a list of bogus institutions and not recognise their degrees)

- All institutions approved by the UGC will have to comply with the academic standards laid down by HECI within three years after the new law is passed by Parliament and notified by the union government.
- If an institution fails to do so, its approval will be revoked.

Composition

- The HECI will have a Chairperson, a Vice-Chairperson and 12 other members to be appointed by the central government, including ex officio members, eminent academics and a doyen of industry.
- Of the 12 members, three members will represent union government namely: secretary of higher education, secretary of ministry of skill development and entrepreneurship and secretary, department of science and technology.
- The secretary of the commission will act as the member-secretary.

Functions

- HECI is tasked with the mandate of improving academic standards with specific focus on learning outcomes, evaluation of academic performance by institutions, mentoring of institutions, training of teachers, promote use of educational technology, etc.
- It will develop norms for setting standards for opening and closure of institutions, provide for greater flexibility and autonomy to institutions, lay standards for

appointments to critical leadership positions at the institutional level irrespective of university started under any law.

Significance

- The transformation of the regulatory set-up is based on the principles of minimum government and maximum governance, separation of grant functions, end of inspection raj and focus on the academic quality.
- The draft Act is in accordance with commitment of the government for reforming the regulatory systems that provide more autonomy to higher education institutes to promote excellence and facilitate holistic growth of the education system.
- UGC staff would be retrained to adapt to the HECI regime, which would be fully digital and do away with file work.

Other plans to reform Higher Education sector

- Over the last four years, the HRD ministry has deliberated on several models like a single regulator for higher education by merging UGC, National Council of Teacher Education (NCTE) and All India Council for Technical Education (AICTE); however, the plans were not taken forward.
- Once the HECI Bill is passed by Parliament, the technical education regulator AICTE and the teachers' education regulator NCTE will also be reformed on similar lines.

Turning the Tables on TB

Tuberculosis (TB)

- An infectious Bacterial disease caused by Mycobacterium tuberculosis.
- Contagious and spreads through air when infected person coughs or sneezes.
- Affects the Respiratory system, especially the lungs.

Drug Resistant Strains

- TB causing bacteria showing resistance to drugs which are generally used to treat them.

- Multi-Drug Resistance (MDR) - Drug resistance to Isoniazid and Rifampicin, known as first line drugs to treat TB.
- There is an increase in MDR TB cases both globally and in India in last 10 years.
- Fluroquinolones are a class of drugs also used in TB treatment.
- Extensively drug resistant TB (XDR-TB) - MDR-TB with additional resistance to at least one fluoroquinolone and one second line inject-able drug.

Global TB Report

- Released by World Health Organisation (WHO) every year since 1997.
- 2017 report mentions 10.4 million new TB cases worldwide by 2016.
- India tops with 27.9 lakhs TB patients in 2016, roughly 27% of global TB cases.
- Patients having MDR TB is also high in India.
- Underreporting and under-diagnosis of the disease, a serious problem.
- Globally treatment success remains low at 54%, where in India it is lower than that.

National Anti-Tuberculosis Drug Resistance survey (2014-2016)

- India's first National survey of drug resistance to TB.
- Conducted by Ministry of Health and Family Welfare.
- The survey is the largest National drug resistant TB survey ever conducted by any country.
- Released report on (World TB day) March 24, 2018.

Findings of the survey

- More than 6% of TB patients have MDR TB.
- It includes 3% of new cases and 12 % of patients with TB.
- Resistance to fluoroquinolones is 22%.

Shortcomings of the Survey

- It surveyed limited patients of over 5000.
- Only from the public sector excluding the private sector.

How to test for MDR-TB?

- Drug Susceptibility Test (DST) is done to determine if a patient has MDR-TB.
- It enables diagnosis and treatment promptly and used only in existing TB high risk patients of MDR TB
- In 2017, Government introduced universal DST in 19 states, removing such restrictions on use of DST.

Need for Public-Private Partnerships

- 50% to 60% of TB patients are treated in private sector.

- Quality of treatment and support system needed are absent in private sector.
- Extension of DST to private sector is needed.
- Engaging with private sector is needed for fighting MDR TB.
- Mumbai, Patna and Meshna (Gujarat) shows successful engagement of Private sector.

India's Strategy to TB

- Eliminate TB by 2025 via the National Strategic Plan (NSP) in the period: 2017-2025 (WHO defines 'elimination' as less than 1case of TB for 1 million people)
- Revised National TB Control Programme provides the treatment formulated by the government sector.
- NSP's ambitious target may require doubling of funding.
- CB-NAAT, which is a diagnostic tool, will be rolled-out across the country.
- Bedaquiline and Delamanid, used in treating MDR TB are also scheduled to roll out.

What is CB-NAAT?

- A molecular test which detects the DNA in TB bacteria. It detects the genetic mutations associated with resistance to the drug Rifampicin
- Uses sputum sample and can give a result in less than 2 hours.

Global Strategy

- Ending TB epidemic is a Sustainable Development Goal (3.3) by 2030.
- WHO's End TB strategy adopted by World Health Assembly in 2014
- It aims at reducing TB incidence by 80%, deaths by 90% and the total catastrophic costs.

Way Forward

- The engagement with private sector model in India will help in conducting similar drug resistance survey over them.
- Future extension of Universal DST to private sector.
- The pace and scale of the implementation needs a boost.

Triggered By Air

- A recent research found out the direct relationship between pollution and Diabetes.
- Rise in pollution levels directly results to the rise in Diabetes, especially in low income countries.

Diabetes

- Commonly known as Diabetes mellitus is a long term condition in which the person has high blood glucose level.
- High blood sugar is either due to the inadequate secretion of insulin or because the body's cells do not respond properly to insulin, or both conditions.
- Frequent urination, thirstiness and hungriness are common symptoms.

Types of Diabetes Mellitus

- Type 1 Diabetes
 - No insulin production in the body and Insulin must be taken regularly.
 - Usually develops in childhood and in adolescence but also in adults at times.
- Type 2 Diabetes
 - Inadequate production of Insulin in the body or the inability of cells to use the insulin produced.
 - Proper diet, physical activity and medications should be followed.
 - Usually develops in adults, but children can also be affected
- Gestational diabetes
 - A temporary condition that occurs during pregnancy.
 - 3-20% of pregnant women develop gestational diabetes.
 - It generally resolves once the baby is born.
 - However, having gestational diabetes may increase the risk of developing diabetes for both mother and child.

