VAJIRAM & RAVI

(Institute for Civil Services Examination)
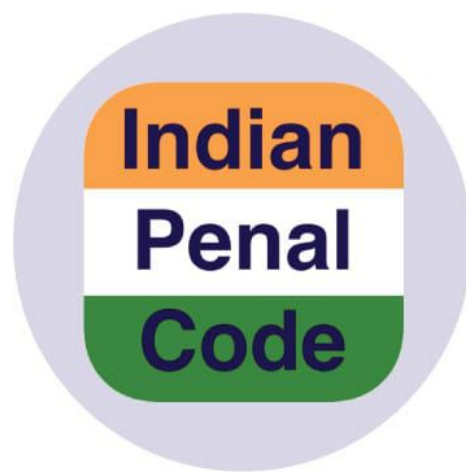
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the RECITALS

Explore Current Affairs Through Q&A

Featured Articles • **Mains Q & A** • **Prelims Q & A** • **Bridging Gaps**

MPLAD Scheme | India- Saudi Arabia | Managing Plastic Waste

VAJIRAM & RAVI

From the Desk of the Director

Dear Students

The preparation of current affairs magazine is an evolutionary process as its nature and content keeps changing according to the demands of Civil Service Exam. As you are aware about the importance of current affairs for the prelims as well as mains exam, our aim is to follow an ***integrated approach*** covering all stages of examination from prelims to interview. Keeping these things in mind, we, at Vajiram and Ravi Institute, are always in the process of evolving our self so as to help aspirants counter the challenges put forward by UPSC.

In fulfillment of our objective and commitment towards the students, we have introduced some changes in our current affairs magazine. The CA Magazines, now with the name of "**The Recitals**", will have four sections. These are:

1. **Feature Article**: As you are aware of the fact that civil service mains exam has become quite exhaustive and analytical, especially since 2013 after the change in syllabus, we have decided to focus on 2-3 topics every month that will provide an insight into the issue so as to help students understand the core of the issue. This will help in Essay writing as well as Mains Exam.
2. **Mains Q&A**: New students quite often struggle to find out that in what way the given topic is useful for them and in what form questions can be framed from the article. To help those students, we at Vajiram and Ravi have designed an innovative way to teach current affairs. Now, we will cover the current issues through questions and answers so as to make it more targeted towards exam. This will not just provide the information and analysis on current issues but will also help in learning the art of answer writing. Further the related information on the topics on which questions have been framed but that is outside the purview of answer will be given in the Box as '***Extra Mile'***.
3. **Prelims Q&A**: This section will contain prelims based MCQs that will test your diligence while reading the current issues. These MCQs will be of UPSC standard and will contain detailed explanation. Students are advised to attempt these MCQs honestly and read the Explanation carefully. The idea is to also provide students with a question bank of around 600 current affairs MCQs (50 Qs × 12 months = 600 Qs) just before their prelims examination, which will act as revision on issues spanning over the entire year.
4. **Bridging Gaps**: This section will contain miscellaneous topics which has not been covered through Q&A. That is why it is called Bridging Gaps, meaning the left-over topics.

So, the new magazine is a complete overhaul of what we have been doing for so long. We hope that the new beginning will be to the liking of students.

Thanks

Best Wishes

MPLADS Scheme

Members of Parliament Local Area Development Scheme (MPLADS) is a scheme formulated by Government of India in December 1993. The objective of the scheme is to enable MPs to recommend works of developmental nature with emphasis on the creation of durable community assets based on the locally felt needs to be taken up in their Constituencies.

Initially, this scheme was administered by Ministry of Rural Development. Later, the scheme was transferred to the ***Ministry of Statistics and Programme Implementation*** in October 1994.

Coverage Area Of Recommendation

- Lok Sabha Members can recommend works within their Constituencies in one or more districts and elected Members of Rajya Sabha can recommend works within the State of Election in one or more districts. While, nominated Members of both the Rajya Sabha and Lok Sabha can recommend works anywhere in the country.

- MPs can also recommend work of upto Rs. 25 lakhs per year outside their constituency or state of election to promote national unity, harmony and fraternity.

- **Natural Calamity:** MPs can recommend work of upto 25 lakh for Natural Calamity in the state and upto Rs. 1 crore in the country in case of Calamity of Severe Nature (e.g. Tsunami, major cyclones and earthquakes).

- **SC/ST:** MPs need to recommend work worth at least 15% and 7.5% of their funds to create assets in areas inhabited by Scheduled Castes (SCs) and Scheduled Tribes (STs) respectively.

Types Of Recommended Work

- Works which will serve greater public purpose and not purpose of few individuals need to be recommended. MPs can only recommend, but District Authorities have ultimate power to sanction it.

- Key priority sectors: Drinking water facility, education, electricity facility, non-conventional energy resources, healthcare and sanitation, irrigation facilities, railways, roads, pathways and bridges, sports, agriculture and allied activities, self-help group development, urban development.

- Works not permitted: Construction of office and residential buildings for public and private agencies, land acquisition or paying compensation, naming assets after individuals, grants or loans to

state/central relief fund, assets for individual benefits, works on lands belonging to religious groups, execution of works in unauthorized colonies.

Funding

- In 1993-94, when the Scheme was launched, an amount of Rs. 5 lakh per Member of Parliament was allotted which became Rupees one crore per annum per MP constituency from 1994-95. This was stepped up to Rs. 2 crore from 1998-99 and now it is Rs.5 crore from the financial year 2011-12

- Funds are non-lapsable in nature i.e. in case of non-release of fund in a particular year it is carried forward to the next year. Presently close to 4,000 crores are disbursed annually for MPLADS scheme.

Fund Convergence

- Funds for MPLADS can be converged with Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) for creating more durable assets and with National Program for Development of Sports (Khelo India).

- MPLAD Scheme can be converged in individual/stand-alone projects of other Central and State Government schemes provided such works of Central/State Governments Schemes are eligible under MPLADS.

- Funds from local bodies can similarly also be pooled with MPLADS works. Wherever such pooling is done, funds from other scheme sources should be used first and the MPLADS funds should be released later, so that MPLADS fund results in completion of the project.

Agencies Involved

- The Ministry of Statistics and Programme Implementation has been responsible for the policy formulation, release of funds & prescribing monitoring mechanism for implementation of the Scheme.

- A Department in each State/UT is designated as the Nodal Department with the overall responsibility of supervision, monitoring and coordination of the MPLADS implementation with the districts and other Line Departments.

- The Government of India informs the State Nodal Department about the MPLADS funds released to the District Authorities. The District Authorities report the status of MPLADS implementation to the Government of India and State Nodal Department.

- District authorities (DAs) sanction the work recommended by MPs; sanction funds; identify implementation agency and user agency, implement the work on ground, transfer assets to user agency, and report back to ministry about status of MPLADS in the district.

Positives

- As on 2nd July, 2018, 47572.75 crores have been released by G.O.I. since 1993 of which 94.99% have been utilized under the scheme.

- Right from inception of the Scheme, durable assets of national priorities viz. drinking water, primary education, public health, sanitation and roads, etc. are being created.

- About 65% of the created assets have been rated as good and the created assets are as per the felt needs and has improved their quality of life.

- As the elected MP knows the needs to the electorate well, the scheme can act as an effective channel for allocation of resources.

- It also addresses the need of inclusive development by mandating expenses in SC and ST areas.

Issues

- **Corruption**: There have been cases of widespread corruption & misappropriation of funds. In lot of cases, private contractors (which are not permitted) are engaged to implement the works. Also, there are instances where expenditure has been incurred on works which are prohibited under the scheme.

- **Funding:** There are large amounts of unspent balances rising over the years, low utilisation of funds and an expenditure bias towards a particular sector. A significant number of MPs are yet to open a bank account.

- **Delivery:** There are weaknesses in the process of sanction. The District Authorities tend to execute works without receiving any recommendations from MPs concerned or on the recommendation of the representatives of the MPs rather than the MPs themselves.

- **Monitoring**: Further, there are lapses on the monitoring and supervision front, with the District Authorities failing to inspect the required number of sanctioned works as well as in sending regular monitoring reports.

- **Sustainability**: There have been charges that the scheme goes against the spirit of the 73rd and the 74th Amendment, with MPs enjoying the privilege of an uninterrupted yearly flow of funds to do the work which local bodies are better placed to deliver.

- **Constitutionality:** The Second Administrative Reforms Commission (ARC) has recommended the abolition of the Scheme on the grounds that the scheme seriously erodes the notion of separation of powers, as the legislator directly becomes the executive.

    However, in response to a Writ Petition that challenged the constitutionality of MPLAD scheme as ultra vires of the Constitution of India, in May 2010, a five-judge bench of the Supreme Court ruled that –

    - there was no violation of the concept of separation of powers because the role of an MP in this case is recommendatory and the actual work is carried out by the Panchayats and Municipalities which belong to the executive organ.

    - Interpreting Articles 282 of the constitution, the bench said that Parliament validly holds powers to disburse funds for the scheme.

    - It observed that both Lok Sabha and Rajya Sabha have standing committees to monitor the scheme and there are various levels of accountability for its implementation.

    - The court also rejected the contention of the opponents of the scheme that it gives an unfair advantage to the sitting MPs against their political rivals. The bench, however, said improvement can be made in the working of the scheme.

- Along with these, there are other issues such as - lack of adequate information available to MPs, which sometimes leads to a disproportionately large amount of money flowing into one district.

- There also seems to be an absence of a proper mechanism to ensure constituent participation in order to determine locally felt needs, leaving open the possibility of a small group, having easy access to the MPs, impressing upon him to recommend works according to their needs

Recommendations by the Chief Information Commissioner

Legal Framework

- It has recommended that the Speaker of the Lok Sabha and the Chairman of the Rajya Sabha provide the necessary legal framework for implementation of MPLADS.

- It has been suggested that MPs be subjected to "specific duties and compulsory transparency obligations" and that they be also subjected to liabilities for dereliction of duties and breach of rules.

- They must be prohibited from spending MPLADS funds for private work of MPs; recommending allocation of funds to ineligible agencies; diversion of funds to private trusts; recommending works that benefit MPs or their relatives; and breaching any of the norms laid down under the scheme.

- The legal framework should also deal with the problem of assets created with MPLADS funds later becoming untraceable. This has become necessary because there is no law governing MPLADS spending.

Transparency

- It directed the Ministry to publish MP-wise, constituency-wise and work-wise details procured from the district administration and ensure the publication of the same in public domain by both local administration and the ministry.

- Further, the political parties to which MPs belong must have an obligation to post all these details on their websites so that the people are informed.

India & Saudi Arabia

The Prime Minister of India Narendra Modi paid an official visit to the Kingdom of Saudi Arabia on 29 October 2019. Indian PM attended the **third session of the Future Investment Initiative (FII) Forum** in Riyadh on 29th October. The two sides also held bilateral talks during which they reviewed the historical and close relations that bind the two friendly countries and their peoples.

Key Highlights of the Bilateral Talks

- During the visit, a number of MoUs were signed in several areas, including Energy, Civil Aviation, Security Cooperation, Defence, **launch of RuPAY Cards** and regulation of medical products to further strengthen cooperation across the sectors.

- List of few important MoUs/Agreements signed during the visit:

  o **Strategic Partnership Council Agreement**

  o MoU on Cooperation in the Field of Renewable Energy

  o MoU for Cooperation in the field of combating illicit trafficking and smuggling of narcotic drugs, psychotropic substances and chemical precursors

  o MoU between Indian Strategic Petroleum Reserves Limited (ISPRL) and Saudi Aramco.

  o MoU between National Payments Corporation of India (NPCI) and Saudi Payments

o The two sides re-affirmed their deep commitment to strengthen the strategic partnership envisaged in the '**Riyadh Declaration'** of March 2010.

Strategic Partnership Council

- During the visit of Mohammed bin Salman, Crown Prince of Saudi Arabia to India in Feb' 2019, the two sides had agreed to establish a higher institutional mechanism of Strategic Partnership Council.

- During this visit of Indian Prime Minister, both sides have signed the Strategic Partnership Council Agreement thereby paving the way for the establishment of Strategic Partnership Council.

- The Strategic Partnership Council will be **chaired by the Prime Minister and the Crown Prince** and just below the apex we will have two verticals. One of the vertical will be headed by the **Foreign Minister – External Affairs Minister**. The other one by the **Commerce and Industry / Trade Ministers**. Below these verticals there will be different joint working groups.

- The aim of this council will be to regularly monitor the progress in furtherance of strategic partnership between these two countries.

Future Investment Initiative (FII)

- The FII is organized by the **Kingdom's Sovereign Wealth Fund** – The Public Investment Fund. The forum is also popularly referred to as the **Davos in the Desert.**

- It is intended to project the Kingdom as the future investment hub in the region.

- The **first two editions were held in 2017 and 2018**. The FII session is organized under the **Vision 2030.**

Indian PM's Participation In FII

- PM Modi delivered the keynote address at the third edition of the FII.

- At the global FII meet, PM Modi outlined India's future economic and social priorities under the title "**What's next for India"**.

- He highlighted investment opportunities in the infrastructure sector, as India builds national grids for electricity, gas pipelines, optical fibre, transportation, highways, ports, gas terminals, innovation, start-ups etc, together with imparting skills for the new technological age to over 400 million young Indians.

Vision 2030

- It is a **blueprint for economic transformation** of Saudi Arabia **through diversification of its oil based economy**. It is aimed at working alongside global strategic partners and investment manager.

- Under its Vision – 2030 Saudi Arabia has **selected eight countries for forging strategic partnership**. These include *India, China, the UK, the United States, France, Germany, South Korea and Japan*.

- Several initiatives are being undertaken by Saudi Arabia to fulfil this vision. Further, Saudi Arabia will also be chairing the G20 next year.

Significance Of This Visit

A. Strategic

- This visit happened against the **backdrop of India's decision to abrogate Article 370 in Jammu and Kashmir** and Pakistan's desperate attempt to internationalise the issue.

- India's sustained outreach to Saudi Arabia has paid rich dividends with Riyadh taking a positive approach on the Kashmir question. Unlike Turkey and Malaysia, it has cautioned Pakistan against escalating the crisis.

- Signing of **Strategic Partnership Council** agreement is significant event.

> Saudi Arabia is now **India's fourth-largest trading partner** with **bilateral trade at $27.48 billion in 2017-18** and Saudi investment to the tune of around $100 billion is in the pipeline in areas ranging from energy, refining, petrochemicals and infrastructure to agriculture, minerals and mining.

B. Energy Security

- During this visit, two important pacts were signed. The first was a **preliminary agreement between Indian Strategic Petroleum Reserves Ltd** and **Saudi Aramco** that will result in a **greater Saudi role in setting up a second fuel reserve facility** in Karnataka.

- The second was between the **West Asia unit of India's Indian Oil Corp. Ltd and Saudi Arabia's' Al Jeri company** for downstream sector cooperation.

- India's collaboration with Saudi Arabia on the energy front has intensified further as the two sides are set to finalize on the **west coast refinery in Raigad district of Maharashtra** which will involve investments from Saudi's Aramco, UAE's ADNOC and Indian public sector oil companies. This will be the **single largest Greenfield refinery** in India.

- Both the countries are also looking at enhancing cooperation in renewable energy. The Saudi side has earlier invested in **a wind energy power project in Bhuj, Gujarat** for 300 MW.

- MoU on **Cooperation in the Field of Renewable Energy** was signed during the visit.

C. Investment

- During the visit, the **investment of Saudi Arabia in India's National Infrastructure Investment Fund** has been finalized. Both countries are in the process of finalizing the details.

- Both countries have signed agreements on **general category of workers** as well as for the **workers under the domestic sector** to ensure **their welfare** by regulating their terms and conditions of employment.

- The proposed alignment of respective **e-Migrate systems** of both the countries will further provide **safeguards on their employment conditions**.

- An MoU signed during the visit to **launch the Rupay card in Saudi Arabia** will be very useful for not only the **large Indian community but also Haj and Umrah pilgrims**.

- After UAE and Bahrain, Saudi Arabia became the **third country in the Gulf** to launch Indian Rupay card.

D. Connectivity

- The bilateral discussion on civil aviation have taken place recently and there has been a broad agreement to enhance the number of flights between the two countries in phases.

- A MoU on this **enhanced quota** was signed during the visit.

E. Defence & Security

- India and Saudi Arabia are looking at closer cooperation in the area of defence industries. The **first India-Saudi Arabia joint naval exercises** will be held towards the end of December 2019 – beginning of January 2020.

Conclusion:

The success of India's foreign policy in the West Asian region is underscored by successful strategic partnerships with all countries regardless of regional rivalries and conflicts. Pragmatism is dictating Saudi posture as the future of its economic model is at stake. It needs new partners such as India.

Managing Plastic Waste

- This year 'World Environment Day' (June 5) was with a **critical theme-** *Beat Plastic Pollution*.

- **Leo Baekeland** invented plastic in New York in 1907.

- From its beginning in 1950, global plastic production has increased dramatically from 2 million tonnes to 380 million tonnes in 2015. And in the last 70 years, 8.3 billion tonnes of plastic have been produced, of which only 9% was recycled, 12% incinerated, and 79% accumulated in landfills or the environment. And of the 8.3 billion tonnes of plastic produced, 6.3 billion tonnes have been discarded. Every year, nearly 13 million tonnes of plastic waste are added to oceans. Given their durability plastics do not decompose.

- In India, 80 % of total plastic consumption is discarded as waste and official statistics say the country generates 25000 tonnes of plastic waste daily. At least 40% of this waste is uncollected.

- Plastic debris in the sea kills an estimated 1,00,000 marine mammals and millions of birds and fish annually. According to the UN Joint Group of Experts on the Scientific Aspects of Marine Pollution, land-based sources account for up to 80% of the world's marine pollution 60- 90% of the waste being plastic debris.

- The Indian plastic industry is among the fastest growing ones. According to a 2017 knowledge paper by FICCI, Indian plastic processing industry saw compounded annual growth rate of 10% between 2010 and 2015. Annual plastic consumption is expected to increase from 12 million tonnes to 20 million tonnes by 2020.

Challenges/Reason For The Growth Of Plastic:

- ***Various benefits of plastic:*** Due to their low cost, ease of manufacture, versatility, non-corrosiveness and imperviousness to water, plastics are used for multiple purposes at different scales.

- ***Single use and disposable application:*** Much of the growth in plastic production is driven by single use or disposable applications. Nearly 50 % of plastics used are single use products such as bottles, plastic bags, packaging, straws, stirrers, spoons and forks.

- ***Lack of technology, capability and infrastructure:*** Lack of adequate infrastructure for segregation and collection is the key reason for inefficient plastic waste disposal. Most municipal corporations still

do not have a proper system of collection and segregation, given their lack of access to technology and infrastructure, which are needed to dispose of plastic waste in a cost and resource efficient way.

Harmful Impact Of Plastic

- According to **World Wildlife Fund (WWF)**, plastic is harmful to the environment as it is non-biodegradable (**Only 1-13%** of the plastic items are recyclable), takes years to disintegrate, thus contaminating our soil and water resources.

- Single-use plastics slowly and gradually break down into smaller pieces of plastic known as **microplastics (microbeads)** and impact marine life.

- The noxious chemicals used to produce plastic gets transmitted to animal tissue and finally, enter the human food chain **(bioaccumulation)**. As per WWF, a person could be consuming **5 grams of plastic a week**. Plastic kills an estimated **1 million sea birds every year**.

- Production of single use plastic is very **energy intensive**. Moreover, requires a **lot of water** for their production.

- Burning of single use plastic produces **hazardous dioxins** thus leading to air pollution.

- *Problem of garbage:* The single use plastics such as bags, candy wrappers, tobacco and pan masala sachets, soap wrappers and shampoo sachets are either too difficult or not lucrative enough to collect. These plastic items then find their way into landfills, unauthorized garbage dumps or simply remain uncollected on road kerbs.

- The single use plastic also **aggravate the problem of urban flooding** as they clog natural and man-made drains.

- *Economic cost:* The economic impact of plastic pollution on marine ecosystems through fisheries and tourism losses and beach cleaning-up costs is estimated to be around $13 billion per year.

- *Overall natural capital cost:* Drinking water samples analysed from 14 countries, including India, revealed that 83% have micro-plastics concentrations. According to a United Nations Environment Programme report, the overall annual natural capital cost of plastic use in the consumer goods sector is $75 billion.

Is Banning Plastic The Solution?

Recently, the government has banned the use of single use plastic and has also launched a massive campaign against it, as part of the **150ᵗʰ birth anniversary of Mahatma Gandhi**. India produces

25,000 tonne of plastic waste every day of which single use plastic constitute **50% of the total plastic use**.

- *Banning as a measure of last resort:* Banning should be the last resort after all recycling efforts fail and when the recycled plastics are more harmful to the environment than the virgin product due to the effect of toxic additives. For example, Maharashtra's ban on several consumer articles made of plastic is an extreme measure.

- *There are also issues of possible job loss, loss of sale and availability of alternative:* The plastic industry generates over Rs 1 lakh crore per year and has more than 30000 processing units and generates 11 lakh jobs, according to a 2017 FICCI study. This may be affected if ban is imposed.

- *Using behavioral changes technique:* The success of imposing a plastic bag fee has also been established in cities like Chicago and Washington, showing that such interventions could be effective in shaping behaviour change.

Steps Already Taken

- *India's Plastic Waste Management Rules:* India's Plastic Waste Management Rules (published in March 2016) called for a ban on plastic bags below 50 micron thickness and a phasing out, within two years, of the manufacture and sale of non-recyclable, multi-layered plastic. Moreover as per 2016 rules all States have to annually apprise the Central Pollution Control Board (CPCB) on the steps taken to reign in plastic use, whether a ban is in force and the strength and performance of a recycler and waste-processing network.

- *Ban on plastic:* More than 20 Indian States have announced a ban on plastic bags. Cities such as Bengaluru announced a complete ban (gazette notification), in 2016 on the manufacture, supply, sale and use of thermocol and plastic items irrespective of thickness.

2016 Rules

- *Extended producer responsibility:* The most significant aspect of the Rules is that they strengthen the concept of extended producers responsibility whereby plastics manufacturers & retail

establishments that use plastic are legally bound to introduce a system of collecting back plastic waste.

- *Plastic waste management fee:* The Rules direct that a plastic waste management fee be collected through pre-registration of the producers importers of plastic carry bags/multilayered packaging and vendors selling the same for establishing a waste management system.

- *Focus on reuse:* The Rules envisage promoting the use of plastic waste for road construction, or energy recovery, or waste to oil, etc., and think up ways of gainfully utilizing waste and addressing waste disposal.

- *Increasing the thickness of plastic bags:* The Rules also mandate an increase in the thickness of carry bags and plastic sheets from 40 to 50 micron. This would likely increase the cost of plastic bags and restrict vendors from giving away bags for free, thereby reducing waste.

- *Penalties:* Retailers or street vendors who sell or provide commodities in plastic carry bags, or multilayered packaging, or plastic sheets or covers made of plastic sheets which are not manufactured, Labelled or marked in accordance with these Rules will be fined.

- *Role of local bodies:* Local bodies and gram panchayats are responsible for implementing and coordinating a waste management system.

- *Centralized registration system:* The rules also provides for a centralized registration system. The centralized registration system will be evolved by the Central Pollution Control Board for the registration of the producer/importer/brand owner. The Rules also lay down that any mechanism for registration should be automated and should take into account ease of doing business for producers, recyclers and manufacturers.

Suggestion To Tackle The Plastic Problem

- *Step at the individual level:* There is a need for using **behaviour change techniques and incentivisation**. For ex- In Germany consumer get a small refund when returning a plastic bottle. As most plastic items pass through our hands, public care, with behavioral change, is necessary. Household-wise waste segregation is the key. Every shopkeeper should go in for and encourage the use of biodegradable packing materials while shoppers should use cloth bags. Mass public awareness on the dangers of plastic hazards is a prerequisite.

- *Awareness generation:* There is a need to educate people on the harmful effects of plastic and how to minimise its usage to protect the Earth. Thus 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.

- *Strict implementation of the 2016 rules:* The government should restrict plastic production and encourage recycling through appropriate policies. The **'Plastic Waste Management Rules 2016'** need to be strictly followed. For example- Sikkim has a system of buying back plastic from consumers.

- *Extended producer responsibility:* Companies should be proactive for waste collection systems based on extended producer responsibility (EPR) either through their own distribution channels or with the local body concerned.

- *Changes in the product design:* The changes should be introduced at the product design stages that facilitate easy collection, sorting and subsequent recycling.

- *Collection, recycling and monetizing the waste:* Our policies must promote collection, recycling and monetizing of waste. Promoting the use of biodegradable plastics would also go a long way in managing plastic waste in India.

- *Reducing the production of single use plastic:* There is a need to reduce the production and excessive use of single-use plastics, which are polluting our environment & threatening human health.

- *Developing new products:* There is a need for need new products in the domain of polymers and plastics. **Oxo-biodegradable plastics (OBPs)** are new products plastics made by adding special additives and catalysts to polymers such as polyethylene (PE), polypropylene (PP) and polystyrene (PS) designed to be environmentally benign. Several petroleum-rich economies like Saudi Arabia and the UAE have mandated use of OBP particularly for short-life products made from PE and PP. The OBP naturally degrade within a year or two in the open.

- *Alternative use of plastic:* There should be an effort to encourage the alternative uses for plastic waste. The use of 10 to 15 % of plastics in road construction is one such use. Recycling, reuse, or alternative use of plastic waste can help reduce the amount of virgin plastic produced.

- *Developing eco friendly substitute:* Eco-friendly substitutes (cloth/paper/jute bags, leaves/areca leaf plates, paper straws) should be developed. For this, scientific and financial support (soft loans and subsidies) is required. Charges for plastic bag use and deposit-refund for plastic bottles may be effective options. The recent decision by the Cabinet Committee on Economic Affairs on extending the mandate on packing food grains and sugar products in jute bags is welcome.

- There is a need for **market intervention** like high pricing of plastic bags and subsidising khadi and jute products.

1. **The sedition law, being a colonial legislation, is not in consonance with the idea of democratic and transparent society. In this light discuss the remedial measures to overcome the recurring issues.**

<u>**Answer**</u>

Recently, a Bihar court directed the filing of an FIR against 49 eminent persons who signed an open letter to the Prime Minister expressing concerns over mob lynching. However, many experts opined that such move disregards the true meaning of the law.

Section 124A of IPC defines sedition as *"whoever by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards, the Government established by law shall be punished with imprisonment."*

The Challenges:

- Every citizen in a democracy has **right to raise questions, debate, disagree** on issues that face the nation. Therefore, such law has no place in a vibrant democracy.

- There have been many incidents where misguided people have been termed anti-national and booked under the provisions of **Section 124A, IPC**.

- Law enforcement agencies fail to recognise the fact that sedition can't be applied to instances of **criticism of the government** or a **political functionary**.

- Legal requirement under Section 124A is that words alone are not enough for a charge under Sedition law and the **incitement to violence** is the most crucial ingredient.

- As per **National Crime Records Bureau (NCRB)** data despite the rise in sedition cases, convictions happen barely in few cases.

- The **trigger happy approach** in invoking the Sedition cases show that the governments over the years have been sending a strong message to its own people *i.e.* to obey or be ready to face consequences.

To overcome the above challenges the solutions are as follows:

- All speech related offences should be made **bailable offences**; this would lessen the harmful impact of arrest and custody.

- The offences should be made **non-cognisable** so that there is judicial check on the police acting on the basis of politically motivated complaints.

- In the case of hate speech, it is important to raise the **burden of proof** on those who claim that their sentiments are hurt rather than accept them at face value.

- Finally, the courts should take **action against those who bring malicious complaints**.

- Section 124A should be modified in light of the decision of the SC in case of **Kedar Nath Singh v. State of Bihar**, where the court distinguished "strong criticism of the government" and "incitement of violence".