Pollution linked Diabetes

- Particulate Matter 2.5 (PM 2.5) is made of fine dust particles less than 2.5 microns in

diameter and is the main component of urban pollution.

- It enters the blood stream through Lungs.
- It results in reduced production of insulin and inflammation of Lungs, consequently resulting in increase of the Diabetic population.

Permissible Limits

- World Health Organisation set 10 microgram per cubic metre as the concentration of pollutants (PM 2.5) permissible in the air.
- However, concentration of 12 microgram per cubic metre of PM 2.5 in air is enough to increase the diabetic risk.
- In India though, 40 microgram per cubic metre is the limit which is considered safe.
- In cities like Delhi it exceeds 100.

Rising Trends

- Air pollution (PM 2.5) added 3.2 new million diabetic cases in 2016.
- That is 14% of all new diabetic cases in 2016, of which India's shares 20% of all those new cases.
- Pollution linked diabetes caused more than 2 lakh deaths in 2016.
- Global PM 2.5 average stands at 42.3 micrograms per m³. Whereas, Indian average stands at 72.6 micrograms per m³.

DALY (Disability Adjusted Life Years)

- The measure of life lost due to sickness, disease or any disability due to them.
- India tops the list in DALY due to pollution linked diabetes.
- India lost 1.625 million years of healthy life where global average is 8.2 million years.

Way Forward:

- Higher economic growth leads to higher pollution burden on the world.
- Developing and under developed countries are the ones which suffers this burden more.
- Modest reduction in levels of PM 2.5 will lead to reduction in diabetic cases in India.

Linked By Light

- Quantum Theory is the science dealing with the behaviour of energy and matter on the scale of atomic and sub-atomic levels.
- It helps to study the matter and energy at its most fundamental level.
- Max Planck, for his contributions was called father of Quantum Physics.
- Black body radiation modelled by him aroused the idea of particle nature of light.

Quantum Theory

- Both *light* and *matter* consists of tiny particles which have wave like properties.
- Light is composed of Photons whereas matter is composed of electrons, protons and neutrons.
- When the mass of the particle gets small to a certain level, its wave property shows up.

Einstein & Photoelectric effect

- The Quantum Theory of Light explains the particle nature of Light.
- It was a great leap in quantum physics with the help of Albert Einstein who discovered it.

- Einstein was awarded Nobel Prize in 1921 for his paper on Photoelectric effect (PE).

Photoelectric effect

- When light rays or photons fall on a metal surface it leads to emission of electrons.
- It is transfer of energy from light or photons to electrons.
- Change in the intensity of light can change the kinetic energy of the electrons.

Quantum Optics and the Future

- Quantum optics is the study of behaviour of light at the atomic and subatomic level.
- The recent detection of Gravitational waves by LIGO (Laser Interferometer Gravitational Wave Observatory) led to extension of another dimension.

To explore in the future

- Crystals are solids that show a repeating arrangement in space of a basic structure, the unit cell.
- Subjects such as 'time crystal', importance of 'nitrogen-vacancy centres in diamond'
- Time crystals show the same both in space and time.
- Diamonds are used in building quantum computers.

Risky Recourse

Why in News?

- The Insurance Regulatory and Development Authority of India (IRDA) has approved a proposal to allow the Life Insurance Corporation of India to increase its stake in the ailing state-owned IDBI Bank to 51%.

Background

- The plan envisages the insurer injecting much-needed capital into the financially stressed lender.
- IDBI was placed under the Reserve Bank of India's prompt corrective action framework in May 2017 because of its

non-performing assets rising beyond a threshold.

What is Prompt Corrective Action?

- RBI has issued a policy action guideline in the form of Prompt Corrective Action (PCA) Framework if a commercial bank's financial condition worsens below a mark.
- The PCA framework specifies the trigger points or the level in which the RBI will intervene with corrective action. This trigger points are expressed in terms of parameters for the banks.

What are those parameters?

- Capital to Risk weighted Asset Ratio (CRAR)

- Net Non-Performing Assets (NPA) and
- Return on Assets (RoA)
- Leverage ratio

What happens upon reaching the threshold?

- When these parameters reach the set trigger points for a bank (like CRAR of 9%, 6%, 3%), the RBI will initiate certain structured and discretionary actions for the bank.
- As per the revised framework by the RBI, capital, asset quality and profitability continue to be the key areas for monitoring.
- Along with this, the leverage of banks also will be monitored.

Restrictions

- There are 2 types of restrictions: mandatory and discretionary.
- Restrictions on dividend, branch expansion, director's compensation, are mandatory while discretionary restrictions could include curbs on lending and deposit.

Applicability

- The PCA framework is applicable only to commercial banks and not extended to co-

operative banks, non-banking financial companies (NBFCs) and FMIs.

Critical Assessment

- There is a certain level of 'Interconnectedness' in the financial system, and the proposed transaction may expose the entire system to adverse risks.
- The risks in increasingly banking on state-controlled cash-rich corporations to help bail out other state-owned companies or lenders are significant, and may have an adverse impact on the fiscal discipline.
- The IRDA is reported to have exempted the LIC from the well-reasoned 15% cap on the extent of equity holding an insurer can have in a single company. This puts at risk the interests of the premium-paying customers of the LIC.
- The SEBI has in the past waived the mandatory open offer requirement under its takeover regulations when it involved a state-run acquirer and another state enterprise as the target. This may have a negative impact on small investors.

One Year After

Why in News?

- July 1st 2018 marked the first anniversary of the Goods and Services Tax.

ONE NATION ONE TAX



What is GST?

- Taxes are generally two types – indirect taxes and direct taxes. Indirect taxes are taxes on goods and services.
- The Goods and Services Tax, (GST) is a major indirect tax reform introduced in

India by integrating the major existing indirect taxes of the centre & the states.

- It is a comprehensive tax levied on the manufacture, sale, and consumption of goods and services.
- It is “collected on value-added goods & services” at each transactional stage of the supply chain or process.

Salient Features of GST

Destination-Based Tax

- It is a destination based consumption tax.
- This means that tax accrues to the State or the Union Territory where the consumption takes place.

Dual GST

- It is a dual GST with the Centre and States simultaneously levying tax on a common tax base.

- The GST to be levied by the Centre on intra-State supply of goods or services is called the Central GST (CGST) and that levied by the States & Union territories is called the State GST (SGST) & Union territory GST (UTGST) respectively.

Applicability

- It applies to all goods other than alcoholic liquor for human consumption and five petroleum products, viz. petroleum crude, motor spirit (petrol), high-speed diesel, natural gas and aviation turbine fuel.
- It applies to all services barring a few specified services.
- The list of exempted goods and services are common for the Centre and the States.

Threshold Exemption

- Taxpayers with an aggregate turnover in a financial year up to Rs.20 lakhs are exempt from tax.
- For the 11 Special Category States the exemption threshold is Rs. 10 lakhs.

Composition levy

- Small taxpayers with an aggregate turnover in a financial year up to Rs. 50 lakhs shall be eligible for composition levy.
- Under the scheme, a taxpayer shall pay tax as a percentage of his turnover during the year without the benefit of Input Tax Credit (ITC)
- A taxpayer opting for composition levy shall not collect any tax from his customers nor shall he be entitled to claim any input tax credit. The composition scheme is optional.

Use of Input Tax Credit

- Taxpayers are allowed to take credit of taxes paid on inputs (input tax credit) and utilize the same for payment of output tax

GST Network (GSTN)

- A Special Purpose Vehicle called the GSTN has been set up to cater to the needs of GST.
- GSTN provides a shared IT infrastructure and services to Central and State Governments, taxpayers and other stakeholders for implementation of GST.

GST Council composition

- The Union Finance Minister (as Chairman)

- The Union Minister of State in charge of Revenue or Finance, and
- The Minister in charge of Finance or Taxation or any other Minister, nominated by each state government

GST Council Decision Making

- The decisions of the GST Council will be made by a three-fourth majority of the votes cast.
- The centre shall have one-third of the votes cast, and the states together shall have two-thirds of the votes cast.

Benefits of GST

- GST aims to make India a common market with common tax rates and procedures and remove the economic barriers thus paving the way for an integrated economy at the national level.
- By subsuming most of the Central and State taxes into a single tax for the transactions across the entire value chain, it would mitigate the ill effects of cascading, improve competitiveness and improve the liquidity of the businesses.
- GST is expected to bring buoyancy to the Government Revenue by widening the tax base and improving the taxpayer compliance.
- The strongest sign of this is the entry of over 4.5 million entities in the country's tax net, many of which would have so far been part of the cash-driven, informal economy.
- This expansion of the tax net will also help increase direct tax collections.

GST - Major Concerns

I-T Preparedness

- Small-scale Enterprises (which is a major driver of Indian economy) may have trouble in making the transition to an online IT platform and expect no errors in return filing.
- After its initial days were marred by stuttering IT systems, the deadline for filing returns was pushed forward till most taxpayers got a hang of the system and the GST Network could augment its capacity.
- A unique component envisaged in India's GST regime, matching of invoices for

granting tax credits, has been kept on hold for fear of adding to taxpayers' transition pains.

Tax Slabs

- The industry had anxieties about the multiple tax rates, ranging from zero to 28%, with a CESS on demerit goods.
- But gradually, the number of goods under the 28% bracket has been brought down to 50 from around 200.

Way Forward

- The tax slabs should be reduced. If not a single rate, there is certainly room for collapsing at least two of the current rates.

- It is also imperative that rates not be tinkered with too often and pricing disputes should not be a default option under anti-profiteering norms for industry.
- In its second year, the GST Council must pursue a time-bound approach to execute plans already announced to ease taxpayers' woes, such as an e-wallet for exporters and a simpler return form.
- Besides, there must be a road map to bring excluded products — petroleum, real estate, electricity, alcohol — into the GST net.

Gearing up for space wars

Why in News?

- U.S. President Donald Trump recently announced the creation of a "space force" or a sixth branch of the American armed forces.

What is the 'Outer Space Treaty'?

- The treaty entered into force in 1967 and forms the basis of international space law.
- The Outer Space Treaty represents the basic legal framework of international space law.
- Among its principles, it bars party-states from placing weapons of mass destruction in Earth orbit, installing them on the Moon or any other celestial body, or otherwise stationing them in outer space.
- As of April 2018, 107 countries are parties to the treaty, while another 23 have signed the treaty but have not completed ratification.

Prevention of an arms race in outer space (PAROS)

- In 1959, the UN General Assembly established the Committee on the Peaceful Uses of Outer Space (COPUOS). UN since then has adopted a number of resolutions calling for negotiations to prevent an arms race in outer space.
- China has proposed the establishment of an ad hoc committee in the Conference on

Disarmament to negotiate a treaty prohibiting the weaponisation of outer space. Other countries, including Pakistan, have supported the proposal.

- The Conference on Disarmament, which functions by consensus, has been unable to move forward on China's proposal because of the opposition of some countries, primarily the US which claims that there is not an arms race in outer space and thus there is no need for such negotiations.

Background

- The imperative by America to build space weapons goes back to the Cold War, an example being the Strategic Defense Initiative of the Reagan Administration.
- The creation of the new force represents an important shift at least at an institutional level.

Reasons to not fear

- However it is important to note that the President's verbal order does not necessarily translate into something more concrete.
- The creation of a sixth branch of the military to join the Army, Navy, Air Force, Marine Corps and Coast Guard would require congressional authorization and approval.

Key Issue

- The fundamental difficulty of a space corps is that the physical environment of space is not conducive to the conduct of military operations without incurring serious losses in the form of spacecraft and debris.
- And despite efforts to make spacecraft more fuel efficient, the energy requirements are enormous.
- Further, the technical demands of defending assets in space make the possibility of dominance and space as a domain for war-fighting unrealistic.

US Domestic Views

- First, it could undercut ongoing missions.
- Second, it could very well increase budgetary allocations in the future.
- Third, a space corps could undermine American efforts in the domain of joint warfare.
- A new space force is not merely a brand new service; it potentially increases greater organizational uncertainty within the U.S. military.
- The military and Congress have warned against the plan.