2. **Recent order of the Election Commission (EC) to reduce disqualification period Sikkim CM's is not in consonance with the need to deal with issue of corruption with iron hand. Discuss.**

Answer

The SC in its decision in **Subramanian Swamy v. UOI (2014)** defined **corruption as an enemy of the nation** and held that tracking down corrupt public servants and punishing such persons is a necessary mandate of the **Prevention of Corruption Act, 1988**.

But, recently the EC has reduced the period of disqualification from electoral contest of Sikkim Chief Minister (CM) Prem Singh Tamang to 1.5 years after his conviction under 1988 Act. The law relating to disqualification is as follows:

- Generally, after an **amendment in 2003**, any conviction under the anti-corruption law would attract the **six-year disqualification**.

- However, under **Section 11 of the Representation of the People Act, 1951**, the EC has the power to remove or reduce the disqualification attached to a conviction. Thus, with the EC's current order, Mr. Tamang is eligible to contest a bye-election and retain his post.

But, the use of such power has been deprecated on following grounds:

- EC's power under the 1951 Act has been used only rarely and seldom in a case involving a conviction for corruption.

- The disqualification from contest is a civil disability created by electoral law to ensure **purity in the election process**.

- The order is a **morally wrong** and **sets a dangerous precedent** that may increase the trend towards **criminalisation of politics**.

- It is not a second punishment in a criminal sense so, CM cannot argue that disqualification for a one-year term amounts to being given a punishment not prevalent at the time of the offence (**ex post facto law** are prohibited under **Article 20 of the Constitution**).

- The EC's decision also goes against a series of recent legislative and judicial measures to strengthen the **legal framework against corruption**. **For ex**- In **Lily Thomas v. UOI** (2013), the protection given to sitting legislators from immediate disqualification was removed.

- Moreover, there is a perception that such actions on part of **EC are being partisan**.

Corruption is a serious problem and impinge on the economy so to overcome such issues there is a need for ensuring **independence of the EC.** Moreover, the disqualification should be more **strictly applied** to those convicted for corruption.

3. **The demand for establishing the State Legislative Council has been a recurrent phenomenon. In this light discuss the arguments for and against establishing the second house of the state legislature.**

Answer

Recently, the Odisha government introduce a Bill for the creation of a **Vidhan Parishad or Legislative Council**, a second House of legislature.

India has a bicameral system of legislature, just as Parliament has two Houses, the states can, if they choose, have a Legislative Council in addition to the Legislative Assembly under **Article 171**. Under **Article 169** a Legislative Council can be formed, if the Legislative Assembly of the State passes a resolution to that effect by a **majority of the total membership** of the Assembly and by a majority of not **less than two-thirds** of the members of the Assembly present and voting. Parliament can then pass a law to this effect.

Currently, **seven states** have second house of state legislature *i.e.* Andhra Pradesh, Bihar, Jammu and Kashmir, Karnataka, Maharashtra, Telangana and Uttar Pradesh.

Arguments In Favour:

- A second House can help **check hasty actions** by the directly elected House.

- It will also enable **non-elected individuals to contribute** to the legislative process.

- Upper House also provides **a forum for academicians and intellectuals** to contribute to the electoral politics.

Arguments Against:

- Legislative Council can be used to **delay legislation and to park leaders** who have not been able to win an election.

- The legislative **power of the Councils are limited**. Unlike **Rajya Sabha**, which has substantial powers to shape non-financial legislation, Legislative Councils lack a constitutional mandate to do so. Assemblies can override suggestions/amendments made to a legislation by the Council. Again, unlike Rajya Sabha MPs, MLCs cannot vote in elections for the President and Vice President.

- Two Bills introduced in the Rajya Sabha in 2013 for establishing Legislative Councils in Assam and Rajasthan are still pending, indicating the **lack of support** for such a move.

- The second house is also an **unnecessary drain on the exchequer** in form of one time cost and recurring cost.

Way forward:

- As suggested by **Parliamentary Committee** there is a need for **National policy on having an Upper House** in State legislatures to be framed by the Union government, so that a subsequent government doesn't abolish it.

- It also favoured a review of the provision in the law for Councils to have seats for graduates and teachers.

- Thus, Odisha's proposal gives the country at large an opportunity to evolve a national consensus on Legislative Councils.

4. **Recently, there has been criticism from some groups for possible re-introduction of the Citizenship (Amendment) Bill. In this light discuss the provisions of the said Bill and arguments in favour and against such Bill.**

Answer

The government is planning to introduce a new version of the **Citizenship Amendment Bill** in the winter session of Parliament. Earlier, the Bill was introduced to amend the **Citizenship Act, 1955** and to protect the refugee from the neighbouring countries that are living in India on the well-founded fear of persecution by majority community.

Provisions of the Amendment Bill

- It seeks to **allow illegal migrants** from minority communities (Hindus, Sikhs, Buddhists, Jains, Parsis and Christians) in **Afghanistan, Bangladesh and Pakistan** eligible for Indian citizenship by amending the Citizenship Act of 1955.

- It Bill aim to grant citizenship to people from minority communities after **6 years of stay** in India even if they do not possess any proper document. Under the present law the requirement is of **12 years of stay**.

- The Bill also provides that the **registration of Overseas Citizen of India** (OCI) cardholders may be cancelled if they violate any law.

Arguments In Favour Of The Bill

- There are lakhs of Minority community that have entered India after facing **religious persecution** in countries like Pakistan, Bangladesh and Afghanistan.

- The **Hindus who are persecuted** due to religious reasons have no other place to go except India.

- These Minority communities **do not possess any valid document** to receive benefit under the various schemes.

- Further, in absence of valid documents the refugees find it **difficulty in getting Long Term Visa (LTV) or Citizenship**.

- The existing Citizenship Act,1955 does not allow anyone granting Indian nationality, if asylum seeker **do not possess documents of country of birth**.

Criticism Of The Bill

- The Bill makes illegal migrants eligible for citizenship on the basis of religion. Thus, violates **Article 14** of the Constitution that guarantees right to equality.

- The bill would significantly **affect North-eastern region of India** are grappling with the problem of illegal migration.

- The bill has been perceived to be a **demographic threat to indigenous communities**.

- The bill runs counter to the **Assam Accord, 1985** that was signed to deport all the illegal migrants, who entered Assam **after 1971**.

- The Bill allows **cancellation of OCI registration** for violation of any law. Thus, lays down wide ground that may be liable to misuse. **For ex-** parking in a no parking zone.

- The Bill makes illegal migrants eligible for citizenship on the basis of religion. This may violate Article 14 of the Constitution which guarantees the right to equality.

Way forward

- Giving concession based only on religion is **against the tenets of secularism**. Thus, exclusion of Muslim religion from the bill should be further examined.

- India should also lay down a well thought **Asylum Policy** for humane dealing of the matter in question. (450 words)

Extra Mile

Citizenship Act 1955
- The Act has **defined an illegal immigrant** as a person who enters India without a valid passport or stays in the country after the expiry of the visa permit.
- The Act further **prohibits illegal migrants from acquiring Indian citizenship**.
- The Act also lays down **process of naturalisation** *i.e.*: Person must have resided in India for the **12 months** immediately preceding the application for citizenship; Person must also be residing in India for **11 of the 14 years** preceding the 12 months period.

Salient Provisions Of Assam Accord, 1985

- Signed in 1985 between **Indian government and All Assam Student's Union** and **All Assam Gana Sangraam Parishad** to end mass movement demanding detection and deportation of illegal immigrants.
- As per the Accord, all migrant who entered Assam **between 1951 and 1961** were to be given full citizenship, including the right to vote.
- Further. those between **1961 and 1971** were to be denied voting rights for ten years but would enjoy all other rights of citizenship.
- Lastly, **migrants who came after 1971** were to be deported under the provisions of the **Foreigners Act, 1946** and the **Foreigners (Tribunals) Order, 1964**.

5. **The demand for curbing the misuse of Social Media account has been a long pending issue. In this light discuss the need for linking Aadhar with Social media Accounts and the privacy concerns arising from the same.**

Answer

Recently, the Supreme Court (SC) has decided that it will hear cases seeking the linking of Aadhaar with social media profiles of individuals. Many experts say that it will be the first big legal battle on the right to privacy after the SC landmark verdict in 2017 that upheld Right to privacy as a fundamental right **(Justice K.S. Puttaswamy Case)**.

The need for linking Aadhar with Social media Accounts (arguments for):

- It seeks to keep a check/ tab on the **spread of fake news, pornographic and other prohibited contents** on the internet.
- In absence of linkage with Aadhar the government found it difficult to **trace the originator of the online content**.
- The online social media games have proved to be a difficult task for the government to handle like **Blue Whale game** that has reportedly claimed hundreds of deaths in countries like Russia and India.
- The linkage of with social media will **eliminate the issue of e-personation, damage to reputation** *etc.*

However, the issue of linkage has been opposed on following grounds:

- Social media platforms are opposing this move as it would **violate the users privacy**.
- Social media account is a **private account of a person** and thus need not be linked with government database (Aadhar database) for the sake of tracing fake news/ hate speech online.
- It would **end private communications** and experts are of the view that it will also allow the government to **use social media platforms as surveillance tools**.
- Aadhar linkage with PAN and bank accounts may also lead to **leakage of financial data online** and consequent increased threat of online financial fraud.

Way forward

- There is a need to find a reasonable **balance between the right to online privacy and the right of the state to trace the origins of hateful messages** and fake news.
- In the long run an **educated consumer of news is the best antidote to fake news**. Thus, there is also a big need to **create awareness among the users** to stop propagating fake news and verify the news.

- There is also a need for **investing in research to develop the technology** to save our virtual space.

- There is also a need for **rights-oriented data protection legislation,** which includes comprehensive surveillance reform and judicial oversight mechanism for targeted surveillance.

Salient features of Justice K.S. Puttaswamy v. Union of India verdict:
- It declared privacy to be an **integral component of Part III** of the Constitution of India.
- However, SC clarified that like most other fundamental rights, the Right to privacy is **not an absolute right**.
- Majority of the judges agreed that the **European standard of proportionality** shall be applied to test privacy infringements in the future.

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6. **It has been said that the New RTI Rules Make Information Commissioners Puppets of the Government. In this light discuss the new Rules and their criticism and also suggest suitable measures to protect the independence of the RTI organisational structure?**

Answer

The **Department of Personnel and Training (DoPT)** has notified new Right to Information (RTI) Rules - *The Right to Information (Term of Office, Salaries, Allowances and Other Terms and Conditions of Service of CIC, IC in the Central Information Commission, SCIC and SIC in the State Information Commission) Rules, 2019* - after the amendment in the RTI Act was approved by the Parliament in August 2019.

However, many activists have criticised the move as aim to destroy the status and independence of the Central Information Commission (CIC) which was earlier put at **par with the Central Election Commission (CEC) and Central Vigilance Commission (CVC)**.

Salient Provisions Of The New Rules

- The tenure of **CIC, IC, SCIC and SIC** have been reduced to **three years, instead of the five years**.

- The rules prescribe a **fixed quantum of salary** for commissioners *i.e.* Chief of CIC at **Rs. 2.50 lakh per month**, Chief of SICs and information commissioners of CIC and SICs at **Rs. 2.25 lakh per month**.

- Earlier, the CICs and ICs availed, apart from their salaries, **Rs 34,000** worth of sumptuary allowances, fully furnished rent-free accommodation on government cost, unlimited medical allowances *etc.* However, under the new rules the sumptuary allowance of the CIC has fallen to **Rs, 10,000 per month**. Moreover, CIC is also not eligible for many other allowances that are available to the CEC and ECs.

- **Rule 21** gives absolute power to the Central Government to decide on any other allowances or service conditions not specifically covered by the 2019 Rules and its decision will be binding.

- **Rule 22** further states that the central government has the power to relax the provisions of any of the rules in respect of any class or category of persons.

Criticism Of The New Rules

- **Rule 22** raises serious concerns that the government could potentially invoke these powers to **determine different tenures for different commissioners** at the time of appointment.

- The autonomy of commissions is further eroded through rules by enabling the Central Government to decide certain entitlements for commissioners on a **case by case basis.**

- The **autonomy/ insulation provided under the original RTI Act has been done away** with and the stranglehold of the Central Government has been established.

- The rules will effectively make information commissions **function like caged parrots**. Commissioners will potentially be wary of giving directions to disclose information that the Central Government does not wish to provide.

- The changes in the service conditions and pay would mean a **downgradation in the Table of Precedence** by several notches. The CIC was earlier on a par with the CEC, who occupies **position 9A** in the table. The Secretaries to the Government of India, with whom the CIC is now on a par, is significantly lower in the table, at **No. 23**.

Way forward

- The RTI Act is a landmark piece of legislation that has effectively ensured transparency, reduction of corruption so any amendment/ new rules should definitely go through impact assessment w.r.t. independence, autonomy of the RTI's organisational structure.

- Thus, there was a need for mandatorily putting draft rules to be placed in the public domain for comments/suggestions of people.

- There is a need for more financial autonomy, operational independence so as to ensure that RTI is able to achieve probity in governance. (544 words)

Extra Mile

The RTI Amendment Act, 2019 amended **Sections 13, 16 and 27** of the RTI Act, 2005 to empower the Central Government to prescribe through rules, the tenure, salaries, allowances and other terms of service of the chief and other information commissioners of the Central Information Commission (CIC) and all state information commissions (SICs).

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7. **In October 2019, the Punjab and Haryana High Court has deferred implementation of Centre's notification on Haryana State Administrative Tribunal. In this light discuss the controversy related to it and also analyse the need for establishing Administrative tribunals in general.**

Answer

The tribunal is a **quasi-judicial body** on the lines of **Central Administrative Tribunal (Article 323A)** for redressal of the grievance of State employees concerning their employment.

The new **Haryana State Administrative Tribunal** is meant to adjudicate over the service matters of the state employees that earlier would be directly heard by the High Court. As per the official data 11,000 cases will be transferred from the High Court to Tribunal once it starts functioning. The aim of the government's decision to establish the Tribunal is to reduce large number of pending cases before the High Court and quick disposal of the grievances of employees.

However, the local lawyers went an indefinite protest on following grounds:

- The decision **encroaches upon the jurisdiction of the Court,**

- The establishment of the tribunal also **circumventing the judicial independence**.

- The lawyers also argue that Tribunal members **do not enjoy powers like judges** who hold Constitutional posts.

Some of the common criticism of the administrative tribunal are as follows:

- The administrative tribunals somewhere **restrict the ambit of the rule of law** by providing separate laws and procedures for certain matters.

- The administrative adjudicatory bodies do not have any rigid set of rules and procedures **leading to arbitrariness**.

- Moreover, there is also a chance of violation of the **principle of natural justice**.

- Since the administrative tribunals do not follow precedents so it is **not possible to predict future decisions**.

- There is **absence of legal expertise** as It is not necessary that the members of the administrative tribunals must belong to a legal background.

- Administrative Tribunal operate **under the mercy of parent administrative ministries**.

- Some administrative tribunals are **not even vested with powers of civil contempt** thus impacting their enforcement power.

> **Important Recommendation Of The Law Commission Of India On Tribunals Under Justice B.S. Chauhan:**
>
> - The Commission recommended that the Chairman, Vice-Chairman and judicial members of tribunals should be **appointed by a selection committee headed by the Chief Justice of India** or a sitting judge of the Supreme Court.
> - There should be **uniformity in service conditions** of the members of the tribunals.
> - To ensure uniformity across all affairs of various tribunals, the function of **monitoring their working should be transferred to a single nodal agency**, set up under the Ministry of Law and Justice.
> - It recommended that **appeals against a tribunal's order should lie before a High Court** only where the law establishing such a tribunal does not establish an appellate tribunal.
> - Tribunals should have **benches in different parts of the country** to ensure access to justice by people across geographical areas.

However, the establishment of tribunals is favoured on following grounds:

- Administrative adjudication has brought about **flexibility and adaptability** in the judicial as well as administrative tribunals.

- Administrative adjudication, **not restrained by rigid rules of procedure** and canons of evidence.

- As the procedure before the Administrative tribunal is not so complex, so, it is easy to **decide the matters quickly and efficiently**.

- Administrative justice **ensures cheap and quick justice**. As against this, the procedure in the law courts is long and cumbersome and litigation is costly.

- The system gives **the much-needed relief to ordinary courts of law**, which are already overburdened with ordinary suits.

Way forward:

- In the present scenario, the administration has become an important part of the government as well as the citizen's life. Due to this increasing role, it is important to establish a competent authority for the redressal of people's grievances and adjudication of the disputes.

- Therefore, the concept of administrative tribunals was emerged and is dynamically flourishing in India holding certain flaws and strengths.

- There is also a need for implementing the recommendation of the Law Commission of India under Justice B.S. Chauhan. (Report on **Assessment of Statutory Frameworks of Tribunals in India)**

8. **Google has recently claimed that it made a breakthrough in Quantum Supremacy. What is Quantum Supremacy and Quantum Computing? How will quantum computing impact the world we live in?**

Answer

- Quantum supremacy is a term proposed in 2012 by John Preskill (professor of theoretical physics at the California Institute of Technology) that describes a point where quantum computers can do things that classical computers cannot.

- Traditional computers work on the basis of the laws of classical physics, specifically by utilising the flow of electricity.

- A quantum computer, on the other hand, seeks to exploit the laws that govern the behaviour of atoms and subatomic particles. At that tiny scale, many laws of classical physics cease to apply, and the unique laws of quantum physics come into play.

- Unlike classical physics, in which an object can exist in one place at one time, quantum physics looks at the probabilities of an object being at different points. Existence in multiple states is called superposition, and the relationships among these states is called entanglement.

- Unlike ordinary computers which score information and data as bits of either zero or one, a quantum computer relies on qubits, which can be 1 and 0 at the same time. Due to which the total number of states double with each added qubit.

- This property, called superposition, multiplies exponentially as qubits become entangled with each other. The higher the number of qubits, the vastly more powerful a quantum computer becomes.

Potential Applications

- Quantum computing will be able to help give more concrete answers to some of the world's biggest problems like climate change and disease management.

- It will help to design more efficient batteries, create fertilizer using less energy, and figure out what molecules might make effective medicines.

- Labs would be able to produce cutting edge work without having to invest in large-scale infrastructure, and may not have to collaborate across nations and continents.

- It will help in developing new sources of energy and improve the efficiency of existing sources in how they tap, generate and use energy thereby reducing the negative externality on the environment.

- Data mining and artificial intelligence would be major beneficiaries, along with sciences which deal in volumes of data viz. finance, astronomy and linguistics.

Risks Associated With Quantum Computing

- The dark side of quantum computing is the disruptive effect that it will have on cryptographic encryption, which secures communications and computers.

- Encryption depends on very large prime numbers, which serve as the seeds from which cryptographic keys are generated and exchanged by the parties to a conversation. It works because encryption and decryption are operationally asymmetric.

- This differential keeps the WhatsApp messages private, but if the odds were evened by exponentially powerful computers, privacy online would be dead.

Technology isn't always the solution, as often, it creates new problems, and the solution lies in the law. Long after the birth of social media and artificial intelligence, there are now demands to regulate them.

Hence, it would be prudent to develop a regulatory framework for quantum computing to mitigate the risks before it becomes widely available

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Extra Mile

How Did Google Achieve The Milestone?

• Google developed a microprocessor, named Sycamore, that packs a total of 54 qubits. Measuring about 10 mm across, it is made using aluminium and indium parts sandwiched between two silicon wafers.

• In the experiment, the researchers were able to get 53 of the qubits — connected to each other in a lattice pattern — to interact in a so-called quantum state.

• The quantum computer was then set a complex task to detect patterns in a series of seemingly random numbers and it solved the problem in 3 minutes and 20 seconds. It was estimated that the same problem would take 10,000 years for a Summit supercomputer - the most powerful in the world today — to solve.

Significance

• The task performed isn't important for this milestone; it's much more about the fact that the milestone happened in the first place.

• It is still a long way to go between today's lab experiments and tomorrow's practical applications and it will be many years before it can implement a broader set of real-world applications.

• Moreover, qubits are stable only at cryogenic temperatures, and only governments and large corporations can hope to keep a quantum computer on the premises.

• Further, governments and corporations would be the only users of quantum computing, because only they are interested in the questions it answers.

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9. **What are Organoids? Elucidate the potential applications of Organoids along with ethical debate around them.**

Answer

• Organoids are a group of cells grown in laboratories into three-dimensional, miniature structures that mimic the cell arrangement of a fully-grown organ. They are tiny (typically the size of a pea) organ-like structures that do not achieve all the functional maturity of human organs but often resemble the early stages of a developing tissue.

• Most organoids contain only a subset of all the cells seen in a real organ, but lack blood vessels to make them fully functional. In the case of brain organoids, scientists have been able to develop neurons and even make specific brain regions such as the cerebral cortex that closely resemble the human brain.

• Organoids are grown in the lab using stem cells that can become any of the specialised cells seen in the human body, or stem cells taken from the organ or adults cells that have been induced to behave like stem cells, scientifically called induced pluripotent stem cells (iPSC).

• Stem cells are provided with nutrients and other specific molecules to grow and become cells resembling a specific organ. The growing cells are capable of self-organising into cellular structures of a specific organ and can partly replicate complex functions of mature organs — physiological processes to regeneration and being in a diseased state.

- Organoids of the brain, small intestine, kidney, heart, stomach, eyes, liver, pancreas, prostate, salivary glands, and inner ear to name a few have already been developed in the laboratory.

Potential Applications

- Since the organoids closely resemble mature tissues, it opens up new vistas. These include studying the complex arrangements of cells in three-dimension and their function in detail, and understanding how cells assemble into organs.

- Organoids can be used to study the safety and efficacy of new drugs and also test the response of tissues to existing medicines.

- Organoids will bring precision medicine closer to reality by developing patient-specific treatment strategies by studying which drugs the patient is most sensitive to.

- Since the use of animals during drug development studies is becoming increasingly difficult, the focus has been on refining, reducing and replacing them.

- While scientists have been increasingly using human cell lines and other methods, such alternatives have some inherent limitations — they cannot mimic the whole organ system, while organoids are a far superior alternative to cell lines.

- Organoids offer new opportunities to studying proteins and genes that are critical for the development of an organ. This helps in knowing how a mutation in a specific gene causes a disease or disorder. Researchers have used brain organoids to study how the Zika virus affects brain development in the embryo.

Ethical Debate

- Neuroscientists have warned that the scientific community is perilously close to crossing the ethical red line of growing mini-brains or organoids in the laboratory that can perceive or feel things.

- In some cases, scientists have already transplanted such lab-grown brain organoid to adult animals. The transplanted organoid had integrated with the animal brain, grown new neuronal connections and responded to light.

- Similarly, lung organoid transplanted into mice was able to form branching airways and early alveolar structures. These experiments are seen as a step towards potential "humanisation" of host animals.

- But the largest brain that has been grown in the laboratory is only 4 mm in diameter and contains only 2-3 million cells. In comparison, an adult human brain measures 1,350 cubic centimetres, and has 86 billion neurons and another 86 billion non-neuronal cells and a similar number of non-neuronal cells.

- Scientists argue that organoids do not have sensory inputs and sensory connections from the brain are limited. Isolated regions of the brain cannot communicate with other brain regions or generate motor signals. Thus, the possibility of consciousness or other higher-order perceptive properties emerging seems extremely remote.

Given the immense potential to revolutionise the domain of medical science the development of organoids should be accelerated along with putting up an effective regulatory mechanism to keep a check on the misuse of the technology, which might have unfathomable consequences.

10. **IMF has recently agreed to maintain its funding at $1 trillion but postponed changes to its voting structure. What is the quota system at IMF and what is its significance? Also throw light on governance issues at IMF.**

Answer

The International Monetary Fund (IMF), is an international organization working to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world.

Quota System

- An important factor that helps the IMF's functioning is the quota. This quota is basically money that a member country has to give to the IMF and as per the norms, each member has to subscribe a quota of the IMF.

- When a country joins the IMF, it is assigned an initial quota in the same range as the quotas of existing members that are broadly comparable in economic size and characteristics.

- The IMF uses a quota formula to guide the assessment of a member's relative position, which depends on its economic importance.

- Quotas are supposed to be reviewed every five years although these reviews can be delayed — as was the case with the 14th review. That process, completed in 2010, needed approval of the U.S. Congress, and it was not closed out till early 2016

Significance of Quotas

- Quota subscribed by the members indicates funds provided by the members to the IMF, and hence it constitutes to the resource base of the IMF.

- A member country's loan availability depends upon the size of its quota. The amount of financing a member can obtain from the IMF (called as access limit) thus depends upon its quota.

- Further, the size of the quota basically determines voting power of a member. For an important resolution to be passed, at least 85% of the votes should be secured. This means that the US, with 16.54 % of voting power, enjoys a veto power.

- Thus, a member's quota indicates basic aspects of its financial and organizational relationship with the Fund.

Criticisms and Governance Issues

Domination Of Developed Countries

- Some IMF members are frustrated with the pace of governance reforms, as the balance of economic and geopolitical power has shifted, becoming more dispersed, particularly with the emergence of China and India.

- Developed countries have been seen to have a more dominant role and control over less developed countries (LDCs). The scholarly consensus is that IMF decision-making is not simply technocratic, but also guided by political and economic concerns.

- The criticism of the US-and-Europe-dominated IMF has led to what some consider 'disenfranchising the world' from the governance of the IMF.

Discrepancy In The Calculated And Actual Quotas

- While quotas as computed by the formula are the basic starting point in allocating shares, they serve as guidance rather than as a rigid rule,

- Since the IMF's Board of Governors has full discretion in decisions about shares, there are significant differences between actual and calculated quotas. Notably, for Europe and the euro area, actual quotas are higher than calculated quotas.

- Many developing countries are up in arms that this discrepancy in particular merits quick correction.

Over Reliance On Non-Permanent Sources Of Funding

- Out of the three main financing sources, only one is a permanent feature and there has been an overreliance on non-quota sources of funding.

- This is inconsistent with the IMF's basic principle that quota subscriptions should be the main source of IMF resources. Hence, the reliance on alternate funding sources should be reduced.

Narrow Development Concerns

- The IMF is only one of many international organisations, and it is a generalist institution that deals only with macroeconomic issues, while its core areas of concern in developing countries are very narrow.

- Hence, the IMF should work towards close partnerships with other specialist agencies such as UNICEF, the Food and Agriculture Organization (FAO), and the United Nations Development Program (UNDP).

Given the overarching role played by the institution in global monetary cooperation it is imperative that the IMF works on the long pending global reforms and follows a rule based order without any bias to improve its legitimacy in the era of ever expanding globalisation.

Extra mile

Highlights Of The Deal

- The deal is a compromise with the U.S., the Fund's largest shareholder, which has resisted changes to the organisation's voting structure as well as increases in its permanent resource base.

- The deal will allow an extension of non-permanent, supplementary sources of funds, such as the New Arrangement to Borrow (NAB) and the bilateral borrowing facility.

- The agreement extended the bilateral borrowing facility by a year —to the end of 2020 — and a potential doubling of the NAB.

- The agreed package will leave IMF quotas (the primary source of IMF funds), which determine voting shares, unchanged. Instead, these will be reviewed before the end of 2023.

New Arrangements to Borrow (NAB)

- It is a renewable funding mechanism that has existed since 1998. Through the New Arrangements to Borrow (NAB) a number of member countries and institutions stand ready to lend additional resources to the IMF.

- The NAB constitutes a second line of defense to supplement IMF resources to forestall or cope with an impairment of the international monetary system.

- Concurrent with the quota increases under the 14th Review, the NAB was rolled back from SDR 370 billion to SDR 182 billion in February 2016. The activation of NAB requires support from 85% of creditors eligible to vote

Bilateral Borrowing Agreements

- The IMF had entered into Bilateral Borrowing Arrangements after the 2008 financial crisis to increase its lending ability. BBAs serve as a third line of defense after quotas and the NAB.