China and Russia's responses

- China has responded by stating that it opposes the weaponisation of space.
- However it has its own space military programme, which is dedicated to building "Assassin Mace" technologies (an array of kinetic and non-kinetic means of attack) —that help win wars rapidly.
- Russia has stated clearly that it will vigorously take on the U.S. However, given its lack of the resources for competition, it will in all probability, for tactical reasons, align itself with China.

Implications for India

- India is officially committed to PAROS, or the prevention of an arms race in outer space, it is yet to formulate a credible official response to the Trump plan.
- Also India has yet to establish a credible space command of its own. And, its inter-services rivalries will have to be resolved about the command and control.
- China's reaction to USA's space force could be far stronger than anticipated in addition to this it already possess a formidable space military programme that far exceeds current Indian capabilities

Yojana (July) – Part I

Affordable Housing

- 'Pradhan Mantri Awas Yojana' (PMAY) or 'Affordable Housing For All' Mission was launched in 2015
- It aims to build 1.2 crore affordable homes with water connection, toilet facilities, 24x7 electricity supply and access in urban centres by 2022.
- The mission is divided into two parts PMAY (Gramin) comes under Rural Development and PMAY (Urban) which falls under Ministry of Housing and Urban Affairs.

PMAY vs. Jawaharlal Nehru National Urban Renewal Mission (JNNURM)

- Under JNNURM (2004-2014) only 13.46 lakh homes were sanctioned and 5.65 lakh were occupied.
- In 4 years under PMAY (U) 47.5 lakh homes were sanctioned and 8 lakh homes were handed over.
- PMAY (U) home can be registered under the lady of house or jointly.

Enhancing Urbanization

- Today agriculture employs over 40% but contributes only 16.4% to GDP whereas the services sector contributes 55.2 % to the GDP
- The nature of service sector is such that it is found in urban areas and people seeking employment in service sector would move to urban areas.
- It is estimated that by 2030, almost 600 million Indians or 40% of population will live in urban areas.

Comparison with SDG

- Goal 11 of SDG envisages making cities and human settlements safe, resilient and sustainable.
- PMAY (U) was planned even before SDG was announced
- Moreover, the target in PAMY (U) is 2022 whereas for SDG it is 2030.

Definition of home under PMAY

- Functional toilet

- Electricity connection
- Tapped water connection
- Door-to-door waste collection

Redefining the Role of the State

- In India we were never short of ideas published through numerous papers and recommendations from the bureaucracy.
- The success of PMAY (U) has been in its implementation which includes constant and consistent monitoring and evaluation.

PMAY (U) Implementation

There are four verticals

- In-Situ Slum Redevelopment
- Affordable Housing In Partnership (AHP)
- Credit Linked Subsidy Scheme (CLSS)
- Beneficiary Led Construction (BLC)

Coverage &

- It covers people from all walks of life from slum dwellers to middle income groups.
- It also gives option to the people to choose which vertical is best for them. It is an example of bottom up approach.

Cooperative federalism

- The PMAY is an example of cooperative federalism and the state governments can themselves accord approvals for projects unlike the earlier housing schemes.

Government as Catalyst

- Affordable housing was given infrastructure status
- To boost financing Affordable Housing Fund has been created under the National Housing Bank
- To encourage private participation, 100% deductions of profits for Affordable Housing Projects is provided

Hazards of earlier times

- politician-bureaucrat-builder nexus fixed the rules
- individual wanting to buy house was forced to indulge in corruption
- no guarantee that property would be handed over to true owner

A regulatory framework to end this

- Real Estate (Regulation and Deregulation) Act 2016 or RERA has been passed and a regulator for real estate sector was established
- The Insolvency and Bankruptcy Code bars willful defaulters from submitting a resolution plan and puts home buyer alongside financial creditors thus removing corrupt actors in this sector.

Conclusion

- To meet the urban demand, India needs to build 700-900 million square meters of residential and commercial space every year till 2030 which is like building a new Chicago every year.
- The success of PMAY (U) needs to be looked in conjunction with other urban schemes like: Swachh Bharat Mission, Atal mission for rejuvenation and urban transformation (AMRUT), and Smart cities mission

Universal Village Electrification in 1000 Days

- In 2015 it was announced that the remaining 18500 odd un-electrified villages in the country would be electrified within 1000 days.
- The primary recognized administrative unit in rural areas is a census village and the first step was to provide electrification to all census villages.
- Access to electricity alone is not sufficient, ensuring quality and reliability of power supply is essential to meet the expectations of rural people.
- The government launched the Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY).

Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY)

The scheme envisages:

- Electrification of un-electrified villages
- Intensive electrification of already electrified villages to provide access to households
- Strengthening and augmentation of sub-transmission and distribution infrastructure to improve quality and reliability of power supply
- Feeder separation to provide assured power supply to farmers
- Metering of feeders, distribution transformers and consumers to facilitate energy audit and reduction of losses

Planning

- The task of electrification under DDUGJY was taken up in mission mode
- Detailed consultations were done with all stakeholders.

Strategy

- Proper identification of villages with census 2011 code
- Solar PV based off-grid solutions for remote/inaccessible villages
 - Villages in remote areas,
 - Areas with difficult terrain in snow bound hills or deep forest
 - Left Wing Extremism affected areas
- Standard bidding documents
- Innovative financing
 - Ministry of Power raised money through issue of bonds
 - Through financial institutions like PFC and REC.
- Flexibility to states for execution of works
 - States were given adequate liberty to execute projects as per the diverse geographical, demographic and other conditions
 - One size fits all approach was not followed.
- Handholding states/Discoms
 - Nodal agency opened office in almost all states to interact on daily basis & provide help in organizing
 - Gram Vidyut Abhiyanta was appointed at village/district level to assist Discom/power dept. in monitoring and expeditious implementation.
- Milestone based monitoring

- The entire process was divided into steps right from award of work, survey, material procurement, erection and commissioning etc.
- Transparency and accountability
 - Mobile app “Garv” was launched to spread information regarding progress on electrification in public domain created an enhanced accountability system
- Regular review and monitoring
 - A system for review and monitoring was established at centre; state and DISCOM level

Progress

- Progress on village electrification improved exponentially during 2015-16 where 7108 villages were electrified as against
 - 2587 in 2012-13
 - 1197 in 2013-14
 - 1405 in 2014-15

Implementation Challenges and Remedial Measures

- Inaccessibility and non-feasibility of conventional grid system
- Difficult hill terrain
- Head loading of material over 1-10 days
- Material transportation by choppers
- Areas affected with left wing extremism activities
- Forest clearance
- Railway clearance

Way forward

- The dynamism of the project can be accessed from the fact that 9 states found another 1227 un electrified villages and that villages too were electrified
- With the support of all stake holders the task was completed within the stipulated time of 1000 days

What next?

The next target is to provide electricity to all households through the Pradhan Mantri Sahaj Bijli Har Ghar Yojana – Saubhagya

- To provide last mile connectivity and service connections
- both urban and rural areas
- Achieve universal household electrification by March 2019.

RSTV Corner

TEJAS: 'The Flying Daggers'

- Indigenous fighter aircraft Tejas of No 45 Squadron (The Flying Daggers) of Indian Air Force (IAF) has formally commenced operations from Sulur Air Force station in Tamil Nadu.
- **Key Facts:** Southern Air Command (SAC) based at Thiruvananthapuram, Kerala has been entrusted with responsibility of integrating Tejas fighter aircraft in IAF operations.



Tejas fighter aircraft

- Tejas is the 1st advanced fly-by-wire Light Combat Aircraft (LCA) designed, developed and manufactured indigenously by state owned Hindustan Aeronautical Limited (HAL).
- It was developed and manufactured under Light Combat Aircraft (LCA) programme, which began in the 1980s to replace India's ageing MiG-21 fighters.
- It is lightweight single-seat multi-role jet fighter and has been pegged as world's smallest and lightest supersonic fighter.
- It is powered by a single engine and is equipped with satellite-aided Inertial Navigation system.

Is Induction of Tejas worth the wait?

Positives

- It is an indigenous aircraft which can be manufactured in the country, so

dependency on foreign countries is reduced.

- Inducting new aircraft need long trials and negotiation as we have seen in the case of Raphael, which may also fail contrary IAF need fighter aircraft in quick succession of time to maintain its operational capabilities.
- Tejas is less expensive when compared to its foreign counterparts and it is also a boost to make in Indian and self reliance in defence technology.
- Once its Mark - I version inducted HAL can start developing its upgraded version with more capabilities.

Limitations

- Its engine is being imported from America so its technology is not 100% indigenous.
- It is yet to get the Final Operation Clearance.
- It is to replace MiGs aircraft which were the most successful aircraft in their time, so meeting the capability of Tejas to that of MiGs would be a tough call.
- Rate of production of HAL is too slow. It may take years to form 2-3 squadrons.

Conclusion

- Though TEJAS aircrafts are not having 100% indigenous but looking the urgent operational requirement of IAF it is best option for now.
- It becomes more crucial when Raphael deal is in ambiguity and impasse in negotiations even if clear Indian will not get even single aircraft before 2019
- For now Tejas squadrons may be raised but main stress must be given in its up gradation and developing more sophisticated aircraft in order to raise the operational capabilities and hone the supremacy of Indian Air Force.

Delhi: The demand for statehood

- In a landmark verdict on the power tussle between the Delhi government and the Centre, a five-judge SC bench unanimously held that Lieutenant Governor does not have independent decision-making powers, and is bound to act on the aid and advice of the Council of Ministers.
- It said all decisions of the Council of Ministers, who are elected representatives of the people of Delhi, *must be communicated to the LG but that does not mean his concurrence is required.*
- However the demand for Delhi statehood is still on.
- Delhi is the home of Indian parliament, Supreme Court and various embassies which needs Central control.
- *The Balakrishnan committee report 1987* clearly denied giving state hood to Delhi.
- The Centre gave Delhi a legislative assembly without compromising on its status of a union territory through 69th constitutional amendment act.

Way forward:

- When we look at examples from the world over, the practice is the same.
- In Washington DC, there is only a mayor. There isn't an elected government to avoid disruption in capital city.
- When already a state government is provided and the judiciary restoring the powers of elected government when disrupted, the demand for statehood is purely political in nature.

Why Delhi cannot be given statehood?

- Delhi is the National capital and hence it belongs to the union giving it separate statehood will put Delhi under definition of state as per the constitution and not the Union territory which will cause huge disruption.

Tackling NPA: The New strategy

- Union Finance Minister approved the *Sunil Mehta Committee's* suggestions of a 5-pronged strategy to tackle the Non-Performing Assets (NPA).
- The committee submitted its draft report titled '*Sashakt*' to the Finance Ministry with a strategy to tackle stress in the banking sector. However, there is no proposal or recommendation to create a bad bank.
- The recommendations now await the approval of the Reserve Bank of India (RBI)

Recommendations of the Committee

The '*Sashakt*' Report highlights nine guiding principles aimed at the operational turnaround of the banking sector.

- Resolution of bad assets *below Rs 50 crore within 90 days*: Banks will be required to create a 'Focused Vertical' for bad assets below Rs 50 crore and set up a Steering

Committee for resolution of such bad assets within 90 days.

- Resolution of consortium *loans between Rs 50-500 crore within 180 days*: It suggested the Bank Led Resolution Approach (BLRA) for loans between Rs 50 and Rs 500 crore. It also suggested constitution of an Independent Screening Committee to examine resolution of such loans within 180 days and if there is no resolution in 180 days, then these bad assets will be moved to the National Company Law Tribunal (NCLT).
- Resolution of *loans above Rs 500 crore*: The loans above Rs 500 crore will be dealt via AMC/AIF-led resolution process. The panel proposed creation of a national Asset Management Company (AMC) to take over such Non-Performing Assets from banks.

- Recommendations included creating platforms where banks can trade in bunched loan assets.