- In 2016, in view of continued uncertainty in the global economy, the membership committed to maintain access to bilateral borrowing, under a revised borrowing framework.

- The initial term was till the end of 2019 extendable for a further year with creditors' consents. Activation of the agreements requires support from 85% of creditors eligible to vote

- The current quota formula (applied for 14th quota review) is a weighted average of GDP (weight of 50 percent), openness (30 percent), economic variability (15 percent), and international reserves (5 percent).

11. The 2019 Nobel prize in Economics was recently awarded to Abhijit Banerjee, Esther Duflo and Michael Kremer. In this context, what are randomised control trails (RCTs)? Explain the significance of RCTs in development economics. Highlight various findings of the Nobel laureates in different areas through RCTs. Also throw light on various shortcoming of RCTs

Answer

- The 2019 Nobel prize in Economics was recently awarded to a group of economists for their experimental approach to alleviating global poverty.

- The laureates have, since the mid-1990s, sought to introduce a new approach to obtain reliable answers about the most effective ways to combat global poverty.

- Rather than focussing on big-picture questions, they divided the issues into smaller, more manageable and measurable questions. They then showed that these smaller questions could be best answered through carefully designed experiments among the people who are most affected.

- This thought process has resulted in what are called randomised control trials, previously used in the pure sciences and in clinical drug trials, to be deployed in the social sciences.

Significance Of RCTs In Development Economics

- Development economics is split between those who believe that external aid is necessary to help people out of poverty traps, and those who think that this would distort local capacity to find their own solutions.

- RCTs brought a more refined "evidence-based approach" to development research — by randomly choosing groups, running experiments, and evaluating the effectiveness of an intervention.

- Randomised experiments offered policymakers and donors an empirically rigorous way to find solutions that could be scaled up or ones that should be scrapped or avoided.

- In 2016, some 400 projects financed by the World Bank were being evaluated by randomised trials.

Findings In Different Areas Through RCTs

Health

- For years, economists believed it was important to charge at least a small fee so people would value the service. But field experiments by the Nobel laureates found that subsidies helped in increasing use of preventative health care.

- And it was evident through these trails that poor people's investment in preventive care is very sensitive to the price of health products or services.

- These studies helped shift the World Health Organisation and the United Nations to promote subsidized health care for the poor.

Difference In The Technology Used

- In developing countries, there is often a stark difference between the technology and practices used by companies within the same economy and sector. This within-sector/economy differences are less stark in developed economies.

- These misallocations can be traced back to various market imperfections and government failures. Hence, a core step in understanding, and ultimately alleviating, poverty is to identify sources of the observed inefficiencies as well as policies that could address them.

Education

- The field experiments have showed that lack of resources is not the primary problem why school-going children do not learn more. In fact, neither providing more textbooks nor free school meals improved learning outcomes.

- Instead, as was brought out in schools in Mumbai and Vadodara, the biggest problem is that teaching is not sufficiently adapted to the pupils' needs. Hence, providing teaching assistants to the weakest students was a far more effective way of improving education in the short to medium term.

- On tackling teacher absenteeism, employing teachers on short-term contracts (which could be extended if they showed good results) worked better instead of having fewer students per "permanent" teacher.

Microfinance

On credit, growing evidence indicates that micro-finance programmes do not have the development effects that many had thought when these programmes were introduced on a large scale.

Flip Side to RCTs

- The use of RCTs as the provider of hard and incontrovertible evidence has been questioned by many leading economists, including Angus Deaton, the winner of the Economics Nobel in 2015.

- According to Angus Deaton randomisation does not equalise two groups. While randomly assigning people or households makes it likely that the groups are equivalent, randomisation "cannot guarantee" it.

- One group may perform differently from the other, not because of the "treatment" that it has been given, but because it has more women or more educated people in it.

- More fundamentally, RCTs do not guarantee if something that worked in Kerala will work in Bihar, or if something that worked for a small group will also work at scale.

By using a scientific methodology such as the RCT in the domain of development economics, the laureates have not only challenged long held established opinions but have also come up with novel solutions, which can go a long way in solving age old problems and rooting out poverty.

Extra Mile

Jameel Poverty Action Lab

- In 2003, Duflo and Banerjee co-founded the Abdul Latif Jameel Poverty Action Lab (J-PAL), a global network of anti-poverty researchers that conducts field experiments.

- It works to both identify which kinds of local interventions have the greatest impact on social problems, and to implement those programmes in cooperation with governments and NGOs.

- J-PAL has studied a wide range of topics implicated in global poverty, including health care provision, education, agriculture, and gender attitudes.

- According to the lab, their evaluations have helped scale up welfare programs to reach 400 million people globally.

An Example of A Randomised Control Trial

- If one wanted to understand whether providing a mobile vaccination van and/or a sack of grains would incentivise villagers to vaccinate their kids, then under an RCT, village households would be divided into four groups.

- Group A would be provided with a mobile vaccination van facility, Group B would be given a sack of foodgrains, Group C would get both, and Group D would get neither.

- Households would be chosen at random to ensure there was no bias, and that any difference in vaccination levels was essentially because of the "intervention".

- Group D is called the "control" group while others are called "treatment" groups. Such an experiment would not only show whether a policy initiative works, but would also provide a measure of the difference it brings about. It would also show what happens when more than one initiatives are combined. This would help policymakers to have the evidence before they choose a policy.

12. The state-owned telecom companies – BSNL and MTNL were recently merged by the Union government along with a revival package. State the reasons that compelled the recent government actions along with the components of the revival plan and its impact

Answer

In light of the financial stress faced by the two telecom companies due to stiff competition and reduction of tariffs, the Union government has announced a massive revival package of nearly Rs 70,000 crore for the ailing telecom PSUs BSNL and MTNL along with merging the two PSUs.

Reasons For The Merger

- The competition in mobile segment and absence of 4G services (except in a few circles for BSNL) in the data-centric telecom market has progressively eroded the competitive strength of BSNL & MTNL.

- As landline numbers started shrinking, their operations were also pulled down due to a mix of negative factors such as poor management, government meddling and very poor customer service.

- **Huge Manpower costs:** Manpower has been a major drain on the revenues of the two companies with an official report in June pegging the staff cost as a percentage of revenues at 77% for BSNL, and 87% for MTNL (based on 2018-19 financial numbers). Compared to this the human resource cost of other competing telecom companies is only around 5%

- **Fiscal position of the two companies**: In the last four years, MTNL and BSNL revenues have fallen by 30% and 40% respectively. In the last financial year (2018-19), the two companies reported annual losses of Rs 14,000 crore and Rs 3,388 crore respectively, while their cumulative losses are much higher. These losses are essentially a burden on taxpayers.

Components Of The Revival Proposal

A. Allotment of 4G Spectrum

- The Cabinet proposal clears the way for the administrative allotment of spectrum for 4G services to BSNL and MTNL which will be funded by the Centre by way of capital infusion in these PSUs

- By using this spectrum allotment, BSNL and MTNL will be able to deliver 4G services, compete in the market and provide high speed data using their vast network including in rural areas.

B. Debt Restructuring And Long Term Bonds

- BSNL and MTNL have been cleared to raise long-term bonds (that is, sell bonds and get money in return) of Rs 15,000 crore, for which sovereign guarantee will be provided by the Centre.

- The PSUs will restructure their existing debt, and also partly meet their capacity expansion obligations.

C. Voluntary Retirement Scheme

- A voluntary retirement scheme, will be offered to the employees, who are aged above 50 years. As around half of the employees fall in this age bracket, it will help in optimising manpower costs

D. Monetisation of Assets

- The government has also decided to raise funds by monetising the existing assets of BSNL and MTNL. The proposed asset monetisation plan is expected to generate an additional revenue stream of around Rs 38,000 crore by this route.

- This will further help in servicing of bonds, network upgradation, expansion and meeting the operational fund requirements.

Way Ahead

- Bulk of the private players have shut shop in recent years. The crunch is so severe that even much-experienced operators such as Airtel and Vodafone-Idea are struggling to salvage business as they run into losses and their debts have risen into lakhs of crores.

- However, debt is one area where BSNL and MTNL are relatively better off. The duo has a total debt of around Rs 40,000 crore, which is the lowest for any telecom company in India.

- Hence, the government expects that with these measures, BSNL and MTNL are expected to turn EBITDA positive in the next two years and will turn into strategic assets in due course

Though the revival plan will help the companies in the short run to correct course and get back on track but whether the merged entity will be able to take on the reduced and weakened competition will largely depend on the how it is managed hereon.

Extra Mile

Why Not Sell Them?

- The government does not want to sell the two companies as it looks at them as strategic assets of India.

- As the only national telecom operator, BSNL is not only strategically important for the country but it also has the largest optical fibre network (OFC) in the country.

INDIA'S NO. 1 & NO. 3 LOSS-MAKING PSUs TO COMBINE

BUSINESS HAS SHRUNK
34% is the fall in revenue— from ₹32,466 crore in 2014-15 to ₹21,472 cr in 2018-19

EXPENSES DOUBLE OF INCOME
₹38,666 cr expenditure in 2018-19 was 1.8 times the revenue of ₹21,472 cr

STAFF COST EATS UP REVENUE
87% of MTNL's revenue goes to meet staff cost, corresponding figure for BSNL is 77%

LOSSES BALLOON
55% rise in losses between 2014-15 (₹11,127cr) and 2018-19 (₹17,202cr)

MERGER BILL
₹69,140cr including VRS, capital infusion, GST & bond guarantee

BSNL is India's highest loss making PSU, MTNL is the third highest
Figures are based on combined financials of BSNL and MTNL between 2014-15 and 2018-19, sourced from an official presentation

- BSNL has over 66,000 towers across the country and it has created a separate company – BSNL Tower Corporation Limited (BTCL) – to monetise its huge investment in the tower infrastructure. The company aims to follow the tower sharing model to capitalise the large number of mobile towers it has.

- In addition to this, nearly 90% work of BharatNet scheme is executed by BSNL.

- BSNL is also one of the first responders in case of natural calamities as it is called to restore the communication links in the areas hit by natural disasters. Unlike private telecom players, BSNL

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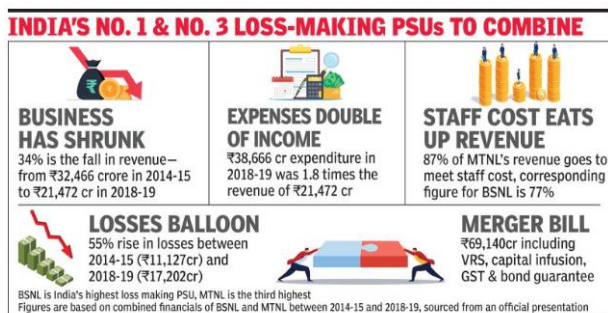
also operates 17,000 loss-making exchanges in rural and other far-flung areas under its universal service obligations.

- Further, the entire Army network is managed by them and even for banks most of the network is managed by BSNL.

- The idea is to make these companies competitive and bring in professionalism, instead of just divesting, closing or hiving them off to a third party.

13. The India Innovation Index 2019 was recently released by NITI Aayog. What is India Innovation Index? Showcase the findings of the index along with its significance.

Answer

- Recognizing the role of innovation as a key driver of growth and prosperity for India, NITI Aayog with Institute for Competitiveness as the knowledge partner came up with the idea of launching the India Innovation Index.

- The study is an outcome of extensive research and analysis, which looks holistically at the innovation landscape of India by examining the innovation capabilities and performance of Indian states and union territories.

- The aim is to create a holistic tool which can be used by policymakers across the country to identify the challenges to be addressed and strengths to build on when designing the economic growth policies for their regions.

- The Index is calculated as the average of the scores of its two dimensions - ***Enablers and Performance.***

- The Enablers are the factors that underpin innovative capacities, grouped in five pillars -Human Capital, Investment, Knowledge Workers, Business Environment and Safety and Legal Environment.

- Whereas, the Performance dimension captures benefits that a nation derives from the inputs, divided in two pillars Knowledge Output and Knowledge Diffusion.

Significance

- The India Innovation Index can help in creating synergies between different stakeholders in the innovation ecosystem.

- Measuring innovation at the State level, helps to identify the uniqueness of every region along with the influencing factors like resources at hand, capital business opportunities, consumer demand and government support.

- The effort to benchmark the performance of the state with each other can promote competitive federalism.

- It will also help policymakers across the country to identify the challenges to be addressed and strengths to build on when designing the economic growth policies for their regions

Findings Of The Index

- The index shows that the innovation ecosystem of the country is strong in south and western parts of India. In fact, three of the top five major states are from southern India.

- Delhi and Haryana seem to be an exception to this rule and seem to be doing well on the Index. Thus, there seems to be a west-south and north-east divide across the country.

- Karnataka's number one position is partly attributed to its top rank in the performance dimension.

- Among major states, Maharashtra performs the best in the dimension of enablers. This implies that it has the best enabling environment for innovation.

- Sikkim and Delhi take the top spots among northeastern and hill states, and Union territories/city states/small states respectively.

- While, Tamil Nadu, Maharashtra, Telangana, Haryana, Kerala, Uttar Pradesh, West Bengal, Gujarat and Andhra Pradesh round off the top 10 major states.

Way Ahead

- It is imperative to increase spending on research and development, to improve the capability of top rung educational institutions in the country to produce greater innovation outputs.

- Further, a collaborative platform consisting of all the stakeholders of innovation - innovators, researchers, and investors from the industry should be developed. This will help in strengthening the industry-academia linkages and will ease the process of technology transfer by providing a platform for innovators to showcase their inventions.

- Cluster development programs are also an area in need of greater coordination and can benefit from a more open collaborative approach.

Given the dearth of innovation policies even in the most innovative states and UTs, it is expedient that the governments focus more on designing these policies which will not only help them leapfrog in the index but also usher in a new era of growth for the economy.

14. The Global Hunger Index was recently released, in which India ranked a lowly 102. What are the findings related to India and their significance? What measures are required to curb the menace of hunger in the country?

Answer

- India was recently ranked 102 out of 117 countries on an index that measures hunger in various countries across the world. After steady improvement, India's rank has slipped from 2015, when it was ranked 93.

- The GHI scores are based on four indicators — undernourishment (the share of population with insufficient calorie intake); child wasting (children with low weight for height, indicating acute undernutrition); child stunting (children with low height for age, reflecting chronic undernutrition); and child mortality (death rate of children under five).

- According to the report, India's child wasting rate is extremely high at 20.8 per cent. Only 9.6% of children (6 to 23 months) were fed minimum acceptable diet.

Findings Related To India

- India's score was 30.3, which puts it in the serious hunger category. India is the lowest ranked country among South Asian countries (the rest being ranked between 66 and 94) and way behind the other BRICS nations, the lowest of which was South Africa at 59.

- India's child wasting rate is extremely high at 20.8% - the highest wasting rate of any country in the report and only 9.6% of children between 6-23 months in India were fed a minimum acceptable diet (a recent Union health ministry survey had in fact put that figure at an even lower 6.4%).

- The data shows that India's poor scores were pulling down South Asia to a point where it does worse than even sub-Saharan Africa.

- Pakistan, which used to be the only country in South Asia to rank below India, has pulled ahead in the 2019 ranking to 94th place.

Significance Of The Findings

- Malnutrition is most often a product of several factors including poverty, inadequate availability of food, genetic predisposition, environmental factors and poor health and sanitation services.

- And, the oft-repeated complaint of policymakers that there is no real-time data that brings all these factors together to show the extent of India's malnutrition problem is valid to an extent.

- However, it is also clear that providing nutritious food to the country's children is more a matter effective policy implementation at the grass roots level than solving a difficult puzzle.

- This is a colossal national dishonour as the suffering is entirely preventable given that the country has both the wealth and the food stocks many times over to end hunger entirely.

- The relative success of India's neighbours in combating hunger — Nepal emerging from 15 years of civil war and Pakistan still torn by internal conflict — is a sobering reminder of what India has not accomplished.

Measures To Combat Hunger

- The **Public Distribution System** must be universalised (excluding income tax payees), and should distribute not just cereals but also pulses and edible oils. Further, there is a need to reimagine it as a decentralised system where a variety of crops are procured and distributed locally.

- Both pre-school feeding and school meals need **adequate budgets**, and the meals should be supplemented with **nutrient-rich foods** such as dairy products, eggs and fruits.

- Hunger can't be combated without addressing the burgeoning **job crisis**. It also entails labour reforms which protect job security, fair work conditions and social security of all workers.

- Malnourishment results not just from inadequate food intakes, but also because food is not absorbed due to **frequent infections** caused by bad drinking water, poor sanitation and lack of healthcare.

- India's nutrition failures are also because of persisting gaps in securing **potable water to all citizens, and continued open defecation.** There is an urgent requirement for a legally enforceable right to healthcare, with universal and free out-patient and hospital-based care, free diagnostics and free medicines.

- All of this is not unknown. Yet, India continues to fail children born in impoverished households, to homeless people and to oppressed social groups.

At its core, the reason for India's continuing failures to end hunger and malnutrition of its millions is the indifference of people who have never known the agony of involuntary hunger. This is ultimately the result of the country's enormous cultural comfort with inequality, the country's gravest and most culpable civilisational flaw. India needs to rise from this slumber in order to sow the seeds of a hunger free and healthy India.

Extra Mile
• The GHI **published by the International Food Policy Research Institute (IFPRI)** ranks countries on a 100-point scale, with <u>0 being the best score (no hunger) and 100 being the worst</u>.
• Values less than 10 reflect low hunger, 20 to 34.9 indicate serious hunger, 35 to 49.9 are alarming and a score of 50 or more is extremely alarming.

Findings Of Other Countries

- The report has **praised the progress made by Bangladesh**, attributing it to "robust economic growth and attention to 'nutrition-sensitive' sectors such as education, sanitation, and health".

- **Nepal has shown the highest percentage change** in its ranking since 2000 according to the report. Nepal's improvement is due to increased household assets, increased maternal education, improved sanitation and implementation and use of health and nutrition programs, including antenatal and neonatal care.

- There are only four countries in the alarming hunger category and the Central African Republic is in the extremely alarming hunger category.

- **Performance of India's neighbours -** Pakistan is at 94, Bangladesh 88, Nepal 73, Sri Lanka 66

- **Performance of BRICS Nations -** Brazil topped on 18th rank, followed by Russia on 22nd, China on 25th, followed by South Africa (59), and India (102).

Why India's Rank Is Low?

Despite steady economic growth and self-sufficiency in food grains production, high levels of poverty, the country is home to one-quarter of all undernourished people worldwide.

- **Poverty trap**

- **Dietary ignorance** – Many people do not know about the nutritional component about their diets. As a result we see the incidents of child stunting, child wasting etc.

- **Socio Cultural Factors** - Hunger in India also has **age, gender and caste** dimensions. Compared to men, women more often forgo meals to feed their children. This is evident from the World Bank's report which says that 60% of those who are hungry are female. Caste and tribe are structural factors which predispose certain groups to long term poverty and deprivation which ultimately gets translated into hunger and malnutrition.

- **Politics of Distribution -** According to Amartya Sen, hunger usually arises from food distribution problems, or from governmental policies in the developing world, and not from the insufficiency of food production. This is true for India as well. Corruption, leakages, exclusion-inclusion error etc. makes the public distribution system inefficient in addressing the issue of hunger and malnutrition.

- **Food wastage –** Be it the cold storage of Food Corporation of India or the extravaganza shown in marriages and rituals, food/food grains wastages are the common thing in India. These wastages distort the food availability making difficult for poor and vulnerable to buy food from market.

- **Natural Disaster –** Erratic monsoon, incidence of draughts, unseasonal rainfall, cyclones etc. affects the food grain production and hence affects the food security in India.

Conclusion

Hunger in **India** is a complex **issue**. It is widespread and the causes are different across various regions. This multidimensional problem should be addressed by devising a multi-pronged strategy. It is good step that India has launched Swachch Bharat Abhiyan to fight against the hygiene-stunting nexus. India has to focus on the outcomes of different programmes in order to achieve the goals of SDGs.

15. Recently, India Meteorological Department (IMD) has agreed to provide climate forecast services to countries in the region the Hindu Kush mountains. In this light discuss the significance of the Hindukush Himalayan Region and threats faced by it.

Answer

In order to identify the impact of climate change on the **Hindu Kush mountains,** IMD has decided to collaborate with meteorological agencies in **China and Pakistan**, to provide climate forecast services to countries in the region.
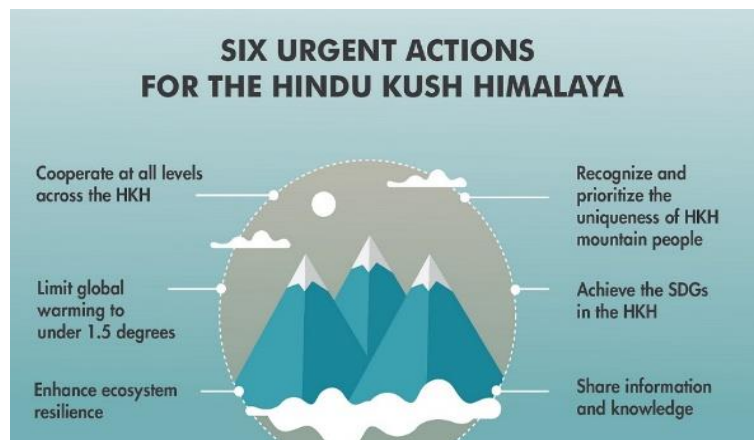
The Hindu Kush-Himalayan region covers an area of more than **4.3 million square kilometres** in Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. The region stores more snow and ice than anywhere else in the world outside the polar regions thus give it the name of the **Third Pole**.

Significance Of The Region

- It contains the world's **highest mountains**, including all **14 peaks above 8,000 metres**.

- It is the source of **10 major rivers** and forms a formidable global ecological buffer.

- It has large socioeconomic and cultural diversity as seen from the fact that it is home to ethnic communities speaking more than **600 languages** and many dialects.

- It is endowed with rich natural resources and contains all or part of **four global biodiversity hotspots**.

- The mountains provide a wide range of ecosystem services and is the basis for the livelihoods to the **210 million people** living in the region, as well as indirectly to the **1.3 billion people** (one fifth of the worlds' population).

- About **3 billion people** benefit from the food and energy produced in the river basins that originating from third pole region.

However, the Climate change is a major concern in the Third Pole as the rate of warming in the Third Pole region is significantly higher than the global average and the rate is higher at higher altitude.(temperature rise expected to be around **1°C by 2100**, while in some areas the warming could be as high as **3.5-4°C**. Some of the threats faced by the region are as follows:

- Biodiversity will decline steeply due to the factors such as *infrastructure development* (hydro dams- 550 large projects in existence or under construction), pollution, overexploitation of resources, climate change *etc.*

- Further *human impact* has led to a loss of wildlife populations, plant productivity, changes in growing seasons.

- As temperatures rise with climate change, **grasslands, alpine meadows, wetlands and permafrost** will disappear on the **Tibetan plateau by 2050**.

- New trade routes under **China's Belt and Road initiative** (new rail and roads) cutting through fragile landscapes could

SIX URGENT ACTIONS FOR THE HINDU KUSH HIMALAYA

Cooperate at all levels across the HKH

Recognize and prioritize the uniqueness of HKH mountain people

Limit global warming to under 1.5 degrees

Achieve the SDGs in the HKH

Enhance ecosystem resilience

Share information and knowledge

facilitate greater resource extraction and illegal wildlife trade.

Thus, in light of the above issues it will be prudent that environment concerns are integrated into development planning in the Hindu-Kush region. Moreover, there is a need for better collaboration on the environmental and climate change front between the regional countries to overcome the issues faced.

Extra Mile

- Hindukush region spans **Afghanistan, Bangladesh, Bhutan, China, India, Kyrgyzstan, Mongolia, Myanmar, Nepal, Pakistan, Tajikistan, and Uzbekistan**.
- It runs northeast to southwest and **divides the valley of the Amu Darya** (the ancient Oxus River) to the north from the Indus River valley to the south.
- To the east the Hindu Kush buttresses the **Pamir range** near the point where the borders of China, Pakistani-controlled Kashmir, and Afghanistan meet, after which it runs southwest through Pakistan and into Afghanistan, finally merging into minor ranges in western Afghanistan.
- The **highest peak is Mount Tirich Mir**, which rises near the Pakistan-Afghanistan border.
- It contains vast **cryospheric zones**, is also the world's largest store of snow and ice outside the polar region.
- The proposals to establish a regional climate centre that will provide forecasting services will be under **World Meteorological Organisation**.

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16. Stubble burning has become a major reason for the pollution in and around Delhi. In this light discuss the challenges in enforcing ban on stubble burning and also suggest suitable measures to overcome this issue.

Answer

Recently, **Union Ministry of Earth Sciences (MoES)** has launched an **Advanced Air Quality Early Warning System** to predict places neighbouring Delhi that are likely to burn crop residue on a given day.

Stubble burning is a practice followed by farmers to prepare fields for sowing of wheat **(rabi crop)** by burning the residue of the earlier crop. This practice results in emission of harmful gases such **carbon dioxide, sulphur dioxide, nitrogen dioxide, PM 2.5 and 10**. Moreover, smoke from Punjab and Haryana travels to Delhi leading to a spike in pollution levels.

Despite having many advantages such as **quickly clearing the field, cheaper alternative, killing weeds etc.**, this practice is difficult to be dealt with due to various challenges such as:

- The cost of mechanical removal of the stubble is high, the **Economic survey 2017-18** pointed out that that stubble management and removal by machine cost **Rs. 3,500/- per hectare.**

- **Marginal and small farmers account for 85% of total farmers** and thus lack adequate financial resources to manage stubble.

- The issue is also plagued by the **implementation challenges** such as poor coordination, lack of mission mode and targeted approach.

Additional Data And Information

- 1 tonne of stubble burning releases **1460 kg of Co2, 199kg of ash, 2kg of So2, 3kg of PM and 60kg of CO.**
- Every year **23 MT of paddy straw** burning in Punjab, Haryana and Western UP increases Co2 level by **70% in Delhi-NCR region**.

- The issue of **high agricultural labour cost** has led to large mechanisation and this leaving behind much longer stalks of paddy than traditional practice of removing by hand.

- Stubble removal is a **time-consuming process** and any delay in sowing may **impact the yield of next crop**.

Thus, to overcome this issue following steps are required to be taken such as:

- Allowing **custom hiring and renting of machines** such as **happy seeders machine** that can effectively tackle the issue of stubble.

- Increasing **awareness generation. For ex-** State of Punjab is using the large army of nodal officer to convince the farmers for not resorting to stubble burning.

- Using **carrot and stick policy** i.e. penalty imposition along with use of proper incentives by DBT.

- Moving away from **wheat-paddy cycle** i.e. resorting to **crop diversification**.

- **Commercialisation of paddy straw** for using as animal feed, cardboard, paper and pellets for energy production.

Extra Mile

MoES's Advanced Air Quality Early Warning System:
- The system has been developed by **Indian Institute of Tropical Meteorology, Pune**.
- It uses data of stubble burning incidents from the **past 15 years** to predict the date and place of the next burning and help authorities to act in advance.
- Using the data, the **Centre for Development of Advanced Computing (C-DAC)**, under the aegis of the Central Pollution Control Board, creates probability maps to alert government agencies about areas where the chances of stubble burning is going to be high.
- The system can also track pollution load from stubble burning in places neighbouring the national capital, using satellite data. It can predict the air pollution level for **next 72 hours**.
- It can also forecast the **level of pollutants** like particulate matter (PM) 2.5, PM10, and dust, coming from sources other than stubble burning.
- Thus, this will help authorities to take preventive steps to control pollution levels as well as mitigate pollution from existing sources.

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17. Sunderbans are an important natural site but is facing challenges on various counts in this light suggest suitable measures to protect and conserve the natural environment of Sunderbans.

Answer

The Sunderbans is a protected wetland under the **Ramsar Convention** and has been tagged by **UNESCO** as **World Heritage site**. However, increasing anthropogenic activities have led to massive degradation of Sunderbans. Some of the challenges faced by Sunderbans are as follows:

- The total forest cover of the Indian Sunderbans has declined from **2,246 sq. km. in year 1986 to 2,201 sq. km**.

- Further, the **increased population with few alternative livelihood opportunities** poses a serious threat to the Sundarbans as it is the main cause of mangrove destruction.

- These regions are also prone to **climate change and sea level rise** that threaten carbon sequestration potential and other ecosystem services of the mangrove forest.

- The entire Sunderbans island system is facing a **rapid loss of land area and embankment, flooding and salinization** of drinking water.

- **Insect pests** such as wood borers, caterpillars, which eat the mangrove foliage and damage the mangrove wood as well.

- Indiscriminate conversion of mangroves for aquaculture, agriculture, mining human habitation also poses threat to the mangrove.

To overcome the above-mentioned issue there is a need for adopting following practices:

- There is a need for **strict enforcement of Coastal Regulation Zone (CRZ)**.

- There is also a need to adopt **scientific management practices** are very much essential for conservation and sustainable management of the precious mangrove forests.

- Suitable sites are to be identified for planting mangrove species. **Mangrove nursery banks** should be developed for propagation purposes.

- Various threats to the mangrove resources and their root causes should be identified, and **earnest measures should be taken to eliminate those causes**.

- Further, **floristic survey of mangroves** along the coast is to be taken up to prepare biodiversity atlas for mangroves.

- The **participation of the local community** should be made compulsory for conservation and management.

- **Coastal industries and private owners** need to be persuaded to actively participate in protecting and developing mangrove biodiversity.

- The forest department officials should be trained on **taxonomy, biology and ecology of mangrove species**.

Thus, mangrove forests play a major role with more valuable ecological services, scientific management of the same is the need of the hour not only for the wellbeing of the mankind but also for coastal biodiversity. **(363 words)**

18. While there is no proper estimation of the actual amount of black money in the economy, the government is actively taking measures to stop it. In this context, discuss the various initiatives taken by government to curb to menace of Black money.

Context:

- India has **received the first tranche of details about financial accounts** of its residents in Swiss banks under a new **automatic exchange of information framework between the two countries**.

- In 2016, India and Switzerland had signed an information-sharing deal on bank accounts, which was to come in effect from January 2018.

- This exchange of information is being carried out under the **Common Reporting Standard (CRS)**, the global reporting standard for such exchange of information, which takes care of aspects such as confidentiality rules and data safeguards.

- The **CRS has been developed by the OECD**.

- The next exchange would take place in September 2020.

<u>**Answer**</u>

- In India, black money refers to funds earned on the black market, on which taxes have not been paid. Due to its **hidden nature**, it is very hard to estimate actual amount of Black Money in any economy.

- Various institutes such as National Institute of Public Finance and Policy (NIPFP), NCAER, and the NIFM tried to give the estimates of black money circulation which varied from 7% to 120% of GDP.

To curb this black money government had tighten its belt and shown its commitment to tackle this menace by several initiative/measures, which are:

- **Special Investigation Team headed by M.B. Shah gave several recommendations to curb the menace of black money.**

- **Income Declaration scheme-2016** to unearth black money from domestic market. IDS 2016 was kept open from 1st June 2016 to 30th September 2016 for four months.

- **Undisclosed Foreign Income and assets and Imposition of Tax Act, 2015** to unearth black money stashed outside the country.

- **International Treaties:** The information pacts with other countries will make it difficult to stash black money in overseas accounts. *For example*: Indo US Foreign Account Tax Compliance Act (FATCA) to ensure that tax is paid on income generated from wealth abroad. Government has taken Initiative of signing Automatic Exchange of Information Treaty with all major countries including Switzerland.

- **Revising DTAA's (Double Taxation Avoidance Agreement):** Tax evaders have often exploited Loopholes in existing tax treaties with low or zero tax jurisdictions like Mauritius, Singapore, and Cyprus ensuring complete tax avoidance. Therefore, govt is on spree to revise the DTAA's. India has Double Tax Avoidance Agreements with 82 nations, including all popular tax haven countries.

- **Non-Intrusive Target Evaders:** '**Project Insight**' allows government to collate all information available with Income Tax Department from various sources and profile it systematically for people using PAN (Permanent Account Number) details.

- **Benani Transaction Act:** Investment in property or real estate is used commonly to park unaccounted money and therefore, parliament approved "The Benani Transaction (Prohibition) Amendment Act" in August 2016.

Conclusion/Way Forward

- All major economies of world are uniting for the cause of eradicating black money resulting into pacts such as base erosion and profit sharing (BEPS) agreement and multilateral information exchange.

- Also the steps taken by Indian government like use of technology such as project insight, making much of income tax filling online, reducing tax terrorism, bringing GST etc. can help unearth & stop black money but now the focus should move on discouraging cash transaction and encouraging card payments in economy to curb black money circulation.

Extra Mile
Few Recommendations of **M. B. Shah Committee**
(1) Complete ban on cash transaction over 3 lakh to curtail black money and limit of Rs. 15 lakh on cash holding. It suggested, that if industry is required to hold more cash, than permission of commissioners of Income Tax is needed.
(2) Panel has asked RBI (Reserve Bank of India) to develop an institutional mechanism, with revenue department of share export-import & forex transaction with investigative agencies.
(3) Mandatory quoting PAN Card identification for transaction above Rs. 2 lakh from Jan 1, 2016.

19. Left Wing Extremism (LWE) is showing a downward trend, but still affects many parts of the country. Briefly explain the Government of India's approach to counter the challenges posed by LWE.

Context:

- The Central Government is planning to create a **National Coordination Centre** (NCC).

- It will function as a **databank** on <u>Maoists' core strongholds and cadres</u>, and also <u>as a synergy point for intelligence gathering and anti-Maoist operations</u>.

- The proposed Centre will also evolve a well-formulated strategy for all security agencies to counter the **support received by Maoist leaders and sympathisers on social media**.

- It will **work with states** to identify the sources of finance and other logistics support of Maoists **to neutralise the network**.

- It will also **utilise the experience and knowledge of retired police** officers who have served in anti-Maoist operations in areas of Andhra Pradesh, Odisha and Chhattisgarh.

- The creation of NCC will be a significant move as it will help in real time information sharing, joint action and coordination among different states, etc.

Answer

The number of police stations affected with violence has gone down from a peak of 465 police stations to 250. According to the data released by MHA, 90 districts in 11 States are considered as affected by LWE. Hence, it can be said that the geographical spread of LWE has reduced considerably in recent years. The Centre's Response has played an effective role in countering the challenges of LWE.

The Government of India's Response:

The successive governments at the Centre have adopted a mix of methods—**population-centric and enemy-centric**—to quell the Maoist movement. The overall aim has been to complement state initiatives.

A. The Law and Order Approach

- In 2006 the Central government for the first time issued a security blueprint to tackle the Maoist threat. The blueprint subsequently took the form of a series of security-centric measures to address the growing Maoist movement.

- Modernisation of Police Forces,

- **Strengthening Intelligence Networks** which included round-the-clock intelligence-sharing through Multi Agency Centre (MAC) at the Central level and through State Multi Agency Centre (SMAC) at the State level.

- **Aiding States in Security-Related Infrastructure** with the launching of the Security Related Expenditure (SRE) scheme.

- **Deployment of Central Paramilitary Forces** on a long-term basis. In addition, the Centre has helped states to raise 14 Specialized Commando Battalion (CoBRA) that are equipped and trained in guerilla and jungle warfare technique.

- **SAMADHAN** was announced by the minister of Home Affairs in May 2017 with an aim to re-energise the government's anti-Maoist initiatives.

B. Development Approach

- The population-centric steps were aimed at **winning hearts and minds** amongst the local population.

- **Integrated Action Plan (IAP)** was launched to implement a special scheme which addresses the development deficiencies in LWE-affected districts.

- A new scheme **Civic Action Program (CAP)** was launched to provide financial grants for CAPFs to undertake various welfare activities in the LWE affected areas.

- **Programme "Roshini"** is being implemented in 24 most critical LW extremism affected districts to provide skill training to the local youths.

- With an aim of insuring the rights and entitlements of local communities / forest dwellers government enacted several legislation such as - **The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Rights) Act, 2006**; **Panchayat (Extension to Scheduled Areas) Act**.

- Centre has revised the guidelines for '**Surrender-cum- Rehabilitation Scheme of Left Wing Extremists'** in the affected States so as to make it more attractive.

Conclusion

- Coordinated and concerted efforts from the Centre and affected states have brought down Maoist sponsored violence. The Indian state combined both development-centric and enemy-centric approaches in dealing with the LWE.

- However, Maoists still have the strength to make their presence felt in certain regions. In this context, the proposed **National Coordination Centre** (NCC) will be a big boost in the fight against Maoist insurgency.

1. **With reference to Solar System consider the following statements**
    1. **Saturn has the highest number of moons in the Solar System**
    2. **Jupiter has the largest moon in the Solar System**
    3. **Mercury and Venus do not have any moons**

Which of the statements given above is/are correct?

a) **1 and 2 only**
b) **2 and 3 only**
c) **1 and 3 only**
d) **1, 2 and 3**

Context

The International Astronomical Union's Minor Planet Center has confirmed 20 new moons orbiting Saturn, making it the planet with the most moons in the Solar System, at 82. It is believed that about 100 even tinier moons may be orbiting Saturn, still waiting to be found.

Answer: D

Explanation:

- Until this confirmation, the planet with the most moons was Jupiter, at 79, however, Jupiter still has the biggest moon. Jupiter's Ganymede is almost half the size of Earth.

- By contrast, Saturn's 20 new moons are minuscule, each barely 5km in diameter. These baby moons may have come from larger parent moons that broke apart right after Saturn formed.

- Seventeen of Saturn's new moons orbit the planet in the opposite, or retrograde, direction. The other three circle in the same direction that Saturn rotates. They're so far from Saturn that it takes two to three years to complete a single orbit.

- According to NASA the Solar System's planets together have 205 confirmed moons now. Saturn and Jupiter, with 161 between them, account for nearly 80% of these.

- Another 20% are orbiting Uranus (27) and Neptune (14) and of the remaining three moons, one is Earth's own while the other two are with Mars.

- Mercury is so close to the Sun and its gravity that it is unable to hold on to its own moon. Any moon would most likely crash into Mercury or maybe go into orbit around the Sun and eventually get pulled into it. However, it is not yet clear, why Venus does not have a moon.

2. **What is a Geotail?**
a) **Tail of a comet**
b) **Tail of an asteroid**
c) **A region formed due to the interaction between Sun and Earth**
d) **None of the above**

Answer: C

Explanation:

The CLASS instrument on Chandrayaan-2 designed to detect direct signatures of elements present in the lunar soil has detected charged particles during the mission. This happened during the orbiter's passage through the geotail.

Formation of a Geotail

- The geotail is a region that exists as a result of the interactions between the Sun and Earth and it helps in providing the conditions for good observations.

- The Sun emits the solar wind, which is a continuous stream of charged particles, these particles are embedded in the extended magnetic field of the Sun.

- Since the Earth has a magnetic field, it obstructs the solar wind plasma. This interaction results in the formation of a magnetic envelope around Earth.

- On the Earth side facing the Sun, the envelope is compressed into a region that is approximately three to four times the Earth radius.

- While, on the opposite side, the envelope is stretched into a long tail, which extends beyond the orbit of the Moon. It is this tail that is called the geotail.

- Approximately, once every 29 days, Moon traverses the geotail for about 6 days centred around the full moon.

- Thus Chandrayaan-2 also crosses this geotail and its instruments can study properties of geotail at a few hundred thousand kilometers from Earth.
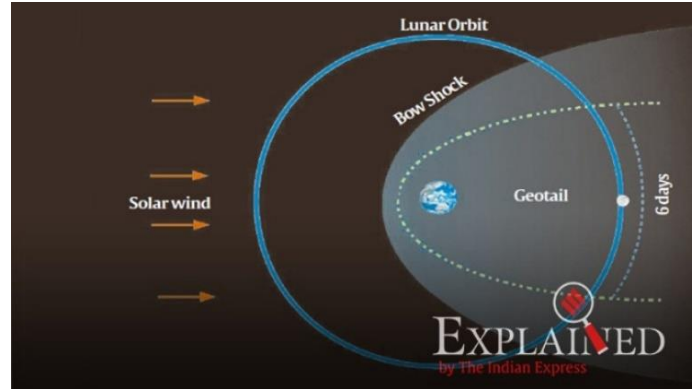
3. **Consider the following statements about Kharif and Rabi crops**
1. **Kharif and Rabi originate from Arabic language where Kharif means autumn and Rabi means Spring**
2. **Pakistan and Bangladesh also use the terms Kharif and Rabi to describe their cropping patterns**
3. **Soyabean, Groundnut and Mustard are Kharif crops**

Which of the statements given above is/are correct?

a) **1 and 2 only**
b) **2 and 3 only**
c) **1 and 3 only**
d) **1, 2 and 3**

Answer: A

Explanation:

- The Cabinet Committee on Economic Affairs (CCEA) has decided to increase the minimum support price for winter crops for the forthcoming rabi marketing season (2020-21).

- The increase in MSP for rabi crops is in line with the principle of fixing MSPs at a level of at least 1.5 times of the all India weighted average cost of production.

- The highest increase has been recommended for lentils (increase of ₹325 to ₹4,800 a quintal) followed by safflower (increase of ₹270 to ₹5215 a quintal) and gram (an increase of ₹255 to ₹4875).

- The bigger increase in the MSP for pulses shows the Centre's focus on encouraging farmers to grow protein-rich food grains, while discouraging cultivation of water and chemical fertilisers intensive crops like paddy and wheat.

Cropping Pattern in India

- The Indian cropping season is classified into two main seasons Kharif and Rabi based on the monsoon. The kharif cropping season is from July –October during the south-west monsoon and the Rabi cropping season is from October-March (winter). The terms 'kharif' and 'rabi' originate from Arabic language where Kharif means autumn and Rabi means spring.

- Pakistan and Bangladesh are two other countries that are using the term 'kharif' and 'rabi' to describe about their cropping patterns.

- Kharif crops include rice, maize, sorghum, pearl millet/bajra, finger millet/ragi (cereals), arhar (pulses), soyabean, groundnut (oilseeds), cotton etc. While Rabi crops include wheat, barley, oats (cereals), chickpea/gram (pulses), linseed, mustard (oilseeds) etc.

Analysis

- Seen from the consumer's point of view, a modest increase in MSPs would be a welcome sign. That is because, according to the latest data, retail food inflation in September jumped from 3% to 4.7%.

- Since food items account for over 54% of retail inflation, the headline inflation too shot up to a 14-month high. So, modest MSP increases suggest that food prices will perhaps not rise too high.

- However, the farmer's point of view is very different. Modest increases have been blamed for the stagnation in farm wages and an overall decline in rural demand.

- The most recent criticism on this count came from 2019 Economics Nobel winner Abhijit Banerjee, who pointed to low MSPs as a reason for depressed rural demand.

- Should the government have increased the MSPs by a bigger quantum to boost rural incomes and demand is an open question

- Especially because doing so would entail the risk of heightened inflationary pressures, which can then force the RBI to reverse the cycle of cutting interest rates.

4. **Which of the following are the criteria for a Central Public Sector Enterprise (CPSE) to be accorded the status of a Maharatna?**
1. **It should be listed on the Indian Stock Exchange**
2. **It should have Navratna status**
3. **Average annual turnover of more than Rs. 25,000 crore, during the last 3 years.**
4. **Average annual net worth of more than Rs. 15,000 crore, during the last 3 years.**
a) **Only 1 and 3**
b) **Only 2 and 4**
c) **1, 2 and 3**
d) **1, 2, 3 and 4**

Answer: D

Explanation

- The Government has accorded 'Maharatna' status to state-owned Hindustan Petroleum and Power Grid Corporation giving them greater operational and financial autonomy

- The grant of Maharatna status to the PSUs will impart enhanced powers to their Boards to take financial decisions.

- The Boards of Maharatna, central public sector enterprises (CPSEs) can make equity investments to undertake financial joint ventures and wholly owned subsidiaries and undertake mergers and acquisitions in India and abroad, subject to a ceiling of 15 per cent of the net worth of the concerned CPSE, limited to Rs 5,000 crore in one project.

- The Boards can also structure and implement schemes relating to personnel and human resource management and training. They can also enter into technology joint ventures or other strategic alliances, among others.

- They are also empowered to transfer assets, float fresh equity and divest shareholding in subsidiaries, subject to the condition that the delegation will only be in respect of the subsidiaries set up by the holding company.

- **Criteria For Grant Of Maharatna Status:** The CPSEs fulfilling the following criteria are eligible to be considered for grant of Maharatna status.
  - It should have Navratna status.
  - Listed on Indian stock exchange with minimum prescribed public shareholding under SEBI regulations.
  - Average annual turnover of more than Rs. 25,000 crore, during the last 3 years.
  - Average annual net worth of more than Rs. 15,000 crore, during the last 3 years.
  - Average annual net profit after tax of more than Rs. 5,000 crore, during the last 3 years.
  - Should have significant global presence/international operations.

5. **Consider the following statements about World Intellectual Property Organization (WIPO)**
   1. **WIPO is a specialized agency of the United Nations**
   2. **WIPO's headquarters is in Stockholm**
   3. **World Intellectual Property Indicators released by WIPO covers patents, trademarks, industrial designs, plant variety protection and geographical indications.**
   4. **As per World Intellectual Property Indicators 2019, Asia accounts for more than two third of the intellectual property applications**

Which of the statements given above is/are correct?

a) **1 and 2 only**

b) **1, 3 and 4 only**

c) **1, 2 and 3 only**

d) **2 and 4 only**

Answer: B

Explanation:

The World Intellectual Property Organization recently released World Intellectual Property Indicators 2019.

WIPO's Findings

- In all, innovators worldwide filed 3.3 million patent applications, 14.3 million trademark applications, and 1.3 million industrial design applications.

- China ranked first in all three categories and had as many patent filings as the next 10 places combined, including Japan (3rd), South Korea (4th) and the European Patent Office (5th).

- China accounted for nearly half of global patent filings last year, with a record 1.54 million applications, led by telecoms and computer technology

- China's share, up 11.6 percent from 2017, included requests received by China's intellectual property office from foreign innovators and companies seeking patent protection there, representing one in 10 filings.

- With Asia accounting for more than two-third of the applications, it is increasingly becoming the global hub for intellectual property applications. WIPO also noted the impressive increases in patent filings in India.

Findings Related To United States

- The United States ranked a distant second, with nearly 600,000 patent applications, down 1.6 percent on the previous year and the first drop in a decade.

- The United States remains first globally in seeking foreign protection for applications originating with American enterprises or individuals.

- U.S.-based applicants filed some 230,000 patent filings overseas last year, signalling a push to expand markets, against 66,400 applications from China filed abroad.

World Intellectual Property Organization (WIPO)

- The World Intellectual Property Organization is one of the 15 specialized agencies of the United Nations (UN). It acts as the global forum for intellectual property (IP) services, policy, information and cooperation.

- It was created in 1967 with a mission to lead the development of a balanced and effective international IP system that enables innovation and creativity for the benefit of all.

- WIPO currently has 192 member states, administers 26 international treaties and is headquartered in Geneva, Switzerland.

- The predecessor to WIPO was the United International Bureaux for the Protection of Intellectual Property, which had been established in 1893.

6. **Consider the following statements about Payment Systems in India**
   1. **BHIM is developed by National Payments Corporation of India (NPCI)**
   2. **United Payments Interface is regulated by SEBI**
   3. **NPCI is a non-profit company**

Which of the statements given above is/are correct?

a) **1 and 2 only**
b) **2 and 3 only**
c) **1 and 3 only**
d) **1, 2 and 3**

Answer: A

Explanation:

- Govt has launched BHIM 2.0 with new functionalities. Some of the striking features marking BHIM 2.0 include a 'Donation' gateway, increased transaction limits for high value transactions, linking multiple bank accounts, offers from merchants, option of applying in IPO and gifting money.

- The new version of BHIM also supports three additional languages -- Konkani, Bhojpuri and Haryanvi -- over and above the existing 13.

- BHIM app, is a UPI based payment interface developed by National Payments Corporation of India (NPCI) that allows real time fund transfer and was launched in December, 2016.

UPI

- Unified Payments Interface (UPI) is an instant real-time payment system developed by National Payments Corporation of India facilitating inter-bank transactions.

- The interface is regulated by the Reserve Bank of India and works by instantly transferring funds between two bank accounts on a mobile platform.

NPCI

- National Payments Corporation of India (NPCI), is an umbrella organisation for operating retail payments and settlement systems in India,

- It is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.

- Considering the utility nature of the objects of NPCI, it has been incorporated as a "Not for Profit" Company with an intention to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.

7. **Consider the following statements about Income Taxes in India**
   1. **The National e-Assessment Centre will be headed by the Principal Chief Commissioner of Income Tax**
   2. **Income tax notifications without a computer generated documentation identification number will be considered non-existent under the law**
   3. **The Central Board of Direct Taxes (CBDT) is a part of Department of Revenue**

Which of the statements given above is/are correct?

a) **1 and 2**
b) **2 and 3**
c) **1 and 3**
d) **1, 2 and 3**

Answer: D

Explanation

- Department of Revenue, Ministry of Finance has launched the faceless assessment system in the Income Tax department and has inaugurated the National e-Assessment Centre.

- The nodal National e-Assessment Centre (NeAC) will be located in Delhi and headed by the Principal Chief Commissioner of Income Tax.

- **Need for NeAC:** The e-assessment process is aimed at minimising the level of interaction between taxpayers and the Income-Tax Department, which leads to certain undesirable practices on the part of tax officials.

Workings Of The New Assessment System

- Under the new system, tax assesses will receive notices on their registered emails as well as on registered accounts on the income tax web portal. All such communication will have a document identification number (DIN), using which one can search it on the income tax e-filing portal. Notices without this DIN will be considered non est or non-existent under the law.

- To reply to any income tax notice, the assessee is not supposed to visit any income tax office or send letters by post. All taxpayers have to reply to any notice or letter from the tax department electronically through their account on the income tax department's e-filing portal.

- After the reply is received, the NeAC will allocate the case to an assessing officer using an automated system. And there would be no physical interface between the tax payers and the tax officers.

Benefits of NeAC

- Online submissions will **save time and effort** involved in visiting tax offices for face-to-face proceedings.

- Moreover, faceless assessments will make the process **objective and hassle-free and would lead to better quality of assessments**.

- It would help in bringing about **transparency, efficiency, accountability and standardisation of procedures** by eliminating human interface between the taxpayer and the Income Tax department.

8. **Consider the following statements about Tuberculosis**
   1. **Tuberculosis is caused by a Virus**
   2. **As per the Global TB report 2019 by WHO, India accounts for more than 25% of the global TB burden**
   3. **The global SDG target to end Tuberculosis is 2030**

Which of the statements given above is/are correct?

a) **1 and 3 only**
b) **Only 2**
c) **2 and 3 only**
d) **1 and 2 only**

Answer: C

Explanation:

According to Global TB report 2019 released by WHO, India has shown significant progress in its battle against tuberculosis.

Findings Related To India

- The total TB incidence rate in India has **decreased by almost 50,000 patients** from 27.4 lakh TB patients in 2017 to 26.9 lakh patients in 2018, but only about 21.5 lakh were reported. **Incidence per 1 lakh population** has also decreased from 204 in 2017 to 199 in 2018.

- Yet, **26.9 per cent of the global TB burden of 10 million in 2018 was from India,** which hasn't changed much from 2017, wherein the burden was 27 per cent.

- The number of drug-resistant cases detected **increased from 38,000 in 2017 to 58,000 in 2018** due to mandatory testing for resistance.

- The **increase in the detection of drug resistant cases is a good sign**, because these cases would normally go undetected and continue to spread drug-resistant TB.

- Treatment success rate **increased to 81 per cent** for new and relapse cases (drug-sensitive) in 2017, which was 69 per cent in 2016.

Global Findings From The Report

- More people received life-saving treatment for tuberculosis (TB) in 2018 than ever before, largely due to improved detection and diagnosis. Globally, 7 million people were diagnosed and treated for TB - up from 6.4 million in 2017.

- 2018 also saw a **reduction in the number of TB deaths**, as 1.5 million people died from TB in 2018, down from 1.6 million in 2017.

- In 2018, there were an estimated **half a million new cases of drug-resistant TB** and only one in three of these people was enrolled in treatment.

- **66 per cent of the total TB burden came from eight countries**: India (27%), China (9%), Indonesia (8%), the Philippines (6%), Pakistan (6%), Nigeria (4%), Bangladesh (4%), and South Africa (3%).

Tuberculosis

- Tuberculosis (TB) is **caused by bacteria (Mycobacterium tuberculosis)** that most often affect the lungs. It is one of the **most common communicable disease** in India, however, the disease is curable and preventable.

- About one-quarter of the world's population has latent TB, which means people have been infected by TB bacteria but are not (yet) ill with the disease and cannot transmit it.

- India also has more than **a million "missing" cases** every year that are not notified.

Reasons For High TB Burden In India

- **Improper diagnosis:** Most such cases remain either undiagnosed or unaccountable and inadequately diagnosed, and treated in the private sector.

- Many of these patients do not complete the full course of the antibiotic, thus exposing the bacterium to the medicine without fully killing it. This trigger is enough for the bacterium to evolve into a version of itself that is resistant to that particular drug.

- Further, the high levels of malnutrition act as an additional risk factor as people with compromised immunity levels are more vulnerable to the disease.

Eradication Target

- For tuberculosis, the global Sustainable Development Goal target to end the disease is 2030. However, there is a new urgency in India's TB control efforts since last year, when the deadline to end TB was **advanced to 2025**.

- But experts say the annual rate of TB reduction, at 2 per cent, is far lower than what is required to meet the target.

9. **The National Crime Records Bureau recently released its annual Crime in India Report 2017. Consider the following statements about NCRB and the report.**
   1. **NCRB works under the Ministry of Defence**

2. **NCRB is responsible for collecting and analysing crime data as defined by the Indian Penal Code (IPC)**

3. **As per the report, the maximum number of 'Offences against the State' were reported from Haryana**

4. **As per the report, the maximum number of 'Crimes against women' were reported from Haryana**

Which of the statements given above is/are correct?

a) **1, 3 and 4 only**

b) **2 and 4 only**

c) **2 and 3 only**

d) **1, 2 and 4 only**

Answer: C

Explanation:

After a delay of two years, the annual **Crime in India Report 2017** has been published by the National Crime Records Bureau (NCRB).

Highlights Of The Report

- Over **50 lakh cognisable crimes** were registered across the country in 2017, showing a 3.6% rise over 2016. While **61.2%** of the cases were registered **under IPC**, 38.8% share was of special and local laws (SLL) cases.

- However, India's crime situation is not all gloomy as **fifteen states and UTs**, including Tamil Nadu, Karnataka, Punjab, Rajasthan, West Bengal, Kerala and Gujarat r**eported an annual decline in crime**.

Crime In Delhi

- The NCRB data reaffirms the generally held belief that **Delhi is India's crime capital**. The latest figures show that Delhi witnessed 1,050 IPC crime incidents per lakh of the city's population, which was **over four times the national average of 238**.

- It also showed that **Delhi recorded a 40.4% share of total Indian Penal Code (IPC) crimes registered in 19 cities** in 2017 with Bengaluru taking the second position at 8.9% followed by Mumbai at 7.4%.