Creation of National Asset Management Company (AMC)

- The committee suggested setting up of an AMC with an equity contribution from banks, foreign funds and infrastructure funds such as the National Infrastructure Investment Fund (NIIF)
- The AMC could be set up under an existing Asset Reconstruction Company (ARC)
- The National AMC will determine the price of individual accounts after due diligence and once the asset is sold, turnaround specialists would be appointed. The asset would be sold down to strategic buyers over a period of time.
- The plan to set up a national ARC or AMC over and above existing private ARCs

come amid the mounting bad loans in the system leading to bleeding balance sheets of banks.

Significance

- The banks can now focus on core banking activities of lending and growing their balance sheets.
- They opine that the transfer of NPA management to a specialised entity would help clean up the long due loans and experts can help restructure the loans.

As on March 31, 2018, bad loans across listed banks stood at over Rs 10 lakh crore. As per the RBI's recently released Financial Stability Report, the number of gross NPA ratio is set to rise by March 2019 to 12.2 percent from 11.6 percent in March 2018. And hence instead of setting a bad bank expert companies will be able to handle NPA better.

Police Reforms: The challenges

- Recently Madras High court upheld the validity of providing one day off to the police.
- Police which is essential for the law and order is facing crisis due to increased suicide of officers due to work pressure and hence urgent reformation is needed to protect the protectors.

Challenges faced by the Police

Administrative Challenges

- Too much political interference in police functioning
- Frequent transfers/postings
- 24X7 working conditions; Low salary; No respect.
- There are a total of about 1.8 million police personnel employed by Indian state police organizations today and there are also 300,000 vacancies

Logistical Challenges

- Lack of training
- Weak infrastructure
- Low people to police ratio.
- Police is a state subject in Schedule VII

What to do?

- Numerous commission have given their recommendations in past like Dharam Veera commission, Julia Ruberio Committee, Soli Sorabjee Committee (Model code), SC 7 point recommendations (Prakash Singh Case) etc.
- But ultimately, we need political will to implement these.

What were 2006 SC directions?

- Establishing a State Security Commission (SSC) as a watchdog with members from the government, judiciary and the civil society. The commission was supposed to frame policies which make sure that "state government does not exercise unwarranted influence or pressure on the state police".
- The order asked for tenure of DGP and field officers to be fixed at two years. However, Centre told the Supreme Court that states were misusing the SC direction to give two-year tenures to directors general of police and were appointing

officers nearing retirement to the posts to give them two additional years in service.

- A police establishment board, instead of the government, would deal with transfers of policemen.
- It also asked for separation of investigation and law and order units for speedy probe.

Conclusion

- The demand for police reforms is over 100 years old with the first such attempt made by Indian Police Commission of 1902-03 under British rule.
- Since then, there has seen 5 state commissions and 6 national-level

commissions with all their reports gathering dust.

- But, it is imperative that more needs to be done than mere structural changes within the system.
- It is essential to now look at the police as a service organization meeting those needs of the society that are essential for safety, security, quality of life and peace.
- Community involvement, problem oriented policing and proactive policing strategies need to be adopted in the changing scenario of society.

All India Radio – News Analysis

Actions to Curb Black Money

Background

- The Finance Minister recently issued a statement on the sudden spurt reported by the Swiss bank in the accounts of Indians.
- He said that the govt will take action and all the money that has been deposited might not necessarily be black money

What is black Money?

- Black money or black income refers to the income that is not revealed to the tax authorities and thus has not paid any taxes. It is also called unaccounted money or illegal income.
- Black Money creates several problems. It decreases the govt. tax revenue, gives rise to a parallel economy, used for drug trafficking, terrorism funding, toppling governments etc.

Factors that lead to the creation of Black Money

- High Tax rates People generally tend to hide their income to avoid payment of taxes.
- Political Funding is another key area which promotes the creation of Black Money.
- If the foreign exchange rate regime is very stringent it also promotes the creation of black money, since people may decide to take the money out of the country through illegal routes.
- Black money is also generated through real estate transactions.
- In real estate, the sector which absorbs and generates maximum amount of black money, the uniform tax structure will improve tax compliance by developers, local builders, property dealers, investors and occupiers.
- The mandatory paper trail that GST will create will go a long way in improving tax compliance.

- In addition to this, institutional mechanism such as RERA will also ensure transparency and accountability and help in curbing the menace of black money.

Steps taken by the Govt to curb black money

- Constitution of the Special Investigation Team (SIT) on Black Money under Chairmanship and Vice-Chairmanship of two former Judges of the Hon'ble Supreme Court
- Proactively engaging with foreign governments with a view to facilitate and enhance the exchange of information under Double Taxation Avoidance Agreements (DTAAs)/Tax Information Exchange Agreements (TIEAs)/Multilateral Convention etc
- Global efforts to combat black money- India has joined the Multilateral Competent Authority Agreement in respect of Automatic Exchange of Information (AEOI) and also has an information sharing arrangement with USA under its Foreign Account Tax Compliance Act (FATCA).
- India has signed an agreement with Switzerland for automatic sharing of tax-related information from January 2019 with an aim to combat black money.
- Under the automatic information exchange framework, confidentiality and data protection requirements are to be strictly followed.
- This process will ensure that signatory always maintains control over its exchange partners and treatment of data exchanged as per OECD norms.

Project Insight

- It is an integrated platform that will utilize the vast amount of information easily available on social media to conduct raids online rather than the traditional way of conducting random searches, known as tax raids.

- It will primarily monitor high-value transactions, with a view to curbing the circulation of black money.

Operation Clean Money

- Launching of 'Operation Clean Money' on 31st January 2017 for collection, collation and analysis of information on cash transactions, extensive use of information technology and data analytics tools for identification of high risk cases.

Income Disclosure Scheme

- It provided a one-time opportunity to those who had not paid full taxes in the past. It had provided four-month window for declaring undisclosed income or black money.

Pradhan Mantri Gareeb Kalyan Yojana

- Union Government's second income disclosure scheme (IDS) to allow tax evaders to come clean with unaccounted wealth.
- It provides for 50 per cent tax and surcharge on declarations of unaccounted cash deposited in banks.

Impact of Demonetization on Black Money

- The biggest mission of demonetization was described as fighting black money.
- However, demonetisation alone will not fight black income. The most important policy should be tax administration where the tax authorities can monitor expenditure and matching it with the income of the respective individuals.
- The effectiveness of demonetization against black money depends upon the follow-up and supportive measures were made by the government.