- However, no cases of rioting over communal or religious issues and caste conflict were reported in Delhi in 2017.

- In Delhi, there is a facility to register First Information Reports online in cases of motor vehicle theft and other thefts, which may have increased the number of crime cases under these heads. This makes it **statistically non-comparable** with other cities where online registration is not available.

Statistics On Various Crimes

A. Crime Against Women

- As per the report, 3.59 lakh cases of crime against women were reported in the country. **Uttar Pradesh topped the list, followed by Maharashtra and West Bengal**.

- Delhi remained ahead of all other metropolitans in crime against women. While in reported cases of rape, Delhi was followed by Mumbai.

B. Offences Against The State

- There has been a **30 per cent rise** in incidents of offences against the state as compared to 2016. This category includes offences such as **sedition, waging war against the country and damage to public property among others**.

- The maximum number of such offences were reported from **Haryana (2,576) followed by UP (2,055)**. However, in both these states the high number of offences was largely **due to acts of damage to public property**.

- The **maximum number of sedition cases were reported from Assam** (19) followed by Haryana (13). Jammu and Kashmir recorded just one case of sedition while Chhattisgarh and all North East states, barring Assam, recorded zero incident.

C. Anti-National Elements

- As per **a new category of offences of "Anti-National Elements"** maximum offences were committed by Left Wing Extremist (LWE) operatives (652), followed by North East insurgents (421) and Terrorists (Jihadi and other elements) (371).

- The maximum number of killings were carried out by LWE insurgents (82), followed by killings by terrorists (36) and North East insurgents.

D. Miscelleneous

- **Fake/False News:** The NCRB for the **first time collected data on circulation of "false/fake news and rumours"**. Under the category, maximum incidents were reported from **Madhya Pradesh (138), Uttar Pradesh (32) and Kerala (18)**.

- **Rioting:** Maximum number of incidents of rioting were reported from **Bihar (11,698), followed by Uttar Pradesh (8,990) and Maharashtra (7,743)**.

- **Cyber Crimes:** Around 56% of the cyber crimes registered were for the motive of fraud followed by sexual exploitation with 6.7%and causing disrepute with 4.6%.

Report Leaves Out Data Under Mob Lynching

- A decision to collect data on lynchings had been taken **in the wake of a spate of lynching incidents across the country** through 2015-16. The idea was that such data collection would help the government formulate its policies better in tackling these crimes.

- However, data collected under the new sub-heads of death due to mob lynching, murder by influential people, killing ordered by khap panchayat and murder committed for religious reason **have not been published**.

- The reasons for not publishing the said data has not been communicated, as the **data was ready, fully compiled and analysed**.

National Crime Records Bureau (NCRB)

- The National Crime Records Bureau, is an Indian government agency **responsible for collecting and analysing crime data** as defined by the Indian Penal Code (IPC) and Special and Local Laws (SLL).

- NCRB is **headquartered in New Delhi and is part of the Ministry of Home Affairs** (MHA). It was set-up in 1986 to function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators.

Mission

- To empower Indian police with information technology and criminal intelligence to enable them to uphold law and protect people.

- To provide leadership and excellence in crime analysis particularly for serious and organized crime.

10. Consider the following statements regarding National Pension System
   1. **NPS is managed by Life Insurance Corporation**
   2. **NRIs and OCIs can also invest in NPS**

Which of the statements given above is/are correct?

a) **Only 1**
b) **Only 2**
c) **Both 1 and 2**
d) **Neither 1 nor 2**

Answer: B

Explanation:

- The Pension Fund Regulatory and Development Authority (PFRDA) has now permitted Overseas Citizens of India to enrol in NPS at par with non-resident Indians (NRIs).

- OCI willing to subscribe NPS should be eligible to invest as per the provisions of the PFRDA Act and the annuity/accumulated saving will be repatriable, subject to FEMA (Foreign Exchange Management Act) guidelines.

- The move will enable overseas citizens to take advantage of the social security scheme and associated income tax benefits

- This is a welcome move for OCIs as there are many individuals of Indian origin who have taken up foreign citizenship while working overseas and may prefer to continue investing in India from their local income sources

National Pension System

- The NPS is a voluntary defined contribution pension and investment scheme aimed at providing old age security through safe and regulated market-based return. It is managed by Pension Fund Regulatory and Development Authority.

- NPS started with the decision of the Government of India to stop defined benefit pensions for all its employees who joined after 1 January 2004.

- While the scheme was initially designed for government employees only, in 2009 it was opened up for all citizens of India between the age group of 18 and 65 years, including self-employed professionals and others in the unorganized sector on a voluntary basis.

11. Sixth Schedule of the Constitution is applicable to which of the following States?
   1. **Assam**
   2. **Meghalaya**
   3. **Manipur**
   4. **Nagaland**

Which of the statements given above is/are correct?

a) **1 and 2 only**
b) **2 and 3 only**
c) **2, 3 and 4 only**

d) **1, 2, 3 and 4**

Answer: A

Explanation:

- Meghalaya's bid to exclude "unrepresented tribes" from the provisions of the Sixth Schedule of the Constitution has left minor tribes in the hill State edgy.

- Recently, a sub-committee constituted by the State government had decided to recommend to the Standing Committee of Parliament the removal of the word "unrepresented tribes" from the amended Sixth Schedule.

- Currently, members of such tribes are nominated to the autonomous district councils. The minority tribes include the Hajong, Koch, Rabha, Boro and Mann.

- Organisations representing five minor tribes in Meghalaya have asked the Chief Minister to intervene in the move to exclude them from the provisions of the Sixth Schedule of the Constitution.

- Meghalaya is divided into autonomous councils in the names of the three major matrilineal communities — Garo, Khasi and Jaintia.

- Parts or the whole of the four northeastern States — Assam, Meghalaya, Mizoram and Tripura — fall under the Sixth Schedule, which makes special provisions for tribal areas.

- The Constitution of India says that the Sixth Schedule is specially meant for the welfare and advancement of the Scheduled Tribes, but the proposed amendment will deprive some of the STs of their constitutional rights in the district councils.

12. Poshan Atlas is developed by
a) **Ministry of Human Resource and Development**
b) **Ministry of Health and Family Welfare**
c) **Ministry of Women and Child Development**
d) **Ministry of Social Justice and Empowerment**

Answer: C

Explanation:

- The Ministry of Women and Child Development (WCD) in association with the Bill & Melinda Gates Foundation and Deendayal Research Institute is developing a POSHAN atlas under POSHAN abhiyan.

- According to the World Bank Global Nutrition Report – 2018, malnutrition costs India at least $10 billion annually in terms of lost productivity, illness and death and is seriously retarding improvements in human development and further reduction of childhood mortality.

- The POSHAN atlas will map the crops and food grains grown in different regions of the country because the solution to tackling malnutrition lies in promoting regional cropping patterns and embracing local food that are rich in protein

Poshan Abhiyan

- POSHAN Abhiyaan is a multi-ministerial convergence mission with the vision to ensure attainment of malnutrition free India by 2022.

- The objective of POSHAN Abhiyaan is to reduce stunting, undernutrition and anaemia in identified Districts of India with the highest malnutrition burden by improving utilization of key Anganwadi Services and improving the quality of Anganwadi Services delivery.

- Its aim to ensure holistic development and adequate nutrition for pregnant women, mothers and children.

13. Consider the following statements regarding Food and Agriculture Organization (FAO)
1. FAO is a specialized agency of the United Nations
2. World Food Day is celebrated on the founding day of FAO
3. FAO's headquarters is in Geneva

Which of the statements given above is/are correct?

a) **1 and 2 only**
b) **2 and 3 only**
c) **1 and 3 only**
d) **1, 2 and 3**

Answer: A

Explanation

- World Food Day, which is dedicated towards tackling global hunger, is observed annually on October 16. It also marks the creation of FAO in 1945, as part of which events are organised in over 150 countries across the world.

- As per FAO, over 820 million people suffer from chronic undernourishment with 60 per cent women, and five million children under five years of age dying of malnutrition-related causes each day.

- On the other hand, FAO notes that 672 million people suffer from obesity, and a further 1.3 billion are overweight. Unhealthy diet is the leading risk factor for deaths from non-communicable diseases (NCDs), including cardiovascular diseases, diabetes and certain cancers.

- Linked with one fifth of deaths worldwide, unhealthy eating habits are also taking a toll on national health budgets costing up to USD two trillion per year. Obesity and other forms of malnutrition affect nearly one in three people. Projections indicate that the number will be one in two by 2025.

- This year's theme is not only focused on achieving Zero Hunger but is also about nourishing people, while nurturing the planet. The theme is 'Our Actions Are Our Future Healthy Diets for A #ZeroHunger World'.

- According to FAO, this year, World Food Day calls for action across sectors to make healthy and sustainable diets affordable and accessible to everyone. At the same time, it calls on everyone to start thinking about what they eat.

FAO

- The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger. FAO's headquarters is in Rome, Italy.

- FAO's goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives. With over 194 member states, FAO works in over 130 countries worldwide. We believe that everyone can play a part in ending hunger.

14. Consider the following statements about National Commission for Protection of Child Rights (NCPCR)
    1. NCPCR is a statutory body
    2. It works under the aegis of Ministry of Social Justice and Empowerment

Which of the statements given above is/are correct?

a) **Only 1**
b) **Only 2**
c) **Both 1 and 2**
d) **Neither 1 nor 2**

Answer: A

Explanation:

- The Karnataka State Commission for Protection of Child Rights (KSCPCR) wants the Department of Primary and Secondary Education to ban schools from assigning homework to students in the lower primary section — from classes 1 to 5.

- It plans to take this up with the department on the grounds that the move will ease the pressure on young minds.

- In May this year, the department had issued an order that students in classes 1 and 2 should not be given homework.

- Commission members claim that not only should the government extend this up to class 5, it should also monitor schools as many are violating the order and still giving homework to children.

National Commission for Protection of Child Rights

- The National Commission for Protection of Child Rights (NCPCR) was established by the Commission for Protection of Child Rights Act in December 2005 and thus is a statutory body.

- The Commission began operation in 2007, under the aegis of Ministry of Women and Child development.

- Its mandate is to ensure that all laws, policies, programmes, and administrative mechanisms are in consonance with the child rights perspective as enshrined in the Constitution of India and the UN Convention on the Rights of the Child.

15. The Gandhian Challenge was recently launched by
    1. Atal Tinkering Labs
    2. UNICEF India
    3. World Bank

Which of the statements given above is/are correct?

a) **1 and 2 only**
b) **2 and 3 only**
c) **1 and 3 only**
d) **1, 2 and 3**

Answer: A

Explanation

- On the 150th birth Anniversary of Mahatma Gandhi, Atal Innovation Mission, NITI Aayog's Atal Tinkering Labs (ATL) and UNICEF India, including Generation Unlimited, have launched 'The Gandhian Challenge'.

- This innovation challenge provides a platform for every child across India to ideate innovative solutions for a sustainable India of their dreams, using Gandhi's principles.

- The winners of the Gandhian Challenge will be awarded by AIM and UNICEF on the occasion of Children's Day in November.

- The contest – open for every child in India also celebrates 70 years of partnership between Government of India and UNICEF India to enable Every Right for Every Child.

- Ideas and solutions to the Gandhian Challenge may be expressed through broad categories viz. Art & Innovation (Letters, poems, painting, videos and photos, among others) and Science, Technology & Innovation (Robotics, IoT, sensors and 3D printers, among others).

Atal Innovation Mission

- AIM is the flagship initiative of the government to promote a culture of innovation and entrepreneurship in the country.

- AIM's objective is to develop new programmes and policies for fostering innovation in different sectors of the economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee innovation ecosystem of the country.

Six Major Initiatives Of AIM

- Atal Tinkering Labs-Creating problem-solving mindset across schools in India.

- Atal Incubation Centers-Fostering world class start-ups and adding a new dimension to the incubator model.

- Atal New India Challenges-Fostering product innovations and aligning them to the needs of various sectors/ministries.

- Mentor India Campaign- A national Mentor network in collaboration with public sector, corporates and institutions, to support all the initiatives of the mission.

- Atal Community Innovation Center- To stimulate community centric innovation and ideas in the unserved /underserved regions of the country including Tier 2 and Tier 3 cities.

- ARISE-To stimulate innovation and research in the MSME industry.

Generation Unlimited

- Generation Unlimited is a new UNICEF-led global partnership that aims to ensure that every young person age 10-24 is in some form of school, learning, training, self-employment, or age-appropriate employment by 2030.

- It aims to co-create and scale up proven solutions related to secondary age-education, skills for learning, employability and decent work, and empowerment, with a focus on girls.

16. Consider the following statements about Trans fats
   1. Trans fats are saturated fats
   2. Trans fats are created through a process of Hydrogenation
   3. Natural trans fats are found in meat and dairy of ruminant animals

Which of the statements given above is/are correct?
a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) 1, 2 and 3

Answer: B

Explanation

- The Ministry of Health has launched the 'trans fat free' logo, which can be voluntarily used by food business operators in their outlets and also on food products.

- Food establishments which use trans-fat free fats/oil and do not have industrial trans-fat more than 0.2g/100g of food, can display the logo in their outlets and on their food products.

- The logo has been launched to accelerate FSSAI's 'Eat Right India', a movement to phase out trans-fat in the country. The target is to reduce the industrially produced trans fatty acids on food supply to less than 2% by 2022.

Trans fats

- Trans fats, or trans-fatty acids, are a form of unsaturated fat. They come in both natural and artificial forms.

- Natural, or ruminant, trans fats occur in the meat and dairy from ruminant animals, such as cattle, sheep, and goats. They form naturally when bacteria in these animals' stomachs digest grass.

- However, dairy and meat eaters needn't be concerned. Several reviews have concluded that a moderate intake of these fats does not appear harmful

- Manufacturers create trans fats via a process called hydrogenation. Hydrogenation is a process by which vegetable oils are converted to solid fats simply by adding hydrogen atoms.

- Hydrogenation increases the shelf life and flavor stability of foods. Artificial trans fats raise LDL "bad" cholesterol and increase the likelyhood of heart disease. They also lower HDL "good" cholesterol.

17. Thotlakonda Buddhist complex is situated in which State?
a) Maharashtra
b) Andhra Pradesh
c) Odisha
d) Bihar

Answer: B

Explanation:

- The mahastupa of the 2,000-year-old Buddhist heritage site of Thotlakonda, reconstructed in 2016 by the state archaeology department, collapsed recently during torrential rainfall.

- In 2015, despite objections from Intach (Indian National Trust for Art and Cultural Heritage) and heritage activists, the state government reconstructed the structure using modern bricks, building material and rocks from Vijayawada and Yendada on the excavated base of the original stupa

- This is a case of flawed reconstruction violating principles of archaeological conservation.

Thotlakonda Buddhist Complex

- Thotlakonda - a Buddhist complex is situated on a hill near Bheemunipatnam about 15 kilometres from Visakhapatnam in Andhra Pradesh.

- The Telugu name Thoṭlakoṇḍa derived from the presence of a number of rock-cut cisterns hewn into the bedrock of the hillock.

- Thotlakonda was well within the influence of ancient Kalinga, which was an important source of dissemination of Buddhism to Sri Lanka and various parts of Southeast Asia. It provides an insight into the process of transoceanic diffusion of Indic culture, especially Buddhism.

- Thotlakonda's peak activity was between the 2nd century BC and the 2nd century owing to brisk Roman trade and religious missions sent abroad.

- After its discovery, major excavations have been conducted by the Andhra Pradesh State Archaeology Department during 1988 - 1993. The excavations established the existence of a Hinayana Buddhist complex which flourished 2000 years ago.

18. Consider the following statements regarding Kartarpur Corridor
1. **It connects Gurdwara Darbar Sahib in India with Dera Baba Nanak Sahib in Pakistan**
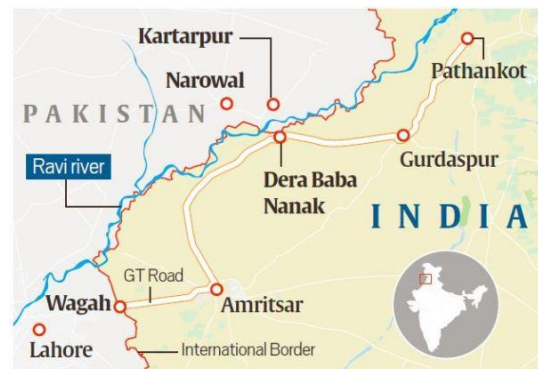2. **The Gurdwara at Kartarpur was established by the 5th Guru, Guru Arjan Dev.**

Which of the statements given above is/are correct?

a) **Only 1**
b) **Only 2**
c) **Both 1 and 2**
d) **Neither 1 nor 2**

Answer: D

Explanation:

- India and Pakistan have signed an agreement to operationalise the Kartarpur corridor that will facilitate pilgrims from India to visit the Gurdwara Kartarpur Sahib in Pakistan.

- The corridor connects Dera Baba Nanak in Gurdaspur with Gurdwara Darbar Sahib in Kartarpur, the final resting place of Sikhism founder Guru Nanak, to commemorate his 550th birth anniversary celebrations.

- The agreement is valid initially for five years and the corridor would be operational throughout the year.

- Persons of Indian origin holding OCI (Overseas Citizen of India) card too can visit the Kartarpur gurdwara through the corridor.

- It has been decided that 5,000 pilgrims could visit the shrine everyday and that additional pilgrims would be allowed on special occasions, subject to capacity-expansion facilities by the Pakistani side.

Kartarpur

- The first guru of Sikhism, Guru Nanak, founded Kartarpur on the right bank of the Ravi River and established the first Sikh commune there.

- The Gurdwara was established by Guru Nanak in 1522. He lived there for 18 years until he breathed his last.

- During the partition, the region was divided between India and Pakistan. The Radcliffe Line awarded the right bank of the Ravi River, including Kartarpur, to Pakistan, and the Gurdaspur tehsil on the left bank of Ravi to India.

- The Gurdwara was opened to pilgrims after repairs and restoration in 1999, and Sikh jathas have been visiting the shrine regularly ever since.

- However, pilgrims from India have to take a bus to Lahore to get to Kartarpur, which is a 125 km journey, despite the fact that people on the Indian side of the border can physically see the Gurdwara on the Pakistani side.

19. **Regarding the role and functioning of cooperative institutions in India, which of the following statements stands true?**

    1. **Cooperative institutions play a significant role in credit delivery to unbanked segments and financial inclusion. But their role has declined with the expansion of scheduled commercial banks and adoption of technology.**

    2. **The Registrar of Cooperative Societies (RCS) is in control of management elections and many administrative issues as well as auditing of cooperative banks.**

    3. **A recent study showed that large urban cooperatives are doing better in terms of non-performing assets and other aspects, while small cooperatives are not doing well.**

a) **1 & 2 only**

b) **2 & 3 only**

c) **1 & 3only**

d) **all of the above**

Answer: D

20. **Consider the following statements:**

    1. **In Puttuswamy v. state of India case, the supreme court held that non-governmental organisations which were substantially financed by the appropriate government fall within the ambit of 'public authority' under Section 2(h) of the Right to Information Act, 2005.**

    2. **The top court held that 'substantial' means a large portion which can be both, direct or indirect. It need not be a major portion or more than 50% as no straitjacket formula can be resorted to in this regard.**

    3. **The various concessions, such as allocation of land, accommodation, bungalows in the national and State capitals, tax exemption against income under Section 13A of the Income Tax Act, free air time on television and radio, etc. can easily satisfy the prerequisite of Section 2(h) of the RTI.**

Which of the above statement stands true?

a) 1 & 2 only

b) 2 & 3 only

c) 1 & 3only

d) all of the above

Answer: B

21. Bioswales often seen in news is related to which of the following area?

a) **Management of Oil spills**

b) **Decomposition of Plastics**

c) **Management of rainwater**

d) **None of the above.**

Answer: C

Explanation:

Bioswales are strips of vegetated areas that redirect and filter storm water. A typical bioswale is a long, linear strip of vegetation in an urban setting used to collect runoff water from large impermeable surfaces such as roads and parking lots. Bioswales serve a similar purpose to that of gutters. The advantage of using bioswales is that the vegetation and soil in them slows down and collects water, allowing it to infiltrate soil, in addition to filtering pollutants. The current increase in storm frequency and scale can result in sewage or other polluted water overflow, making bioswales important for climate change adaptation. Bioswales are often found parallel to long roads as they require a long and straight area to increase retention and filtration time. Bioswales' slanted walls direct rain into the vegetated depressions. In some cases, check dams are built in the bioswale to further reduce water flow velocity.

22. Who among the following has sworn in as the President of Indonesia recently?
a) **Joko Widodo**
b) **Ma'ruf Amin**
c) **Prabowo Subianto**
d) **Jusuf Kalla**

Answer: A

Explanation

- Indonesia's President Joko Widodo has been sworn in for a second term.

- He was re-elected in presidential election polls that took place in 17 April 2019. He clinched victory with 55.5% of vote.

Electoral System: Indonesia

- Government Type: Presidential system, Constitutional republic

- Upper House total number of seats: 132 ; Lower House total number of seats: 560

- It follows Proportional Representation System.

- **President**: Elected directly in a two-round system in which successful candidates must win at least 50% of the national vote.

23. Consider the following statements regarding the Organization of the Petroleum Exporting Countries (OPEC):

1. OPEC is a permanent intergovernmental organization.
2. The headquarters of the organization are in Vienna, Austria.
3. Some of the world's largest oil producers, such as Russia, China, are members of OPEC.

Which of the above statements is/are Correct?

a) 1 and 2 Only

b) 2 and 3 Only

c) 1 and 3 Only

d) 1, 2 and 3

Answer – A

Explanation

- **Ecuador will withdraw** from the **14-nation OPEC** from January 1, 2020.

- It cited **internal fiscal problems** as the reason for the withdrawal from the group**.**

- Ecuador is attempting to increase its production of crude oil in a bid to raise more income. On multiple occasions, it has not compiled with the output quota fixed by OPEC.

- Ecuador re-joined the organization in 2007, after withdrawing in 1992.

About OPEC:

- OPEC is a **permanent intergovernmental organization**, created in Baghdad in Sept. 1960 by its founding members: **Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela**.

- The headquarters of the organization are in **Vienna, Austria.**

- According to its statutes, OPEC membership is open to any country that is a substantial exporter of oil and shares the ideals of the organization.

- It is notable that some of the world's largest oil producers, including Russia, China, and the United States, are not members of OPEC, which leaves them free to pursue their own objectives.

24. Which of the following UN Organisations has become the first UN organization to hold and make transactions in cryptocurrency?

a) International Labour Organisation (ILO)

b) United Nations Educational, Scientific and Cultural Organization (UNESCO)

c) United Nations High Commissioner for Refugees (UNHCR)

d) United Nations Children's Fund (UNICEF)

Answer – D

Explanation

- UNICEF has now become the first UN organization to hold and make transactions in cryptocurrency.

- It has announced it is accepting and disbursing donations through cryptocurrencies ether and bitcoin. For this purpose, the agency has established **UNICEF Cryptocurrency Fund.**

- Cryptocurrencies are virtual currencies that can be cashed in for real money, and are not linked to any single country or central authority.
- Instead, a ledger of transactions is maintained by a decentralised network of computers.

25. Dubai has hosted the 2019 First Global DXB Challenge. It was related to:
a) **Increase Awareness about Fitness**
b) **Diversify the Economy**
c) **Find innovative solution in Sustainable Transportation**
d) **The fields of Robotics and Artificial Intelligence**

Answer – D

Explanation

- Dubai has hosted the '**2019 FIRST Global DXB Challenge**' in the **fields of robotics and artificial intelligence** from October 24 to 27.
- The event aims to address the world's most critical environmental issues such as wastage of water and energy, sustainability and pollution through a global robotics competition.
- **Them**e - '**Ocean Opportunities'**.
- The Challenge focused on developing robots to clean up the millions of tons of pollutants in the oceans

26. Recently, the first satellite servicing spacecraft was launched successfully on a Russian rocket. The name of the spacecraft is –
a) **Mission Extension Vehicle-1 (MEV 1)**
b) **Satellite Refueling Vehicle- 1 (SRV 1)**
c) **Satellite Servicing Vehicle- 1 (SSV 1)**
d) **Defense Advanced Research Vehicle (DARV)**

Answer – A

Explanation

- The robotic **Mission Extension Vehicle-1 (MEV-1)** has been launched atop a Russian Proton rocket from Baikonur Cosmodrome in Kazakhstan.
- MEV 1 is the first commercial servicing mission.
- The MEV has a mission to intercept the fuel-hungry satellite and attempt the first-ever docking between two spacecraft near geostationary orbit early next year, so that it can **reinvigorate the communications satellite.**

27. What is "LGM-30 Minuteman III", sometimes seen in the news?
a) **An Israeli radar system**
b) **India's indigenous anti-missile programme**
c) **An American intercontinental ballistic missile**

d) **A defence collaboration between Japan and South Korea**

Answer – C

Explanation

* USA has tested an unarmed Minuteman III intercontinental ballistic missile by lauching the missile from California base.

* The missile traveled 6,750 km across Pacific Ocean to the Kwajalein Atoll in Marshall Islands.

* This took place after North Korea tested a ballistic missile from the coast of Wonsan.

28. **Which of the following countries has announced the establishment of the world's first graduate-level, research-based AI (Artificial Intelligence) university?**
a) **France**
b) **UAE**
c) **Saudi Arabia**
d) **Germany**

Answer – B

Explanation

* The government of the **United Arab Emirates** (UAE) has recently announced the establishment of the world's first graduate-level, research-based AI university.

* This university has been named - **Mohamed bin Zayed University of Artificial Intelligence (MBZUAI)**.

* It will provide **MSc and PhD degrees** in these programmes – Computer Vision, Machine Learning and Natural Language Processing.

* PhD in Natural Language Processing will be started in 2021.

29. **The robot, named Pepe, encourages children to wash their hands. This robot is a result of joint collaboration between**
a) **India and U.K**
b) **India and Japan**
c) **U.K. and Japan**
d) **Japan and South Korea**

Answer – A

Explanation

* A collaboration between researchers from the **UK and India** has resulted in a **new robot which encourages children to wash their hands**.

* The robot, named **Pepe**, was recently used by pupils at a primary school in Kerala as a fresh approach to hygiene.

- This demonstrate a **valuable and viable use case for social robots** in rural populations in developing countries

30. Consider the following pairs:

Exercise	Participating Countries
1. Ekuverin	• India and Maldives
2. IMNEX	• India and Myanmar
3. Eastern Bridge	• India and Oman
4. Shinyuu Maitri	• India and Japan

Which of the above pairs is/are Correctly matched?

a) 1 and 2 Only

b) 2 and 3 Only

c) 1, 2 and 3 Only

d) 1, 2, 3 and 4

Answer – D

Explanation

Ekuverin 2019

- Joint Military Exercise between the **Indian Army and the Maldives National Defence Force**.
- 2019 was the 10th edition of this exercise which was held at Aundh Military Station in Pune, Maharashtra.
- The last exercise was held in Maldives in 2018.

IMNEX 2019

- The **second edition** of **'India Myanmar Naval Exercise'** IMNEX-2019 was organized in Visakhapatnam, Andhra Pradesh.

Eastern Bridge

- Air Exercise **Eastern Bridge-V (Fifth Edition)** was conducted between the **Indian Air Force (IAF) and the Royal Air Force of Oman** (RAFO) at Masirah Air Force Base in Oman.
- The last Indo-Oman Air Force exercise was held in 2017 at Jamnagar, City in Gujarat. The **first edition** of the exercise was conducted at RAFO air base at Thumrait, **Oman in 2009**.

Shinyuu Maitri

- The **Indian Air Force** carried out a joint military exercise 'Shinyuu Maitri' with **Japanese Air Self Defence Force** (JASDF) at Air Force Station, Arjan Singh in Panagarh town in West Bengal.

Other Exercises

Nomadic Elephant-XIV

- 14th edition of **Indo – Mongolian joint military training**, Exercise Nomadic Elephant-XIV was conducted at Bakloh, Himachal Pradesh.

KAZIND 2019

- **Indo-Kazakhstan joint military exercise** 'KAZIND 2019' was conducted in Pithoragarh, Uttarakhand.

Vajra Prahar

- The **10th edition** of the joint military exercise 'Vajra Prahar' between **India and the US** will be held at Joint Base Lewis-McChord (JBLM) in Seattle.

- It is a Special Forces joint training exercise conducted alternately in India and the US.

DHARMA GUARDIAN-2019

- **Joint Military Exercise** DHARMA GUARDIAN-2019 between **India and Japan** will be conducted at counter Insurgency and Jungle Warfare School, Vairengte, Mizoram.

- It is an **annual training event**, which is being conducted in India since 2018.

Shakti-2019

- **Indo-French** joint exercise 'Shakti 2019' began on October 31, 2019 in Rajasthan.

- This year's exercise will mainly focus on **counter-terrorism operations**, set in the backdrop of semi-desert terrain**.**

- The 'Exercise Shakti' series was initiated between India and France in 2011.

31. Consider the following statements:
   1. **DANX-19 is a large scale initiative launched by Indian Army to digitize its official records.**
   2. **OASIS is the joint services exercise for the Defense of Andaman and Nicobar Islands.**

Which of the above statements is/are Incorrect?

a) **1 Only**

b) **2 Only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Answer – C

Explanation

DANX-19

- Andaman and Nicobar Command (ANC) has conducted the **second edition of Defence of Andaman & Nicobar Islands** 2019 (DANX-19), a large scale joint services exercise from 14-18 Oct.

- ANC command was created in 2001 to safeguard India's interests in Strait of Malacca and in South East Asia.

- It is the first and only tri-service command of the Indian Armed Forces based at Port Blair, Andaman and Nicobar Islands.

OASIS

- Indian Army has started digitisation of the service and personal records of its officers.

- For this, Army has launched a new software "**Officers Automated Structured Information System "(Oasis**).

- Before the roll out of the Oasis the records were manually preserved by Manpower Planning (MP) Directorate.

- Manpower Planning (MP) Directorate, is responsible for custody and maintenance of approximately 1.2 lakh service records of serving and retired officers of the Indian Army.

32. Consider the following statements regarding Indo-Tibetan Border Police Force (ITBP):
   1. ITBP is one of the premier branch of Indian army, which was raised in the wake of the Sino-Indian War of 1962.
   2. It guards the entire stretch of India – China border.

Which of the above statements is/are Correct?

a) **1 Only**

b) **2 Only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Answer – B

Explanation

- ITBP celebrated its **58th raising day** on 24 October 2019.

- ITBP is **one of the Central Armed Police Forces (CAPF) of India** under the **administrative control of MHA**. It was raised on October 24, 1962 for reorganizing the frontier intelligence and security set up along the Indo-Tibetan border.

- It was initially raised under the CRPF Act. However, in 1992, parliament enacted the ITBPF Act and the rules there under were framed in 1994.

- Today, ITBPF guards 3,488 kms of **Indo-China Border** and are also deployed in **Maoist affected areas of Chhattisgarh**.

- ITBPF is a specialized mountain force. Being the first responder for natural disaster, ITBPF has been **carrying out numerous rescue and relief operations across the country**.

Two Operational Commands for ITBP at Chandigarh and Guwahati

- The Union Government has approved a full cadre review of ITBP. This has resulted **in creation of over 3,000 new posts**, and **creation of two operational commands** for the ITBP.

- The two commands - **Western** to be based at **Chandigarh** and **Eastern at Guwahati**,

- These two commands will be headed by Additional Director General (ADG)-rank officers.

- BSF has similar command structure that allows **better planning of operations** and **resource mobilisation** in times of peace as well as war.

- Earlier, in 2019, the Government had moved the North West (NW) frontier of the ITBP from Chandigarh to Leh for better dominance of the front.

33. India's Highest Altitude All-weather Permanent Bridge is situated in
a) **Eastern Ladakh**
b) **Western Ladakh**

c) **Manali**

d) **None of the above**

Answer – A

Explanation

- India's highest altitude all-weather permanent bridge has been inaugurated by Indian Defence Minister recently.

- It is located in **eastern Ladakh on Shyok River** at nearly 45 km from the country's border with China.

- It has been named as **Col. Chewang Rinchen Setu**.

- The bridge is strategically located on the 255-km **Darbuk-Shayok-Daulat Beg Oldie** (DSDBO) section of the **road between Leh and Karakoram Pass**. It will reduce the travel time by nearly half.

Colonel Chewang Rinchen

- Called as Lion Of Ladakh for his extraordinary acts of courage in defending Leh and Partapur sector.

- He is **one of only six armed forces personnel** to have been **twice awarded the Maha Vir Chakra**, the second highest gallantry award in the country.

Shyok River

- Tributary of Indus (joins Indus in PoK); Originates from **Rimo Glacier, Karakoram Rang**

- Chang Chen Mo River, Galwan River, Nubra River and Saltoro River are the tributaries of Shyok river.

34. **Consider the following statements regarding Armed Forces Tribunal:**
    1. **Retired Members of the Armed Forces who have held rank of Major General/ equivalent or above are eligible to be appointed as the Chairman of this Tribunal.**
    2. **It does not have power of adjudication with respect to appointments, commission, enrolments and conditions of services of the armed forces.**

Which of the above statements is/are Correct?

a) **1 Only**

b) **2 Only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Context:

Justice Rajendra Menon has been recommended as the **Chairperson of the Armed Forces Tribunal** (AFT). He is the former Chief Justice of Delhi High Court.

Answer – D

Explanation

About AFT:

- It was established in 2009 under Armed Forces Tribunal Act 2007.

- AFT has the power for the adjudication or trial by Armed Forces Tribunal of disputes and complaints with respect to **commission, appointments, enrolments and conditions of service** in respect of persons subject to the Army Act, 1950, The Navy Act, 1957 and the Air Force Act, 1950.

- It can further provide for appeals arising out of orders, findings or sentences of courts- martial held under the said Acts.

- The Principal Bench in New Delhi. AFT has Regional Benches at Chandigarh, Lucknow, Kolkatta, Guwahati, Chennai, Kochi, Mumbai and Jaipur.

- The **Judicial Members** are **retired High Court Judges** and **Administrative Members** are **retired Members of the Armed Forces** who have held rant of Major General/ equivalent or above for a period of three years or more.

- **Judge Advocate General** (JAG), who have held the appointment for at least one year are also entitled to be appointed as the Administrative Member.

35. Shirui Lily Festival is celebrated in
a) **Manipur**
b) **Mizoram**
c) **Sikkim**
d) **Jammu & Kashmir**

Answer – A

Explanation

- The Department of Tourism in Manipur hosted the 3rd state level Shirui Lily Festival, starting from October 16, 2019.

- It was hosted in the **Ukhrul district**, where flowers are in full bloom during this time of the year.

- Shirui Lily was declared as the **State Flower of Manipur in 1989**. The flower is today considered an **endangered species**.

36. Consider the following sites in India:
1. **Vikram Sarabhai Library, Ahmedabad**
2. **Keneseth Eliyahoo Synagogue, Mumbai**
3. **Flora Fountain, Mumbai**
4. **Our Lady of Glory Church, Kerala**

Which of the above sites has/have been given 2019 UNESCO Asia-Pacific Awards for Cultural Heritage Conservation?

a) **1, 2 and 4**
b) **1, 2 and 3**
c) **2, 3 and 4**
d) **1, 2, 3, 4**

Answer – B

Explanation

- **UNESCO Asia-Pacific Awards for Cultural Heritage Conservation** were announced in **Penang, Malaysia** on 14 October 2019.

- In this year's awards, **16 projects from 5 countries** (India, Bhutan, China, New Zealand and Australia) have been given award under different categories.

Indian Projects which received the Award:

- **Award of Distinction**: **Vikram Sarabhai Library, Indian Institute of Management (IIM), Ahmedabad**. Restored by architect Brinda Somaya.

- **Award of Merit**: **Keneseth Eliyahoo Synagogue (Mumbai)**, a Jewish Synagogue restored by Abha Narain Lambah and **Our Lady of Glory Church (Mumbai)** restored by David Cardoz and and Ainsley Lewis

- **Honourable Mention**: **Flora Fountain (Mumbai)**. Restored by **Vikas Dilwari**

About the Award:

- It recognizes the efforts of private individuals and organizations that have successfully restored and conserved structures and buildings of heritage value in the region.

- The Awards programme was established in 2000.

- This year marked **20 years** of the UNESCO Awards for Cultural Heritage Conservation, which was **conceived in** Penang, Malaysia, during **UNESCO's landmark "Economics of Heritage" regional conference in 1999**.

Asia-Pacific Heritage 20/20 Forum:

- In celebration of the 20th anniversary, UNESCO co-organized the **Asia-Pacific Heritage 20/20 Forum** and **2019 Awards Ceremony with Think City** in Penang on 14 October 2019.

- The **20/20 Forum** provides an opportunity for industry practitioners to reflect upon **how heritage conservation has evolved over the past 20 years**, as well as to set a vision for linking heritage with sustainable development within the broad framework defined by **UNESCO Agenda 2030 in the next 20 years**.

37. The State of the World's Children Report is Published by
a) **Food and Agriculture Organisation**
b) **UNICEF**
c) **UNESCO**
d) **Childwatch International Research Network**

Answer – B

Explanation

- The United Nations Children's Fund (UNICEF) has released its annual '**State of the World's Children**' report for 2019.

- The report highlights the condition of children's health in India and across the world.

Key Findings Of The Report:

- 149 million children under 5 were stunted and almost 50 million were wasted in 2018.

- In South Asia, 58.7 million children under 5 were stunted and 25.9 million were wasted.

- The report highlighted the grave danger posed by the **triple burden of malnutrition** – *undernutrition, hidden hunger and overweight*. According to report, it threatens the survival, growth and development of children, economies and nations.

- **Main Cause of triple burden of Malnutrition** – Mainly driven by the **poor quality of children's diets**. Other factors include *Globalization, urbanization, inequities, humanitarian crises and climate shocks*.

- The report highlights that 2 in 3 children are not fed the minimum recommended diverse diet for healthy growth and development.

India Specific Observation:

- In India, 35 per cent children are **suffering from stunting**, 17 per cent **suffer from wasting** and about 33 per cent children are **suffering from underweight**.

- However only 2 per cent of total children are suffering with over-weight.

- Only **42 per cent** of the children (in the age group of 6to 23 months) are given food at adequate intervals and 21 per cent of the children get a sufficiently varied diet.

- **Every second woman** is suffering from **anaemia**.

- Among countries in South Asia, **India fares the worst** (54%) on the prevalence of children under five who are either stunted, wasted or overweight.

- India also has the **highest burden of deaths** among children under five per year, with over 8 lakh deaths in 2018.

Causes:

- Report highlighted that India is moving **away from seasonal food** as well as traditional food.

- Urban India is moving into an **unhealthy food snacking environment.** The same is prevalent in rural areas as well.

- Child diets are largely **lack proteins and micronutrients**.

Government Efforts Recognised:

- The report **appreciated POSHAN Abhiyaan or the National Nutrition Mission** launched by GoI.

- It also recognized the **Anaemia Mukt Bharat programme** to fight anaemic prevalence **as one of the best programmes** implemented by governments across the world to address malnutrition.

- The **6X6X6 strategy** (*six target beneficiary groups, six interventions and six institutional mechanisms*) of the programme has been highlighted for using anaemia testing and treatment as the entry point to provide information on healthy diets.

Recommendations:

- Empower families and children to demand nutritious food.

- Food suppliers should be incetivized to provide the health food for children.

- Create accurate, easy-to-understand labelling.

- It is important to collect, examine and spread good-quality data to guide action and track progress.

38. Consider the following statements regarding International Civil Aviation Organization (ICAO):
   1. It is a specialized agency of UN.

2. It is responsible for the development of principles and techniques of international air navigation.

Which of the above statements is/are Correct?

a) **1 Only**

b) **2 Only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Answer – C

Explanation

- After Pakistan denied use of its airspace to Prime Minister Modi's flight to Saudi Arabia, India has dragged the matter to the ICAO.

- ICAO is a **specialised agency of the United Nations** concerned with civil aviation, and serves as the medium for establishment of *standards and recommended practices in the fields of safety, security, aviation environment protection and facilitation*.

- It was established by States in 1944 to manage the administration and governance of the Convention on International Civil Aviation (Chicago Convention).

- Its headquarter is located in the **Quartier International of Montreal, Quebec, Canada**.

39. **Consider the following statements regarding International Atomic Energy Agency (IAEA):**
    1. **IAEA is a principal organ of the United Nations.**
    2. **It reports to both United Nations General Assembly (UNGA) and United Nations Security Council (UNSC).**

Which of the above statements is/are Correct?

a) **1 Only**

b) **2 Only**

c) **Both 1 and 2**

d) **Neither 1 nor 2**

Context:

Rafael Mariano Grossi of Argentina has been appointed as the new Director General of IAEA. He will succeed late Yukiya Amano as the new chief of IAEA.

Answer – B

Explanation

About IAEA:

- Widely known as the world's "Atoms for Peace and Development" **organization within the United Nations** family, the IAEA is the international centre for cooperation in the nuclear field.

- The United Nations has **six principal organs**: the General Assembly, the Security Council, the Economic and Social Council, the Trusteeship Council, the International Court of Justice, and the Secretariat. **IAEA is not a Principal Organ of UN**.

- IAEA was established on 29 July 1957 with its headquarters in Vienna, Austria.

- It was created as an autonomous organisation through its own international treaty, the **IAEA Statute**.

- Nevertheless, it **reports to both United Nations General Assembly (UNGA) and United Nations Security Council (UNSC).**

Elastocaloric Effect

Researchers from multiple universities, including Nankai University in China, have found that the elastocaloric effect, if harnessed, may be able to do away with the need of fluid refrigerants used in fridges and air-conditioners.

Background

- Refrigeration plays an important role in a wide range of human activity and consumes huge amounts of energy. Researchers are therefore very keen on developing alternatives to the relatively inefficient (about 20%) vapour compression systems that are in widespread use today.

- These refrigerators are also ripe for replacement because they tend to be noisy and use gases that can be dangerous or detrimental to the environment.

- An alternative approach involves using "caloric" materials, which release heat when subjected to an external stimulus such as an applied magnetic or electric field or a compressive force.

- When the stimulus is removed, material will absorb heat, thus cooling its surroundings. By applying and removing the stimulus on a carefully chosen timescale, a refrigeration cycle can be created.

- In the past, much of the focus had been on creating refrigerators that use magnetocaloric materials. However, this has not led to the development of commercial devices for widespread use. Now, researchers are turning their attention to the elastocaloric effect.

What is Elastocaloric effect?

- When rubbers bands are twisted and untwisted, it produces a cooling effect. This is called the "elastocaloric" effect.

- In the elastocaloric effect, the transfer of heat works much the same way as when fluid refrigerants are compressed and expanded.

- When a rubber band is stretched, it absorbs heat from its environment, and when it is released, it gradually cools down.

Methodology

- In order to figure out how the twisting mechanism might be able to enable a fridge, the researchers compared the cooling power of rubber fibres, nylon and polyethylene fishing lines and nickel-titanium wires. They observed high cooling from twist changes in twisted, coiled and supercoiled fibres.

- The level of efficiency of the heat exchange in rubber bands is comparable to that of standard refrigerants and twice as high as stretching the same materials without twisting.

- The researchers suggested that their findings may lead to the development of greener, higher-efficiency and low-cost cooling technology.

Microbial Fuel Cells

- The Zoological Society of London, recently announced that a fern at the London Zoo has started taking its own selfies.

- The feat has been achieved by installing microbial fuel cells in Pete, a maidenhair fern. Microbial fuel cells are devices that use bacteria as the catalysts to oxidise organic and inorganic matter and convert chemical energy to electrical energy and generate current.

- Plants naturally deposit biomatter as they grow, which in turn feeds the natural bacteria present in the soil, creating energy that can be harnessed by fuel cells and used to power a wide range of vital conservation tools remotely, including sensors, monitoring platforms and camera traps.

Mechanism

- Under sunlight, plants produce sugars and oxygen from water and CO2 (photosynthesis). These sugars do not remain in the leaves but are transported throughout the plant to the stem and roots.

- Some of these sugars are excreted by the roots as a waste product from the plant. Soil micro-organisms break this down further, releasing energy, which is captured using an anode and a cathode and charges a super capacitor. When the super capacitor is full, the power is discharged and a photo is taken

Significance

- Among conventional power sources, batteries must be replaced while solar panels rely on a source of sunlight. On the other hand, plants can survive in the shade, naturally moving into position to maximise the potential of absorbing sunlight.

- This ability to derive and capture energy from plants living in areas of reduced sunlight makes this feat particularly significant.

- The technology has the potential to monitor inhospitable and remote rainforest locations to record key data such as temperature, humidity and plant growth - all of which are crucial to the understanding of threats such as climate change and habitat loss.

GEMINI Device

The Indian National Centre for Ocean Information Services (INCOIS) and Airport Authority of India (AAI) has launched a new satellite-based GEMINI (GAGAN Enabled Mariner's Instrument for Navigation and Information) system that will alert deep-sea fishermen of upcoming disasters.

Need For The New System

- Presently, the fishermen receive advisories, forecasts and early warnings from a wide range of mechanisms such as Potential Fishing Zones (PFZ) advisories, ocean state forecasts, high wave alerts, tsunami and storm surge early warning services. However, all these messages can only get transmitted up to 10 to 12 km from the coast.

- This lacuna was severely felt during the Ockhi cyclone in 2017, when fishermen went out, for deep sea fishing before the onset of the cyclone and could not be informed about the developing cyclone.

- This communication gap resulted in loss of life, serious injuries to those rescued and severe damages to fishing boats and fishing gear

Details of GEMINI

- GEMINI is based on GAGAN (GPS-Aided Geo Augmented Navigation) satellite system developed by the Indian Space Research Organization (ISRO) and AAI.

- The GEMINI device receives and transfers the data received from GAGAN satellites to a mobile through Bluetooth communication. A mobile application developed by INCOIS decodes and displays the information in nine regional languages.

- It will help in seamless and effective dissemination of Potential Fishing Zones (PFZ) and Ocean States Forecasts (OSF) to fishermen.

- While PFZ Advisories provide information on the probable locations on fish aggregation in the seas, OSF provide the accurate state of the ocean.

- The GAGAN satellite system consists of three geosynchronous satellites namely the GSAT-8, GSAT-10 and GSAT-15 and these three cover the entire Indian Ocean region constantly.

First All-Female Spacewalk

- NASA astronauts Jessica Meir and Christina Koch have carried out the first all-women spacewalk in history. This happened for the first time in a half-century of spacewalking.

- However, it was not the first time that a female conducted a spacewalk. Meir, making her spacewalking debut, became the 228th person in the world to conduct a spacewalk and the 15th woman.

- The first all-women spacewalk was originally meant to happen on March 29. Koch was one of the astronauts then too, the other being Anne McClain. It did not happen because the International Space Station did not have enough spacesuits of McClain's size.

Precision Needed In Spacesuits

- A spacesuit, or Extravehicular Mobility Unit (EMU), is worn to be able to work outside the space station. Spacesuits provide astronauts with oxygen supply while they are in the vacuum of space and the suits also give them protection against extreme temperatures, radiation and space dust.

- An EMU consists of components such as the upper torso, lower torso, gloves and arms, which are manufactured in different sizes and assembled together in combinations that fits an astronaut best.

- Further, spacesuits have to be configured to an astronaut's body size before a spacewalk, which can take up to 12 hours, while putting on a spacesuit takes 45 minutes. Hence to avoid delay and for safety reasons, the swap was necessary in McClain's case, which sparked widespread criticism.

If Safety Was The Concern, Why Was The Change Of Schedule An Issue?

- While NASA is generally regarded as being sensitive to gender issues, many women saw the lack of availability of the right spacesuit as a sign of NASA's structural problems with regard to women astronauts.

- NASA used to have small, medium, large and extra-large suits but for budget reasons, the small and XL suits were cut. However, many of the male astronauts could not fit into the L suits, so the XL suits were brought back, while the small suits stayed out.

- This implied gender bias in the spacesuits sizes that were given priority and was an example of how women miss out when the world is built around men.

Spacesuit Upgrades

- The reusable EMUs currently in use were developed in 1974 and have been refurbished and redesigned many times in the last 40 years. However, recently in October, NASA unveiled its next generation of spacesuits.

- One kind, called xEMU, will improve upon suits previously worn during the Apollo era and those that are currently in use. The xEMU suits will be worn by astronauts on the Artemis mission to the Moon.

- The Orion suit, meanwhile, is designed for a custom fit and incorporates safety technology and mobility features that will help protect astronauts during launch.

- The Orion suit will also be helpful in emergency situations, high-risk parts of missions near the Moon, and during the high-speed return to Earth.

Ionospheric Connection Explorer

- NASA has finally launched Ionospheric Connection Explorer (ICON) satellite into the orbit after a delay of nearly two years onboard Northrop Grumman Pegasus XL rocket.

- ICON will be placed in the thick of the Earth's ionosphere, which is a massive layer of Earth's atmosphere that overlaps with the boundary of space and will study the ionosphere.

- The satellite is equipped with various instruments which are designed for measuring winds and particles. It will also measure how dense the atmosphere is and also analyse its chemical composition.

- NASA had also launched the Gold satellite last year for studying the upper atmosphere, but the Gold mission is analysing it from a much higher region.

Ionosphere

- The ionosphere is a charged part of the upper atmosphere which extends several hundred miles up. It plays an important part in atmospheric electricity and forms the inner edge of the magnetosphere.

- It has practical importance because, among other functions, it influences radio propagation to distant places on the Earth.

- The layer faces constant change due to space weather bombarding it from the above and the weather of Earth from below.

Significance of ICON

- The measurements of the spacecraft will help the space scientists better understand the link between space weather and Earth's weather, and how these two interact in the Earth's ionosphere.

- It is this region where strange and unique phenomena, such as the auroras and geomagnetic storms, take place. It is tough to forecast when these types of phenomena occur since the ionosphere is a very difficult region to study.

- The region where Earth's weather meets weather of the space is also home to the International Space Station (ISS) and it is also a critical pathway for communication satellites.

- The radio waves and Global Positioning System (GPS) signals directly pass through the ionosphere, and these signals can get distorted by patches of ionised material.

- The more the researchers get to know about ionosphere, the better spacecraft, astronauts and radio waves can be protected in the Earth's orbit with the help of improved forecasting.

Indigen Genome Project

- The Ministry of Science and Technology recently announced the details of the Indigen Genome Project.

- The programme is a culmination of a six-month project by the CSIR in which Whole Genome Sequencing of 1,008 Indians was conducted. They were chosen from across the country to represent the width of genetic variability.

- The CSIR exercise ties into a larger programme coordinated by the Department of Biotechnology, which plans to scan nearly 20,000 Indian genomes over the next five years, in a two-phase exercise.

- The exercise was conducted to ensure that India, with its unparalleled human diversity, is adequately represented in terms of genomic data.

- The aim of the exercise was twofold - to test if it's possible to rapidly and reliably scan several genomes and advise people on health risks that are manifest in their gene and, understand the variation and frequency of certain genes that are known to be linked to disease.

Significance

- The ability to decode the genetic blueprint of humans through whole genome sequencing will be a major driver for biomedical science.

- The data will be important for building the knowhow, baseline data and indigenous capacity in the emerging area of Precision Medicine.

- It will have applications in a number of areas including predictive and preventive medicine with faster and efficient diagnosis of rare genetic diseases

- It will help in developing indigenous capacity to generate, maintain, analyze, utilize and communicate large-scale genome data, in a scalable manner.

- The outcomes of the project will be utilized towards understanding the genetic diversity on a population scale, make available genetic variant frequencies for clinical applications and enable genetic epidemiology of diseases

- Anyone looking for a free mapping of their entire genome can sign up for the IndiGen initiative. Those who do get their genes mapped this way will get a card and access to an app, which will allow them and doctors to access "clinically actionable information" on their genomes.

- It will also ensure privacy and data security, which is vital for personal genomics to be implemented at scale.

2019 Nobel Prizes

A. Nobel Prize in Physics

- One half of this year's Nobel Prize for Physics has been awarded to James Peebles for his theoretical work that helps to understand how the universe evolved after the Big Bang.

- The other half went to Swiss astronomers Michel Mayor, and Didier Queloz, for their discovery of an exoplanet that challenged preconceived ideas about planets.

Evolution of the Universe

- Dr. Peebles' theoretical framework about the cosmos and its billions of galaxies and galaxy clusters amounted to the foundation of the modern understanding of the universe's history, from the Big Bang to the present day.

- Modern cosmology assumes that the universe formed as a result of the Big Bang. In decades of work since the 1960s, Peebles used theoretical physics and calculations to interpret what happened after.

- His work is focused largely on Cosmic Microwave Background (CMB) radiation, which is electromagnetic radiation left over from the early universe once it had cooled sufficiently following the Big Bang.

The unknown & an exoplanet

Canadian-American cosmologist James Peebles and Swiss scientists Michel Mayor and Didier Queloz won the 2019 Nobel Prize for Physics for revealing the wonder of the evolution of the universe and discovering exoplanets

The universe was in a hot and dense state, and 14 billion years ago there was a "big bang" and then it started expanding and cooling down

BIG BANG

Four lakh years later, the "first rays" of light travelled through space. These rays still exist in the cosmos and are omnipresent

■ **Peebles** interpreted the "first rays" and showed that in the universe just 5% is known matter. The rest is unknown dark matter & dark energy. His insights turned cosmology from speculation to science sparking further research

■ The dark matter is the force which holds together galaxies which otherwise may get torn apart. The dark energy helps the universe's increasingly rapid and constant expansion. Thus, one pulls and the other pushes

■ **Mayor** and **Queloz** discovered "51 Pegasi b" — first-ever find of an exoplanet orbiting a solar-type star

■ Surprsingly, the planet was as big as Jupiter (1,300 times Earth's volume) but was very close to its star (takes just 4 days to orbit)

■ Big planets were thought to be created far from their stars. How did "51 Pegasi b" get so close? This question led to theories that described how large gas balls formed at the edges of their solar systems, then spiralled inward

- Peebles and colleagues have correlated the temperature of this radiation with the amount of matter created in the Big Bang, which was a key step towards understanding how this matter would later form the galaxies and galaxy clusters.

- From their work derives the knowledge of how mysterious the universe is — just 5% known matter and the rest unknown, as dark matter (26%) and dark energy (69%)

Discovery of an Exoplanet

- The hunt for extraterrestrial life, if any exists, depends on finding habitable planets, mainly outside the Solar System.

- Today, exoplanets are being discovered very frequently — over 4,000 are known — which is remarkable progress from three decades ago, when not even one exoplanet was known.

- The planet discovered by Mayor and Queloz in 1995 is 50 light years away, orbiting the star 51 Pegasus that is similar to the Sun of the Solar System.

- Dr. Mayor and Dr. Queloz are credited with having started a revolution in astronomy notably with the discovery of exoplanet 51 Pegasi B, a gaseous ball comparable with Jupiter, in 1995 — a time when, no one knew whether exoplanets existed or not.

- The exoplanet is not habitable either, but it challenged the understanding of planets and laid the foundation for future discoveries.

B. 2019 Nobel Prize in Chemistry

- The 2019 Nobel Prize in Chemistry has been awarded to John B. Goodenough, M. Stanley Whittingham and Akira Yoshino for the development of lithium-ion batteries.