Impact of introduction of GST on Black Money

- The implementation of GST which is an indirect tax also had an effect on direct taxes.
- It has helped in widening of the tax base and increasing the taxes collections.
- Transparency in GST is ensured through a paper trail which can be accessed by the income tax department.
- The dual monitoring structure proposed within GST, involving the Centre and the states will also curb income tax evasions.

Rise in MSP and its Impact

Background

- Giving a major boost for the farmers' income, the Cabinet Committee on Economic Affairs has approved the increase in the Minimum Support Prices (MSPs) for all kharif crops for 2018-19.

What is MSP?

- The Cabinet Committee on Economic Affairs (CCEA), Government of India, determines the Minimum Support Prices (MSP) of various agricultural commodities in India based on the recommendations of the Commission for Agricultural Cost and Prices (CACP).
- MSP is the price at which government purchases crops from the farmers. It helps to incentivize the framers and thus ensures adequate food grains production in the country.

- It gives sufficient remuneration to the farmers, provides food grains supply to buffer stocks and supports the food security programme through PDS and other programmes.
- It is announced by the Government at the beginning of the sowing season for certain crops. Support prices generally affect farmers' decisions indirectly, regarding land allocation to crops, the quantity of the crops to be produced etc.
- It is in this angle that the MSP becomes a big incentive for the farmers to produce more quantity.

The minimum support price is aimed to

- Assure remunerative and relatively stable price environment for the farmers by inducing them to increase production and thereby augment the availability of food grains.

- Improve economic access of food to people.
- Evolve a production pattern which is in line with overall needs of the economy.

Rationale behind increase in MSP

- The Historic move to increase MSP by 50% in almost all crops covered under MSP fulfilled the promise made in this year's budget that MSPs would be determined on the principle that the harvest should get the farmers 150% of the cost of planting and tending to the crop.
- This year's increase in support prices for the Kharif, or summer-sown, crops are the highest ever, and would help fulfill the objective of doubling farmers' income by 2022.
- The increase in MSP will result in higher disposable income in the hands of rural consumers. This would certainly boost consumer sentiments in the hinterland all also give a push to the rural economy.

Drawbacks

- There will be dual impact. Prices of raw materials could go up which in turn could result in price hikes. At the same time, higher farm income will lead to an increase in consumption across segments.
- Analysts say that higher MSP would have an impact on the fiscal deficit, increase inflation and put pressure on the central bank to raise rates.
- On the other hand some experts believe that the hike in MSP alone will have a marginal impact on Inflation and Fiscal deficit.
- However considering the global scenario - depreciation of rupee, potential rise in oil prices, and an impending global trade war,

the impact of hike in MSP could be aggravated.

Issues with Agricultural policy

- India should prepare towards becoming a supplier of superior quality food across the globe.
- However the present agricultural policies are such that they distort the cropping pattern and are not in line with the agro-climatic conditions of our country.
- Hence a balanced approach to policymaking must be evolved such that it is not entirely consumer centric or exclusively producer centric but optimal in ensuring that the prices are aligned to global levels.
- We have been restricting the export of various food items so as to keep our domestic prices low, this prevents the farmers from realizing that exists in the global market.
- Keeping on increasing the MSP without investing in agricultural infrastructure and strengthening the back-end supply chain will make us non-competitive in the global market.

Way Forward

- The hike in MSP will boost the rural economy to a certain extent.
- However, in the long term, farmer's prosperity and increase in productivity and efficiency will come only when the Farmers are able to capture as much as the Value addition that happens before the product reaches the consumer.
- The huge expenditure towards MSP, subsidy and insurance schemes should be channelised towards in creating infrastructure and development of backend supply chain.

4th Governing Council Meeting of NITI Ayog

About NITI Ayog

- NITI Ayog is the premier policy 'Think Tank' of the Government of India,

providing both directional and policy input.

- While designing strategies and long term policies and programmes for the

government of India, NITI Aayog also provides relevant technical advice to the centre and states.

Structure

- Chairperson - Prime Minister of India
- Governing Council - It comprises of the chief ministers of all states, Chief Ministers of UT with legislatures (Delhi and Pondicherry) and Lt. Governors of other UT.
- Regional Council - These are formed to address specific issues and contingencies impacting more than one state or a region.
- These are formed for a specified tenure. They are convened by the Prime Minister and comprise of CM of states and Lt Governors of UT.
- They are chaired by the Chairperson or its nominees.
- Special Invitees - Experts, specialists and practitioners with relevant domain knowledge.

Cooperative Federalism

- The meeting of the Governing council acts as a tool of cooperative federalism where the centre and states come together to review the progress of policies and schemes and to delegate upon the future course of actions.

Highlights of the 4th Governing Council Meeting-

Aspirational District Programme

- It aims to quickly and effectively transform 115 of India's most underdeveloped districts. It will identify areas of immediate improvement, measure progress, and rank districts.
- PM reiterated the Union Government's commitment to provide 100% coverage of seven flagship schemes to 45,000 additional villages and those in 115 Aspirational Districts by August 15th, 2018.
- He urged States to identify 'Aspirational blocks' to take development to the grassroots.

Agriculture and MNREGA

- The Prime Minister called upon the Chief Ministers of Madhya Pradesh, Bihar,

Sikkim, Gujarat, Uttar Pradesh, West Bengal and Andhra Pradesh to work together to make recommendations on a coordinated policy approach on the subject of 'Agriculture and MNREGA'.

- Farmers issues such as Doubling Farmers income by 2022 and Farmer distress is high on the agenda of both centre and states.
- The PM encouraged States to explore opportunities to increase corporate investment in agriculture, such as in food processing, warehousing and logistics.

Terms of Reference of 15th Finance Commission

- The Prime Minister took into consideration States' concerns over the Terms of Reference of the Fifteenth Finance Commission and encouraged States to think of new ideas or a new formula, which incentivizes states for their performance, such that if certain allocation is made to the states the stress should be on a result-oriented policy in a Mission Mode manner.

Developing the Agenda for New India -2022

- NITI Aayog has been working on a number of strategic papers and development agendas.
- NITI Ayog has said that the foundation for freedom from 6 major issues facing the Indian Society - Poverty, dirt, corruption, terrorism, casteism and communalism will be laid by 2022 when India celebrates 75 years of Independence.