- Lithium-ion batteries have revolutionised the world and are used in everything from mobile phones to laptops and electric vehicles. Through their work, the Laureates have laid the foundation of a wireless, fossil fuel-free society.

- Whittingham developed the first functional lithium-ion battery in 1976, Goodenough brought in a major improvement in 1980, while Yoshino made the first practical-use lithium-ion battery in 1985.

More power to batteries

M. Stanley Whittingham, John B. Goodenough and Akira Yoshino have been selected for the 2019 Chemistry Nobel for their roles in the development of the Li-ion battery

The first commercially viable lithium-ion battery was developed by Akira Yoshino in 1991

M. Stanley Whittingham
- In the 1970s, he used titanium disulphide as cathode and lithium, which is highly reactive, as anode. When put together, it generated two volts of electricity

John B. Goodenough
- In the 1980s, he replaced titanium disulphide with cobalt oxide as the cathode. The battery's potential doubled becasue of oxide in the cathode but the use of reactive lithium remained a concern

Akira Yoshino
- He replaced lithium with petroleum coke, which drew the Li-ions towards it. Once the battery was operational, the ions and electrons flowed towards the cobalt oxide cathode

How does a battery work?
Electricity is the flow of electrons from one atom to another. In a battery, electrons flow from the negative electrode – the anode – to the positive one – the cathode, producing electricity

- Commercially manufactured lithium-ion batteries, based on what Yoshino had developed, made their first appearance in 1991.
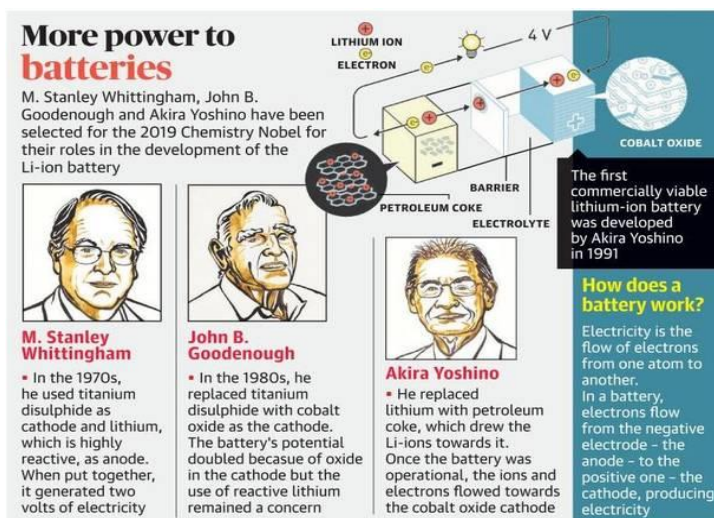
How Batteries Work

- Batteries convert chemical energy into electricity. A battery comprises two electrodes, a positive cathode and a negative anode, which are separated by a liquid chemical, called electrolyte, which is capable of carrying charged particles.

- The two electrodes are connected through an electrical circuit. When the circuit is on, electrons travel from the negative anode towards the positive cathode, thus generating electric current, while positively charged ions move through the electrolyte.

- Single-use batteries stop working once a balance is established between the electrical charges. In rechargeable batteries, an external power supply reverses the flow of electric charges, so that the battery can be used again.

- The advantage of lithium-ion batteries is that they are not based upon chemical reactions that break down the electrodes, but upon lithium ions flowing back and forth between the anode and cathode.

Stanley Whittingham

- When Whittingham began working on batteries in the 1970s, rechargeable batteries were already available, but were bulky and inefficient. Whittingham worked with newer materials to make his battery lighter and more efficient.

- The older rechargeable batteries used to have solid materials in the electrodes which used to react with the electrolyte and damage the battery. Whittingham's innovation came from the fact that he used the atom-sized spaces within the cathode material, titanium disulphide, to store the positive lithium ions.

- The choice of lithium was dictated by the fact that it let go of its electron quite easily and was also very light.

John B. Goodenough

- Whittingham's battery worked at room temperature, making it practical, but was prone to short-circuits on repeated charging.

- An addition of aluminium, and a change of electrolyte, made it safer, but the big breakthrough was made by Goodenough who changed the cathode to a metal oxide instead of metal sulphide (titanium disulphide) that Whittingham had been using. Goodenough's battery was almost twice as powerful as Whittingham's.

Akira Yoshino

- Yoshino started working on Goodenough's battery and tried using various lighter carbon-based materials as the anode in order to bring down the weight further.

- He got excellent results with petroleum coke, a byproduct of the oil industry. This battery was stable, lightweight, and as powerful as Goodenough's.

Lithium-ion Still The Best

- Researchers have continued to look for other materials to make more efficient batteries, but so far none of these has succeeded in outperforming lithium-ion battery's high capacity and voltage.

- The lithium-ion battery itself has, however, gone several modifications and improvements so that it is much more environment friendly than when it was first developed.

C. Nobel Prize in Physiology/Medicine

- The Nobel Prize in Physiology or Medicine has been jointly awarded to three scientists — William G. Kaelin Jr., Peter J. Ratcliffe and Gregg L. Semenza — for their work on how cells sense and adapt to oxygen availability.

- The fundamental importance of oxygen has been understood for centuries, but how cells adapt to changes in oxygen levels has long been unknown.

- Oxygen is the lifeblood of living organisms. Without oxygen, cells can't survive but too much or too little oxygen also can be deadly. The three researchers tried to answer the question: How do cells regulate their responses?

- Their work established the genetic mechanisms that allow cells to respond to changes in oxygen levels.
- It has implications for treating various diseases in which oxygen is in short supply — including anemia, heart attacks and strokes — as well as for treatment of cancers that are fed by and seek out oxygen.

Rafale Jet Delivered

- Defence Minister Rajnath Singh formally received the first Rafale fighter jet built for Indian Air Force (IAF) in France recently. However, the first batch of four jets will arrive in India only in May 2020.
- All 36 jets are expected to arrive in India by September 2022, for which the IAF has been reportedly undertaking preparations, including readying required infrastructure and training of pilots.

Rafale Jet

- The Dassault Rafale is a fourth generation multirole fighter aircraft that was developed through the 1990s and early 2000s by France's Dassault Aviation.
- Rafale name literally means 'a gust of wind' and a 'burst of fire' in a more military sense. It is a twin-engine, canard-delta wing, multirole fighter aircraft, able to operate from both an aircraft carrier and a shore base.
- It is equipped with a wide range of weapons and is intended to perform air supremacy, interdiction, aerial reconnaissance, ground support, in-depth strike, anti-ship strike and nuclear deterrence missions.
- Rafale's trade-off between side and ventral air takes allows a beefed up fuselage and better load carrying capacity giving it a traditional edge over other contemporaries.
- It features a net-centric capability due to its open architecture and data fusion software which allows it to enter into the battlespace with a highly secure data link allowing it to exchange information with other aerial and ground assets through "Remotely Operated Video Enhanced Receiver" in real time, building up a coherent mode of compatibility among other assets deployed in the combat multiplying the effectiveness.
- Rafale's beefed up airframe and intakes, allow it to carry some 2.5 times its own empty weight, carrying a mix of different weapon system for both Air-to-Air and Air-to-Ground Roles

Mahatma Gandhi National Fellowship

- The Ministry of Skill Development and Entrepreneurship (MSDE) has signed an agreement with Indian Institute of Management (IIM)- Bangalore to launch a new programme Mahatma Gandhi National Fellowship aimed at boosting skill development at the district level.
- The two-year Fellowship programme will be delivered by IIMB's Centre of Public Policy (CPP), an independent public interest-oriented policy think-tank engaged in research, teaching, training, and capacity-building.
- The launch of the programme is in line with one of the objectives of bringing about convergence of efforts of various governments and programmes right at the district level.

Details Of The Programme

- The programme will be launched on a pilot basis in 75 districts across Gujarat, Karnataka, Meghalaya, Rajasthan, Uttar Pradesh and Uttarakhand.

- Eligible fellows for the programme have to be in 21-30 years age-group, have a graduation degree from a recognised university and be Indian citizens.

- Designed under Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP), the fellowship aims to address the challenge of non-availability of personnel for implementation of various programmes at national, state and district levels.

- It seeks to create a cadre of young individuals and train them in a blended academic programme that provides both academic inputs and a component of field immersion at the district level.

- In the course of their training, the fellows will work under the close supervision of state skill development missions (SSDM) and will spend time and effort in understanding skilling challenges and gaps in the district.

SANKALP

- SANKALP is an outcome-oriented centrally sponsored programme of Ministry of Skill Development & Entrepreneurship (MSDE) with a special focus on decentralised planning and quality improvement. It focuses on the overall skilling ecosystem covering both Central & State agencies.

- It aims to implement the mandate of the National Skill Development Mission (NSDM) by identifying four key result areas viz.

  o Institutional Strengthening *(at National, State & District level)*

  o Quality Assurance of skill development programs

  o Inclusion of marginalised population in skill development

  o Expanding Skills through Public Private Partnerships (PPPs).

Supreme Court Upholds DOT's Move On AGR

In a blow to telecom service providers, the Supreme Court has upheld the Department of Telecom's move to recover adjusted gross revenue (AGR) of about ₹92,000 crore from them, along with upholding the definition of adjusted gross revenue (AGR).

AGR

- Under the revenue-sharing model introduced in 1999, telecom operators are required to **pay licence fee and spectrum charges** in the form of 'revenue share' to the Centre. The revenue amount used to calculate this revenue share is termed as the AGR.

- **According to the DoT**, the calculations should **incorporate all revenues earned by a telecom company** – including from non-telecom sources such as deposit interests and sale of assets.

- **The companies**, however, have been of the view that AGR should **comprise the revenues generated from telecom services only** and non-telecom revenues should be kept out of it.

Evolution Of The Tussle

- The slugfest between DoT and the telecom companies has been on since 2005, when the Cellular Operators Association of India challenged the DoT's definition for AGR calculation.

- Subsequently, in 2015, the TDSAT ruled that the AGR included all receipts, except capital receipts and revenue from non-core sources such as rent, profit on the sale of fixed assets, dividend, interest and miscellaneous income, etc.

- The government, meanwhile, continued to raise the issue of under-reporting of revenues to duck charges.

- The Comptroller and Auditor General of India (CAG), in a recent report, blamed the telecom companies for "understating revenues" to the tune of Rs 61,064.5 crore.

- The latest petition by the DoT was being heard in the Supreme Court, wherein the DoT sought interest, penalty and interest on penalty on the outstanding amount.

- These amounted to Rs 92,641 crore (disputed actual demand is Rs 23,189 crore, levy of Interest of Rs 41,650 crore, penalty of Rs 10,923 crore and interest on penalty of Rs16,878 crore)

SC Decision

- The court said that the definition of gross revenue is clearly mentioned in the agreement. Once benefit has been drawn, the licensees cannot deny validity or binding effect of contract.

- The Bench said the companies have to not only pay the licence fee but also interest and penalty for delaying payment. The agreement fixes interest at the rate of 2% above the prime lending rate of SBI and penalty could go up to 50% of the short payment.

Impact

- This judgment has significantly damaging implications for India's telecom industry, which is already reeling under huge financial stress and is left with only four operators.

- The move will negatively affect the fund raising capacity of telcos, impacting broadband and network expansion in the country, along with the government's flagship Digital India initiative.

- The impact will not be limited to operators but will have a domino effect on the larger digital value chain.

- Any further deterioration in financial conditions of telecom companies could also adversely impact banks which have lent over Rs 1 lakh crore to the sector.

Way ahead

- The Telecom companies have asked the government to review the impact of this decision and find ways to mitigate the financial burden on an already stressed sector.

- They would also look to file a review application, after looking for some technical or procedural grounds to do so.

Ease of Doing Business Report

- The World Bank recently released the Doing Business 2020 study. The indicator measures the performance of countries across 10 different dimensions in the 12-month period ending May 1, 2019.

- The ten areas of study are defined as: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency.

- The indicator, however, is not necessarily representative of each country. For 11 countries, two cities were selected to construct the indicator — Delhi and Mumbai in the Indian case.

Highlights From India

- India placed 63rd out of 190 countries — an improvement of 14 places from its 77th position last year. The country's score improved from 67.3 last year to 71.0 this year.

- India also featured —— for the third consecutive year - in the list of ten economies where business climates had improved the most. This list is comprised of Saudi Arabia, Jordan, Togo, Bahrain, Tajikistan, Pakistan, Kuwait, China, India, and Nigeria.

- The Report called India's reform efforts particularly commendable given the country's size.

- The country's improved ranking was on the back of four reforms: starting a business, dealing with construction permits, trading across borders and resolving insolvency.

- As a case in point, the report says there were improvements in the efficiency of acquiring building permits. Building a warehouse, for example, cost 4% of the warehouse value compared to 5.7% in the preceding year.

- Importing and exporting became easier with a single electronic platform for trade stakeholders, improved electronic submission methods for documents and upgrades to port infrastructure.

- The 'resolving insolvency' indicator, however, was mixed as the Report noted that reorganization proceedings had been promoted in practice, a positive for the indicator, but resolving insolvency had also been made harder because dissenting creditors would receive would receive less under reorganisation than under liquidation.

- The country still lags in areas like enforcing contracts and registering property. It takes 58 days and costs on average 7.8 per cent of a property's value to register it, longer and at greater cost than among OECD high-income economies.

- It takes 1,445 days for a company to resolve a commercial dispute through a local first-instance court, almost three times the average time in OECD high-income economies.

Highlights For Other Countries

- The ten top ranking countries with respect to the indicator were: New Zealand, Singapore, Hong Kong SAR China, Denmark, Republic of Korea, United States, Georgia, United Kingdom, Norway, and Sweden.

- The commonalities among economies that ranked highest included the widespread use of electronic systems and online platforms for facilitating regulatory requirements.

- On the other hand, resolving insolvency was the least reformed area, as per the report. On average, it takes six times as long to start a business in countries ranked in the bottom 50 than it does in the top 20 countries.

- South Asian region generally underperforms with regard to enforcing contracts and registering property. For instance, it takes 108 days for a business to register a property transfer in South Asia, compared to the 24 days it takes in OECD high-income countries.

- Resolving a commercial dispute, takes three years in South Asia – twice as long as the OECD high-income country statistic.

Cabinet Eases Norms For Firms To Set Up Fuel Outlets

The government has relaxed the "guidelines for granting authorisation to market transportation fuels". It has now been revised to bring it in line with the changing market dynamics and with a view to encouraging investment from private players, including foreign players, in this sector.

Background

- The existing policy for granting authorisation to market transportation fuels had not undergone any changes for the last 17 years since 2002.

- The retail sale of transportation fuels such as diesel and petrol is almost entirely dominated by public sector oil marketing companies such as IOCL, HPCL, and BPCL.

- There are some private players as well — Reliance, Essar and Shell — but as of May 2019, fewer than 7,000 of the 64,703 retail outlets in the country belonged to them.

New Rules

- In essence, the new rules lower the entry barriers for private (including foreign) players to enter the market for fuel retailing.

- For instance, new entrants will require a minimum net worth of just Rs 250 crore as against the current requirement of Rs 2,000 crore of prior investments in the sector.

- The entities seeking market authorisation for petrol and diesel are allowed to apply for retail and bulk authorisation separately or both.

- Non-oil companies can also invest in the retail sector, regardless of whether they have prior investments in the oil and gas sector.

- The companies have been given flexibility in setting up a joint venture or subsidiary for market authorisation.

- The newly authorised entities will have to install facilities to market at least one new generation fuel such as CNG, LNG, biofuels, electric charging, within three years of the outlet being operationalised.

Impact

- The new policy will give a fillip to ease of doing business, with transparent policy guidelines.

- Setting up of more retail outlets (ROs) will result in better competition and better services for consumers.

- It will boost direct and indirect employment in the sector.

- The provision of installing a facility of a new generation fuel, will help in addressing the concerns over the harm done by conventional fuels.

Penicillin To Cure Rheumatic Heart Disease

- In a bid to fight drug resistance and tackle rheumatic heart disease, the government is planning a revival of penicillin, one of the oldest antibiotics known to man.

- The government is planning to procure penicillin centrally for three years and give it to all children between 5-15 years who have a sore throat, at least once. The drug will be dispensed through primary health centres or administered by ASHAs.

Penicillin

- Penicillins are a group of antibacterial drugs that attack a wide range of bacteria. The discovery and manufacture of penicillins have changed the face of medicine, as these drugs have saved millions of lives.

- Penicillin, discovered in 1928 is one of the oldest antibiotics and in many western countries still remains the first antibiotic. Yet in India it has almost gone out of the market because of price control. The prices were kept so low that manufacturers stopped making the drug.

- People generally attribute the discovery of penicillins to Alexander Fleming. Although Fleming technically discovered the first antibiotic, scientists had to do a lot of work before penicillins could become available for general use.

Rheumatic Heart Disease

- Rheumatic heart disease (RHD) is damage to one or more heart valves that remains after an episode of acute rheumatic fever (ARF) is resolved. It is caused by an episode or recurrent episodes of ARF, where the heart has become inflamed.

- The heart valves can remain stretched and/or scarred, and normal blood flow through damaged valves is interrupted.

- Population-based studies indicate the prevalence of rheumatic heart disease in India to be about 2/1000 population. However, surveys conducted in school children in the age group of 5-16 years by ICMR gives overall prevalence of 6/1000.

- Rheumatic fever is endemic in India and remains one of the major causes of cardiovascular disease, accounting for nearly 25-45% of acquired heart disease.

- Not all sore throats go on to become rheumatic fever with severe joint pain or affect the heart in a disease that eventually leaves no option but to replace the heart valves. However, doctors say, it is better to give an antibiotic dose and nip the possibility in the bud.

QS Indian University Rankings

- The QS Indian University Rankings, the second edition of the standalone rankings for India's higher education institutions were released recently. The rankings include public, private, higher education or deemed universities.

- The Indian Institutes of Technology (IITs) dominate the list, with seven IITs figuring in the top ten rankings. Like last year, IIT-Bombay leads followed by the Indian Institute of Science (IISc). This year, IIT-Delhi has improved its performance by one rank to overtake IIT-Madras.

- Delhi University, University of Hyderabad and the Indian Institute of Science are the only other non-IIT institutions in the top ten.

Methodology

- The methodology used eight indicators to determine the institutions' rankings. These were: academic reputation (weight of 30%), employer reputation (20%), faculty-student ratio (20%), the proportion of staff with a PhD (10%), papers per faculty from Scopus database (10%), citations per paper from Scopus database (5%), the proportion of international students (2.5%), and the proportion of international faculty (2.5%).

QS INDIA RANKINGS: THE TOP 10

INSTITUTION NAME	2019	2020
Indian Institute of Technology, Bombay	1	1
Indian Institute of Science (IISc), Bangalore	2	2
Indian Institute of Technology, Delhi	4	3
Indian Institute of Technology, Madras	3	4
Indian Institute of Technology, Kharagpur	5	5
Indian Institute of Technology, Kanpur	6	6
University of Delhi	8	7
University of Hyderabad	7	8
Indian Institute of Technology, Roorkee	9	9
Indian Institute of Technology, Guwahati	10	10

- Academic reputation, the indicator with the highest weight, was based on QS's major global survey of academics who are asked to identify top-ranking institutes in their fields of expertise.

- The "proportion of staff members with a PhD degree" reflects the institution's commitment to hiring highly qualified faculty members, and the score on "international faculty" and "international students" reflects an institution's global appeal and reach.

- The score on "citations per paper" is an indicator of research productivity, which is based on the number of research papers published per staff member.

- However, the India rankings do not necessarily match the QS World University Rankings that were released earlier this year, as the two rankings use different criteria. In that list, IIT-Bombay has been ranked the best Indian institution and IIT-Delhi the second best.

One Nation One FASTag scheme

- The Ministry of Road Transport and Highways recently inaugurated the One Nation One FASTag scheme at the Indian Mobile Congress.

- The move is significant given that the Centre has decided that from December 1, all national highway toll plazas will accept tolls only through FASTags.

FASTag

- FASTags are stickers that are affixed to the windscreen of vehicles and use RFID technology to enable digital, contactless payment of tolls without having to stop at toll gates. A FASTag is valid for five years and needs to be recharged only as per requirement.

- Under the National Electronic Toll Collection programme of the Ministry, toll collection at national highways toll plazas is done through RFID based FASTags.

- However, collection at state highways toll plazas is done either manually or through other tags. This leads to inconvenience for the road users. The Ministry is therefore encouraging states to come onboard FASTag.

Benefits

- The Scheme offers participating state authorities/agencies shorter turnaround time by allowing them to be a part of the robust FASTag solution architecture which already supports around 6 million tags with approximately daily 10 lakh transactions.

- The initiative will remove bottlenecks and ensure seamless movement of traffic and efficient collection of user fee.

- It is likely to reduce the nation's GDP loss by bringing down loss of fuel while waiting at toll plazas along with controlling pollution substantially.

Second Poliovirus Strain Eradicated

- World Health Organisation (WHO) recently announced on World Polio Day (October 24), that wild poliovirus type 3 (WPV3) has been eradicated worldwide. This follows the eradication of smallpox and wild poliovirus type 2.

- Commitment from partners and countries, coupled with innovation, means that of the three wild polio serotypes, only type one remains.

- There are three individual and immunologically distinct wild poliovirus strains: wild poliovirus type 1 (WPV1), wild poliovirus type 2 (WPV2) and wild poliovirus type 3 (WPV3).

- Symptomatically, all three strains are identical, in that they cause irreversible paralysis or even death. But there are genetic and virological differences, which make these three strains three separate viruses that must each be eradicated individually.

- Poliomyelitis (polio) is a highly infectious viral disease, which mainly affects young children.

- The virus is transmitted by person-to-person spread mainly through the faecal-oral route or, less frequently, by a common vehicle (e.g. contaminated water or food) and multiplies in the intestine,

from where it can invade the nervous system and can cause paralysis. The polio vaccine was developed in 1953 and made available in 1957.

Elephant Endotheliotropic Herpesvirus

- Since the middle of August, a rare disease has killed five elephants in Odisha. Four calves between the ages of six and 10 have died in Nandan Kanan Zoo in Bhubaneswar, followed by the fifth elephant that died in Chandaka forest this week.

- The disease is caused by a virus called EEHV, or elephant endotheliotropic herpesvirus. The four deaths in Nandan Kanan Zoo are the first reported cases of EEHV-related deaths in an Indian zoo, while the death in the forest too is the first known such case in the wild in India.

- EEHV is a type of herpesvirus that can cause a highly fatal haemorrhagic disease in young Asian elephants.

- Most elephants like most humans carry a cold virus. When EEHV is triggered, the elephant dies of massive internal bleeding and symptoms which are hardly visible.

- The disease is usually fatal, with a short course of 28-35 hours. Further, there is no true cure for herpesviruses in animals or in humans.

Cause for Concern

- If elephants in the wild start falling prey to the virus, then treatment will be very difficult as it will be extremely hard to track down every wild elephant in the state and test whether they are positive for EEHV.

- EEHV is lethal for young elephants between the age of one and twelve and if a young elephant dies before reproducing, it affects the population of the species as a whole in the concerned geography.

Stations Cleanliness Survey Report

- The Ministry of Railways recently released the Stations Cleanliness Survey Report.

- Railways have been conducting third party audit and cleanliness ranking of 407 major stations annually since 2016. This year the survey was expanded to include 720 stations and suburban stations were also included for the first time.

- The survey has three components viz. Process Evaluation, Direct Observation and Citizen Feedback, each weighing 33.33% of the score.

- The highlight of the report was that the top three cleanest railways stations are from the western state of Rajasthan. While Jaipur was on the first position, Jodhpur on second followed by Durgapura in third position.

- North Western Railway followed by South East Central Railway and East Central Railway are the top three railway zones.

Vayoshreshtha Samman-2019

- The President of India recently conferred the Vayoshreshtha Samman-2019 on eminent senior citizens and institutions in recognition of their services towards the cause of the elderly persons.

- Vayoshreshtha Samman is a Scheme of awards instituted by the Ministry of Social Justice & Empowerment in the year 2005. It was later elevated to the level of national awards in 2013.

- The awards are presented as part of the celebration of the International Day of Older Persons (IDOP) on 1st October.

- The awards are intended to be conferred on eminent senior citizens and institutions involved in rendering distinguished services for the cause of elderly persons especially indigent senior citizens.

Objective

- The objective of the scheme is to showcase the Government's concern for senior citizens and its commitment towards senior citizens with the aim of strengthening their legitimate place in the society.

- It also intends to provide an opportunity to the younger generations to understand the contribution of the elderly in building of the society and the nation.

Asbestos Found In J&J Talcum Powder

- Johnson and Johnson (J&J) has recalled 33,000 bottles of one lot of its talcum powder supplied in the United States (US) as asbestos was found in it.

- According to FDA, during talc mining, if talc mining sites are not selected carefully and steps are not taken to purify the talc ore sufficiently, the talc may be contaminated with asbestos.

Asbestos

- Asbestos is a naturally occurring mineral. It is not a single mineral — rather, it refers to a group of silicate minerals that share the same fibrous nature. In layman's terms, it is often called "white asbestos" (chrysotile), the rarer "blue asbestos" (crocidolite) and "brown asbestos" (amosite).

- Asbestos fibers are soft and flexible yet resistant to heat, electricity and corrosion. These qualities make the mineral useful, but they also make asbestos exposure highly toxic.

- Pure asbestos is an effective insulator, and it can be used in cloth, paper, cement, plastic and other materials to make them stronger.

Exposure Risks

- No amount of asbestos exposure is safe, but asbestos generally has the worst effects when a person is exposed to an intense concentration of it, or they are exposed on a regular basis over a long period of time.

- Over decades, trapped asbestos fibers can cause inflammation, scarring and eventually genetic damage to the body's cells.

- A rare and aggressive cancer called mesothelioma is almost exclusively caused by asbestos exposure. Asbestos also causes other forms of cancer as well as progressive lung disease.

- The vast majority of patients with asbestos-related diseases are men in their 60s or older. This is because asbestos-related diseases have a very long latency period, often taking decades to develop, and they usually trace back to occupational exposure at workplaces historically staffed by men.

School Education Quality Index 2019

- NITI Aayog along with the Ministry of Human Resource Development and the World Bank has released 'The success of Our Schools: School Education Quality Index 2019'.

- The index, prepared on the basis of 30 indicators, was divided into two broad categories — outcomes that consisted of learning, access, infrastructure & facilities, and equity outcomes; and governance processes aiding outcomes.

- The objective of the index is to bring an outcomes focus to education policy by providing States and UTs with a platform to identify their strengths and weaknesses and undertake requisite course corrections and policy interventions.
- In line with the Niti Aayog's mandate to foster the spirit of competitive and cooperative federalism, the index strives to facilitate the sharing of knowledge and best practices across states and UTs.

Findings

- Among 20 large States, Kerala was the best performer with a score of 76.6%, while Uttar Pradesh came in last with a score of 36.4%.
- However, Haryana, Assam and Uttar Pradesh showed the most improvement in their performance in 2016-17, in comparison to the base year of 2015-16
- Rajasthan bagged the second position among the large States with 72 per cent, followed by Karnataka with 70 per cent and Andhra Pradesh-69 per cent respectively.
- Tamil Nadu was the top performer in access and equity outcomes, while Karnataka led in learning outcomes. Haryana had the best infrastructure and facilities.
- Among the small States, Manipur (68.8 per cent) emerged as the top performer while Arunachal Pradesh (24.6 per cent) came last in the category.
- Among Union Territories, Chandigarh (82.9 per cent) stood at the top position while Lakshadweep ranked lowest (31.9 per cent).
- West Bengal refused to participate in the evaluation process and has not been included in rankings.