150th Birth anniversary of Mahatma Gandhi

- All Chief Ministers expressed their commitment to celebrating the 150th Birth Anniversary of Mahatma Gandhi in a befitting manner.
- The Prime Minister in his closing remarks said the best manner of showing respect to the Father of the Nation would be to not only achieve a 100% Open Defecation Free (ODF) status for the country but also to make India free from dirt and squalor by October 2, 2019.

\$5 Trillion Economy

- The PM called upon States to fix growth targets for their economies as the world looks towards India soon becoming a USD 5 trillion economy.
- He advised the States to pay special attention to expanding their exports and attracting export oriented investment while organizing their investments summits and events.

Review of key schemes

- The Governing Council reviewed the implementation of key programmes like Ayushman Bharat, Electrification of Villages, Universal Immunization and other development schemes.
- Elaborating on the Union Government's guiding principle of Sabka Saath, Sabka Vikas, he said that the schemes of the Union Government are no longer limited to certain people, or to certain regions, and are reaching everyone without discrimination, in a balanced way.

Simultaneous election

- The Prime Minister called for exploring the possibility of holding simultaneous and the advantages of a common voter list for each State.

Difference between Planning Commission and NITI Ayog

- NITI Ayog replaced the erstwhile Planning commission which was marked by a centre to state one-way flow of policy on

the other hand NITI Aayog's policies are shaped by a 'bottom up approach ' rather than a 'top down model'.

- The planning commission was a cold war era concept, a vestige of the socialist world. In 2015 when the NITI Aayog was created, it was mandated with not only evolving policies but also tasked with their monitoring and implementation.
- Planning Commission was an advisory body, and so is Niti Aayog. But the key difference between them is that while the former had powers to allocate funds to ministries and states, for Niti Aayog, this function will be of the finance ministry. Niti Aayog is essentially a think tank and a truly advisory body. The states participate actively in the deciding the development agenda.
- The role of states in the planning commission era was limited. The states annually needed to interact with the planning commission to get their annual plan approved. They had some limited function in the National Development Council. Niti Aayog has given a boost to cooperative federalism, all chief ministers of states and administrators of UT are part of its Governing Council, thus the states have greater role and say in planning/ implementation of policies.

Increase in oil Production and Its impact

Background

- In June 2016 the crude oil prices had come down to 28\$ from 110\$ in 2014 .
- In order to deal with the rapid fall in crude oil prices, the OPEC which comprises of the 14 member countries decided to cut their oil production by 1 million barrels per day.
- Along with it came disruption in oil production from Venezuela , Libya and Angola which resulted in an additional shortage of 1.8 million dollars per day,

thus globally the oil production went down by 2.8 million barrels per day, resulting in a hike in oil prices.

- Recently the OPEC decided that the overheating of the oil market would be detrimental in the long run and hence decided to increase production.

Problem with Iran

- Iran which is the 3rd largest producer of oil among the OPEC was initially against the increase in production. This is because such a move along with the US sanctions

being place on it would be highly disruptive to its economy.

- However, Iran has been assured that the increase in production will be introduced in a phased manner and will be restricted to 600,000 barrels per day so that the global price cool but remain remunerative at around 70\$ per barrel.

Alternative resources to mitigate oil prices

- Increase in domestic oil production in the US will mitigate global crude oil prices because USA is one of the three major importers of crude oil along with Japan and India.
- Also, if the Crude oil prices remain above 65\$ Shale gas becomes commercially viable.

Indian Scenario

- When the crude oil prices were falling since 2014, Indian economy was highly benefitted.
- The tax revenues went up, the oil companies under recovery came down, and the fiscal deficit was also under check largely because of oil taxes.
- In the last few months the crude oil prices have gone up, and the government is under pressure to reduce taxes, but it is in the dilemma.
- If it decides to reduce taxes, the fiscal consolidation plan will be under threat.

Domestic Production

- There is no sign of domestic production going up. In fact in the last 6 yrs domestic crude oil production has been declining.
- This is because in the past few years when the oil prices were low, the government of India did not go in for more discoveries, drilling and investment in assets abroad.
- With no uptake in domestic production, the import bill will go up.
- This combined with the falling rupee will create pressure on Current account deficit.
- So the real concern on the oil side is not retail prices but macroeconomic management.
- In the long run the government should focus more on creating domestic oil assets

so that domestic production goes up and dependence on oil imports is reduced.

- There is also the need to promote foreign investment in India for oil production.

Steps taken by government for energy security Strategic Petroleum Reserve

- Central Government under phase I of SPR programme had announced to build three underground crude oil storage facilities with total capacity of 5.33 million tonnes at Vishakhapatnam (Andhra Pradesh), Mangalore (Karnataka) and Padur (Kerala) to provide energy security of 10 days of consumption in response to external supply disruptions.
- In 2017-18 budget, Government as part of phase 2 of SPR programme had announced to set up two more such SPR at Chandikhole (Odisha) and Bikaner (Rajasthan)
- This will take the strategic reserve capacity to 15.33 million tons.
- The SPR are maintained by ISPRL, a special purpose vehicle (SPV), which is wholly owned subsidiary of Oil Industry Development Board (OIDB) under Ministry of Petroleum and Natural gas.

Hydrocarbon Exploration and Licensing Policy (HELP)

- HELP is a new policy adopted by Government of India 2016 indicating the new contractual and fiscal model for award of hydrocarbon acreages towards exploration and production (E&P). It will help enhance domestic oil and gas production and bring substantial investment

Salient Features of HELP

- **Uniform License:** It provides for a uniform licensing system to cover all hydrocarbons such as oil, gas, coal bed methane etc. under a single licensing framework, instead of the present system of issuing separate licenses for each kind of hydrocarbons.
- **Open Acreages:** It gives the option to a hydrocarbon company to select the exploration blocks throughout the year

without waiting for the formal bid round from the Government.

- **Revenue Sharing Model** -Under the new regime, the Government will not be concerned with the cost incurred and will

receive a share of the gross revenue from the sale of oil, gas etc.

- **Marketing and Pricing Freedom** has been granted, subject to a ceiling price limit.