Pradhan Mantri Innovative Learning Programme

- The Union HRD Ministry has launched the Pradhan Mantri Innovative Learning Programme (PMILP)
- The objective of the program would be to allow talented students to realize their full potential and contribute to society
- The programme will be called DHRUV (after Pole Star) & every student will be called 'DHRUV TARA'. The students will thus both shine through their achievements and light a path for others to follow.
- It will cover two areas i.e. Science and Performing Arts.
- There will be 60 students in all, 30 from each area. The students will be broadly from classes 9 to 12, from all schools including government and private from across the country
- This is only the first phase of the programme which will be expanded gradually to other fields like creative writing and others.

WHO India Country Cooperation Strategy 2019-2023

The Union Health Ministry has launched the 'World Health Organisation (WHO) India Country Cooperation Strategy (CCS) 2019–2023: A Time of Transition'.

CCS

- The Country Cooperation Strategy (CCS) provides a strategic roadmap for WHO to work with the Government of India (GoI) towards achieving its health sector goals, in improving the health of its population and bringing in transformative changes in the health sector.

- The India CCS is one of the first that fully aligns itself with the newly adopted WHO 13th General Programme of Work and its 'triple billion' targets, the Sustainable Development Goals and WHO South-East Asia Region's eight Flagship Priorities.

- The CCS also captures the work of the United Nations Sustainable Development Framework for 2018–2022.

- The CCS builds on other key strategic policy documents including India's National Health Policy 2017, the many path-breaking initiatives India has introduced — from Ayushman Bharat to its National Viral Hepatitis programme and promotion of digital health and others.

Strategic Priorities

- WHO's technical support to the Government of India will fall under the following four strategic priorities:

- Strategic Priority 1: Accelerate progress on UHC

- Strategic Priority 2: Promote health and wellness by addressing determinants of health

- Strategic Priority 3: Better protect the population against health emergencies

- Strategic Priority 4: Enhance India's global leadership in health

- The period of this CCS is expected to bring rapid and significant changes to India's health sector and to improve access to quality health care, especially to the vulnerable and underserved populations.

WHO Triple Billion targets

The following triple billion targets are at the heart of WHO's strategic plan for the next five years

One billion more people benefitting from universal health coverage (UHC)

One billion more people better protected from health emergencies

One billion more people enjoying better health and well-being.

Youth Co:Lab

- In an initiative to recognize young people as critical drivers of sustainable development, Atal Innovation Mission (AIM), NITI Aayog and United Nations Development Programme (UNDP) India have launched Youth Co:Lab which aims at accelerating social entrepreneurship and innovation in young India.

- Targeted at supporting young people to overcome challenges, it will empower young people through innovative development ideas.

- In this regard, Youth Co:Lab will convene social innovation challenges at the national and sub-national level, which will invite young people in the age group of 18-29 years and start-ups to showcase their proposed ideas and solutions to tackle some of the region's biggest social challenges.

- Through Youth Co:Lab, young entrepreneurs and innovators will get a chance to connect with governments, mentors, incubators and investors, who will help equip them with entrepreneurial skills.

- The first phase of Youth Co:Lab will focus on six SDGs: SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 8 (Decent Work and Economic Growth), SDG 12 (Sustainable Consumption and Production) and SDG 13 (Climate Action).

- **Youth Co Lab:** Co-created in 2017 by UNDP and the Citi Foundation, and operational in 25 countries across the Asia Pacific region, the Youth Co:Lab initiative aims to create an enabling ecosystem to promote youth leadership, innovation, and social entrepreneurship.

SUMAN Scheme

Aiming zero preventable maternal and newborn deaths in India, the Ministry of Health has launched the Surakshit Matritva Aashwasan (SUMAN) scheme.

Details Of The Scheme

- Under the scheme, pregnant women, mothers up to 6 months after delivery, and all sick newborns will be able to avail free healthcare benefits.

- These include at least four ante natal check-ups that also includes one checkup during the 1st trimester, at least one checkup under Pradhan Mantri Surakshit Matritva Abhiyan, Iron Folic Acid supplementation and Tetanus diptheria injection.

- Under the scheme there will be zero expense access to identification and management of complications during and after the pregnancy.

- The government will provide free transport from home to health institutions. There will be assured referral services with scope of reaching health facility within one hour of any critical case emergency and drop back from institution to home after due discharge (minimum 48 hrs).

- The pregnant women will have a zero expense delivery and C-section facility in case of complications at public health facilities.

- India's maternal mortality rate has declined from 254 per 1,00,000 live births in 2004-06 to 130 in 2014-16. Between 2001 and 2016, the infant mortality rate came down from 66 per 1,000 live births to 34. It is hoped that the scheme will largely help in bringing down maternal and infant mortality rates in the country.

Health Systems Strengthening -Conditionality Report Of States For 2018-19

The Health Ministry has released 'Health Systems Strengthening -Conditionality Report of States for 2018-19'. The report will form the basis for disbursement of performance-based incentive or penalty under NHM budget.

Parameters For Ranking

The parameters for ranking the States and Union Territories are

- Operationalisation of health and wellness centres (HWCs)

- Provisioning of mental health services in districts covered under the NHM programme

- Screening of 30 plus population for non-communicable diseases and

- Grading of primary health centres (both urban and rural), among others.

The incremental improvement as per the NITI Aayog ranking of states on 'Performance on Health Outcomes' is one of the major conditionalities and has been given the highest weightage.

Performance Based Incentives

- In 2018-19, the Mission Steering Group of NHM, decided to increase the performance-based incentive/penalty from 10% to 20% of the NHM budget. This meant while 80% of the resource would be assured for the state, 20% of the resource would depend on its performance on agreed conditionalities.

- This was done to send a clear message to all states that good performance would be monitored and rewarded.

- To save children from vaccine-preventable diseases, full immunisation coverage was set as a qualifying criterion to be able to claim incentives.

- The states and UTs were eligible for conditionality assessment only if the States achieved 75% immunisation coverage in case of Empowered Action Group states, North-Eastern (NE) and hill states. While, the immunisation coverage target for the remaining States was at least 80%.

Findings Of The Report

- On NITI Aayog rankings, 20 out of the 36 states and UTs have shown progress, whereas 16 states or UTs have shown a decline in their performance.

- Haryana, Kerala and Punjab along with Assam and Dadar & Nagar Haveli are the top five performers on key health indicators.

- West Bengal, Madhya Pradesh along with hill states of Himachal Pradesh, J&K and Uttarakhand have not fared well in improving health indicators and will miss out on 20% of the Centre's payout under National Health Mission.

Malaria Success Story

- India has presented the "biggest success story" amongst malaria endemic countries in the world as malaria cases and deaths have declined by almost 50% in five years between 2013 and 2017.

- While malaria cases dropped by 49.09%, deaths from the disease declined by 50.52% in 2017, as compared to 2013.

Improvement In Mortality Ratios

- The under-five mortality rate (deaths per 1000 live births) declined from 69 per 1,000 live births in 2008 to 37 per 1,000 live births in 2017.

- During the same period, infant mortality rate (number of deaths per 1,000 live births of children under one year of age) at national level declined from 53 to 33.

- The maternal mortality ratio (MMR) dropped from 254 maternal deaths per 100,000 live births in 2004 to 130 per 100,000 live births in 2016.

- The report claimed that at the current pace, India should be able to achieve the Sustainable Development Goals (SDG) targets much before 2030.

Improvement in Tuberculosis identification

- The Revised National Tuberculosis Control Programme (RNTCP) has been significantly strengthened and intensified.

- A total of 1,180 cartridge-based nucleic acid amplification test (CBNAAT) machines have been installed across all districts. This has resulted in a three-fold increased use of CBNAAT over the past year.

- The CBNAAT machine provides rapid and accurate diagnosis for tuberculosis, including drug resistant TB. Due to the intensified efforts, there is a 16% jump in identification of new cases in one year.

National Health Mission

- The NHM envisages achievement of universal access to equitable, affordable & quality health care services that are accountable and responsive to people's needs.

- It encompasses two Sub-Missions, the National Rural Health Mission (NRHM) and the National Urban Health Mission (NUHM).

- NRHM was launched in 2005 to bring about a dramatic improvement in the health system and the health status of the people, especially those who live in the rural areas of the country.
- NUHM strives to improve the health status of the urban poor particularly the slum dwellers and other disadvantaged sections by facilitating equitable access to quality health care.

National Nutrition Survey

Comprehensive National Nutrition Survey (CNNS), the first-ever nationally representative nutrition survey of children and adolescents in India, was commissioned by the Ministry of Health and Family Welfare and was carried out by experts from various institutes

Highlights Of The Survey

- The survey, conducted between February 2016 and October 2018, found that 24 per cent of adolescents were thin for their age.
- 10.4 percent of 10-19 year-olds in India are pre-diabetic, 5% are overweight and another 5% suffer from blood pressure which experts say is largely due to consumption of processed foods and sedentary lifestyles.

Stunting

- 35 per cent of children under the age of 5 years in the country are stunted, while 17 per cent are wasted and 33 per cent are underweight.
- A higher prevalence of stunting in under-fives was found in rural areas (37 per cent) compared to urban areas (27 per cent).
- Also, children in the poorest wealth quintile were more likely to be stunted (49 per cent), as compared to 19 per cent in the richest quintile.

Wasting

- According to the survey, 17 per cent of Indian children age 0-4 years were wasted. High prevalence (20 per cent) states included Madhya Pradesh, West Bengal, Tamil Nadu and Jharkhand.
- The states with the lowest prevalence of under-five wasting were Manipur, Mizoram and Uttarakhand (6 per cent each).

Anaemia

- 41 per cent of preschoolers, 24 per cent of school-age children and 28 per cent of adolescents were anaemic.
- Anaemia was a moderate or severe public health problem among preschoolers in 27 states, among school-age children in 15 states, and among adolescents in 20 states.

India Declared Open Defecation Free

- On the occasion of the 150th birth anniversary of Mahatma Gandhi, Prime Minister Narendra Modi declared the country open defecation-free.
- The country has achieved the status in urban and rural areas due to the government's push to build toilets. In 60 months, 600 million people have been given access to toilets and more than 110 million toilets have been built.
- Moreover, the mission has helped to make toilet, which was earlier a difficult topic, a common topic of discussion.

ODF Definition Under Swachh Bharat Mission (Gramin)

- Though the Swachh Bharat Abhiyan was launched in October 2014, until June 2015, there was no uniform definition of ODF. Every city, village, state had their own understanding of what qualified as ODF.

- To set a uniform parameter, in June, 2015, the Ministry of Drinking Water and Sanitation, defined ODF for SBM Gramin.

- ODF is the termination of faecal oral transmission, characterised by:
  - o No visible faeces found in the environment/village; and
  - o Every household as well as public/community institutions using safe technology option for disposal of faeces.

- Safe technology options include
  - o Disposal of sewage without contaminating surface soil, ground water or surface water Excreta inaccessible to flies or animals
  - o No handling of fresh excreta and
  - o Freedom from odour and unsightly condition.

Parameters for ODF

- The ministry issued a **checklist of 12 parameters** for gram panchayats/villages to be declared ODF.

- The protocols have been divided into two categories – household survey and village survey.

Factors considered in the **Household Survey** for ODF declaration:

1. Access to toilet facility
2. 100 per cent usage
3. Fly-proofing of toilet
4. Safe septage disposal
5. Hand-washing before meals
6. Hand-washing with soap after defecation
7. Availability of soap and water in or near the toilet

Factors considered in the **Village Survey** for ODF declaration

8. No visible faeces found in the environment/village
9. Proper usage of school toilet
10. Safe confinement of excreta in school toilet
11. Proper usage of anganwadi toilet
12. Safe confinement of excreta in anganwadi toilet

For a village to be ODF, answers to the household survey questions 1 to 4 and village survey questions 8 to 12 need to be 'yes'.

ODF Definition for Urban India

- To declare a city or ward ODF, SBM Urban listed out some necessary infrastructure and regulatory conditions to be achieved, which are:

- All households that have space to construct a toilet, have constructed one.

- All occupants of those households that do not have space to construct toilet have access to a community toilet within a distance of 500 meters.

- All commercial areas have public toilets within a distance of 1 kilometer.

- Details of all Individual household toilets (IHHL) constructed from 2011 onwards will have to mandatorily be uploaded on the SBM Urban portal

- Pictures of all functional community and public toilets in the city, irrespective of the date of construction, will have to mandatorily be uploaded on the SBM Urban portal.

Report of Network Hospital Management.

- The joint working group of the Insurance Regulatory and Development Authority (IRDAI) and the National Health Authority (NHA) has released the **Report of Network Hospital Management**.

- The measures proposed in the report are a <u>unique common hospital registry, empanelment process, grading of hospitals and package cost harmonisation</u>.

- The measures **aim to promote the standardisation and effective utilisation of health care infrastructure** under the insurance programme.

Hospital Empanelment Process

- At present, health care schemes and private insurance have **individual hospital empanelment process**, which <u>replicates various activities and contributes to inefficiency and duplication of processes</u>.

- As per IRDAI Annual Report 2017-18, the **insurance sector has covered 48 crore number of lives under health insurance**, of which 36 crore people are covered under various government schemes.

- It is **recommended to have common empanelment portal** which can be utilised by all the schemes/insurance companies with standardised empanelment criteria.

- This will be hugely beneficial as it will **lead to special focus on standard safety and quality parameters**.

Standard Grading System for Hospitals

- The group also recommended that a **standard grading system** for hospitals, based on the quality parameters should be prepared.

- An exercise should also be conducted to agree on these common grading parameters in discussion with National Accreditation Board of Health.

- Moreover, the <u>same grading can be used by PMJAY (Pradhan Mantri Jan Arogya Yojana) and the private insurance market</u>.

Hospital Registration Process

- The committee also recommended **a single unique hospital registration process and repository**, ideally ROHINI (Registry of hospitals in network of insurance), instead of having several lists.

- This list will be beneficial as a central health facility repository/registration number **can be used by various schemes and insurance service providers** for identification of the health facilities in geographical areas.

- **ROHINI** is one of the most comprehensive hospital database registries available, with 33,000 unique hospitals from the private industry.

- As majority of private hospitals are already registered and part of the ROHINI database, it is important to **bring public hospitals under the ROHINI database** to meet the goal of a common hospital registry in the country.

Package Cost Harmonization

- Costing of packages across schemes is a major challenge and private health care providers have brought this issue to the attention of the insurance regulators and the industry.

- The group recommends that to arrive at a uniform package cost under all schemes, **a comprehensive gradation and incentive mechanism** can be established after taking into account cost variations due to geography and quality of care.

- Further, the report recommends that the **private insurance industry should also adopt the uniform cost of packages**.

- However, **IRDAI can come up with the guidelines** on inclusion of additional/ variable cost for implants and category of wards.

- Private insurance can design the products as per the uniform package cost and the additional cost of implant and ward type.

Insurance Regulatory and Development Authority of India (IRDAI)

- The Insurance Regulatory and Development Authority of India (IRDAI) is an **autonomous, statutory body** set up under the IRDA Act, 1999.

- IRDAI's mission is to protect the interests of policyholders, to regulate, promote and ensure orderly growth of the insurance industry and re-insurance industries in India.

Functions of IRDAI

- Registering and regulating insurance companies

- Protecting policyholders' interests

- Licensing and establishing norms for insurance intermediaries

- Promoting professional organisations in insurance

- Regulating and overseeing premium rates and terms of non-life insurance covers

- Ensuring insurance coverage in rural areas and of vulnerable sections of society

National Health Authority

- National Health Authority is the **apex body responsible for implementing India's flagship public health insurance/assurance scheme** 'Ayushman Bharat Pradhan Mantri Jan Arogya Yojana'.

- It is the **successor of National Health Agency**, which was functioning as a registered society since May, 2018.

- In order **to provide full functional autonomy**, National Health Agency was reconstituted as the National Health Authority in January 2019.

Sarayu River

- A new history was created at Ayodhya as nearly 6 lakh earthen lamps were lit up on the banks of Saryu river bank on the eve of Diwali.

- The Uttar Pradesh government has also granted the status of State fair to the Deepotsav Mela held during Diwali.

- Sarayu is a river that flows through the Indian states of Uttarakhand and Uttar Pradesh. This river is of ancient significance, finding mentions in the Vedas and the Ramayana.

- The river forms at the confluence of the Karnali (or Ghaghara) and Mahakali (or Sharda) in Bahraich District. Ayodhya is situated on the banks of river Sarayu.

Ravidas Temple

- The Union government has informed the Supreme Court that it is willing to hand over 200 square metre area to a committee of devotees for construction of Guru Ravidas temple in Delhi.

- The temple was demolished by the Delhi Development Authority (DDA) following the court's direction, which had led to massive outcry and protests in the national capital.

Saint Ravidas

- Ravidas was an Indian mystic poet-sant of the Bhakti movement. Venerated as a guru (teacher) in the region of Punjab, Uttar Pradesh, Rajasthan, Maharashtra and Madhya Pradesh, the devotional songs of Ravidas have had a lasting impact upon the bhakti movement.

- He was born in a family that worked with dead animals' skins to produce leather products. He is believed to be the disciple of the bhakti saint-poet Ramananda and a contemporary of the bhakti saint-poet Kabir.

- Ravidas' devotional songs were included in the Sikh scriptures, Guru Granth Sahib. The Panch Vani text of the Dadupanthi tradition within Hinduism also includes numerous poems of Ravidas.

- Ravidas taught removal of social divisions of caste and gender, and promoted unity in the pursuit of personal spiritual freedoms.

UNESCO Asia-Pacific Awards for Cultural Heritage Conservation

- Sixteen projects from five countries, Australia, Bhutan, China, India and New Zealand, have been awarded UNESCO's Asia-Pacific Awards for Cultural Heritage Conservation

- From India, Ahmedabad's Vikram Sarabhai Library won the award of distinction. From Mumbai, the awards of merit were conferred upon Keneseth Eliyahoo synagogue and Our Lady of Glory Church.

- The UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme (since 2000) recognises the efforts of private individuals and organisations that have restored and conserved structures of heritage value in the region.

- The objective is to motivate the protection of Cultural Heritage sites, which are initiated by any individual organization under private sector or institutional organization.

- The Awards consist of five categories: Award of Excellence, Award of Distinction, Award of Merit, Honourable Mention and Award for New Design in Heritage Contexts

Regulation Relating To Election Manifesto

- Election manifestos is a statement of the political party intent on social, political and economic issues. It is not generally legally enforceable documents.

- The general issues relating to election manifesto is that it is frequently delayed, thus leaves no time for voters to make informed decision.

Supreme Court (SC) Decision On Election Manifesto

In 2013, the Election Commission of India (ECI), added new directions in **Part VIII** of Model Code of Conduct (MCC) for manifesto as per the SC decision in **S Subramaniam Balaji v. Govt. of Tamil Nadu** (2013).

EC Guidelines On Manifesto:

- The election manifesto shall not contain anything **repugnant to the ideals and principles enshrined in the Constitution**.

- It shall be consistent with the **letter and spirit** of other provisions of **Model Code of Conduct**.

- Political parties should avoid making those promises which are likely to vitiate the purity of the election process or exert **undue influence on the voters** in exercising their franchise.

- Manifestos shall reflect the rationale for the promises and broadly indicate the **ways and means to meet the financial requirements** for it.

- Trust of voters should be sought only on those promises which are possible to be fulfilled.

- In case of election, manifesto shall **not be released during the prohibitory period**, as prescribed under **Section 126** of The Representation of the People Act, 1951. Section 126 defines the prohibitory period as the period of **forty-eight hours** ending with the hour fixed for conclusion of poll.

SC Decision On Application Of RTI On NGOs

- The Supreme Court (SC) decision in **D.A.V. College Trust and Management Society v. Director of Public Instructions** held that NGOs which were substantially financed by the appropriate government fall within the ambit of 'public authority' under **Section 2(h)** of the RTI Act, 2005.

- Under the Act, **'public authority'** means any authority or body or institution of self-government established or constituted by or under the Constitution or **substantially financed** by the government.

Analysis Of The Judgment

- The SC analysed the word 'substantially financed' as **large portion of financing** (both, direct or indirect financing) by the government. It **need not be a major portion or more than 50%** as no straitjacket formula can be resorted to in this regard.

- **Ex-** if land in a city is given free of cost to hospitals/ educational institutions/ other bodies, it can qualify as substantial financing.

Significance Of The Judgement

- It underscored the need to focus on the larger objective of **percolation of benefits** of the statute to the masses.

- It also aim at creating an **informed citizenry and containment of corruption** using NGOs.

- It also envision at **holding the government and its instrumentalities accountable** to the governed.

- Besides this, the judgment can potentially have wider ramifications in terms of the **ambit of the RTI regime on national political parties**.

Chief Justice of SC Appointment

- Recently, outgoing Chief Justice of India (CJI) Ranjan Gogoi has recommended **Justice Sharad Arvind Bobde** to be **47th CJI**.

- **By convention**, the outgoing CJI selects the **most senior** then-sitting Supreme Court (SC) judge.

- The **Article 124** of the Constitution does not have any provision/ criteria/ procedure for appointing the CJI.

Rules For Determination Of Seniority

- Seniority at the apex court is determined not by age, but by the **date a judge was appointed** to the SC.

- If two judges are elevated to the SC on the same day, then, one who **was sworn in first as a judge would trump another**.

- If both were sworn in as judges on the same day, the one with **more years of High Court** service would win seniority.

- Further, an **appointment from the bench** would trump in seniority an **appointee from the bar**.

Procedure For Appointment Of CJI

- The procedure to appoint the next CJI is laid in **Memorandum of Procedure (MoP)** between the government and the judiciary.

- Such procedure is **initiated by Law Minister** after seeking the recommendation of the outgoing CJI.

- In case of any doubt, the CJI **may consult the collegium** regarding the fitness of an SC judge to be elevated to the post of CJI.

- After receiving recommendation from the CJI, the Law Minister **forwards it to the Prime Minister** who then advises the President on the same. At last, the **President administers the oath** of office to the new CJI.

- Further, the important point to be noted is that the **government cannot send back the recommendation** of the outgoing CJI or the collegium, as the case may be, for reconsideration.

Postal Ballot System

- The ECI is currently working on the guidelines and Standard operating Procedure (SoPs) to facilitate the use of postal ballot paper by **absentee voters** of essential services, **senior citizens of more than 80 years** and **Person with Disability** (PwD).

- This decision was taken after the Law Ministry amended **the Conduct of Election Rules, 1961,** to extend the facility of postal ballots to people who are unable to cast their vote because of service conditions.

> **The New Rules**
> - An absentee voter defined as someone who is employed in **essential services**. Further, the **EC will notify the jobs and professions** that are covered under essential services after consulting the government.
> - People under the new category can choose to **vote through postal ballot** by filling up **Form 12D** and submitting it to the nodal officer within **five days** of notification of an election.
> - These votes will be registered at a **special centre** designated by the ECI.

- Thus, the Law Ministry as per the amendment in 1961 Rules proposed that voters on duty in fields such as aviation, shipping, Railways, emergency services, those employed in long-distance road transport, the elderly, the physically-challenged and journalists covering elections should be allowed to vote by postal ballot in Assembly/ Parliamentary elections.

Way forward

- The new rules will ensure that the electors who are also PwD and senior citizens are facilitated in every way to ensure their wider participation in the electoral process.

- Moreover, there is also a need for creating infrastructure & legal framework to facilitate new process.

The Parole and Furlough

Recently, Ajay Chautala, founder of the Jannayak Janata Party (JJP), was granted furlough for two weeks and released from Delhi's Tihar jail. Before that, Ajay Chautala had approached the Delhi High Court seeking parole, however the same was rejected.

Provisions In Respect Of Parole:

- Parole is a system of **releasing a prisoner** with **suspension of the sentence**. The **release is conditional** and requires periodic reporting to the authorities.

- The provision (along with furlough) was introduced with a view to **humanising the prison system**. Thus, Parole is considered a **reformative process**.

- However, prisoners convicted of multiple murders or under the anti-terror Unlawful Activities Prevention Act (UAPA) are **not eligible for parole**.

- **Parole may be denied** to a prisoner even when he makes out a sufficient case, if the competent authority is satisfied that releasing the convict would not be in the interest of society.

- In India, parole (as well as furlough) are covered under **The Prisons Act of 1894** and since **prisons is a State subject**, the Prisons Act of each state government defines the rules under which parole is granted in that state.

Provisions In Respect Of Furlough:

- This is a concept broadly similar to parole, but with some significant differences. Furlough is **given in cases of long-term imprisonment**. The period of furlough granted to a prisoner is **treated as remission of his sentence**.

- Furlough is seen as a **matter of right for a prisoner**, to be granted periodically irrespective of any reason, and merely to enable the prisoner to retain family and social ties and to counter the ill-effects of prolonged time spent in prison.

- While, **Parole is not seen as a matter of right**, and is given to a prisoner for a specific reason, such as a death in the family or a wedding of a blood relative.

The Government e-Marketplace (GeM)

GeM has signed a memorandum of understanding **(MoU) with Federal Bank** to offer cashless, paperless and transparent payment system on the portal and creating an efficient procurement system for government entities.

About GeM

- GeM is a state-of-the-art **national public procurement platform** of **Ministry of Commerce and Industries** that aims to enhance transparency, efficiency and speed in public procurement.

- It also aims to use technology to **remove entry barriers for *bonafide* sellers** and has **create a vibrant e-marketplace** with a wide range of goods and services.

- **GeM offers various facilities** such as look, estimate, compare and buying facility on dynamic pricing basis; buying goods and services online, as and when required; bulk buying at competitive price using reverse Auction/ e-bidding; continuous vendor rating system *etc.*

Overhauling Indian Penal Code

- The Home Ministry is planning to overhaul the **Indian Penal Code, 1860** (IPC) designed by **Lord Macaulay**.

- Ministry wrote to all States and Union Territories seeking their suggestions to amend various sections of the IPC. Moreover, two committees comprising legal luminaries have also been constituted by the Ministry.

Need For Overhaul

- The Code is a colonial legislation primarily based on the **spirit of master and servant**.

- IPC requires a thorough **revision to meet the needs of the 21st century**.

- In 1860, the IPC was certainly ahead of the times but has been **unable to keep pace since then**.

- **Macaulay himself favoured regular revision of the code** whenever gaps or ambiguities were found/ experienced.

- Even though the IPC has been haphazardly **amended more than 75 times**, no comprehensive revision has been undertaken in spite of the **42nd report of the Law Commission** in 1971 recommending complete overhaul of IPC.

- However, most of the commonwealth follows the IPC and legislators would find it difficult to improve it in terms of **precision, comprehensibility, comprehensiveness and accessibility**.

> **About IPC:**
>
> - The IPC replaced **Mohammedan Criminal Law**, which had a very close relationship with Islamic law. Thus, the **IPC laid the foundation of secularism**.
> - It was widely appreciated as a state-of-the-art code and was the **first codification of criminal law** in the British Empire.
> - The **Malimath Committee** (2003) also suggested reforms in the IPC.

Following areas in IPC need time bound/ urgent reforms:

- A re-examination of the **sedition law (Section 124A)**, that was inserted in 1898.

- The offence of blasphemy has no place in liberal democracy and therefore, there is a need to repeal **Section 295A**.

- The **offence of criminal conspiracy** under **Section 120A** also needs an overhaul as was added to the code by the colonial masters to deal with political conspiracies.

- Under **Section 149** the principle of constructive liability for unlawful assembly is pushed to unduly harsh lengths.

- The distinction between **culpable homicide (Section 299)** and **murder (Section 300)** has also been criticised as the weakest part of the code, as the definitions are obscure.

- **Sexual offences** under the code reveal patriarchal values and Victorian morality. **For ex.-** Section 377 also needs a review.

Removal of State Chief Information Commissioner (SCIC)

Nine Karnataka information commissioners have asked Governor to suspend their State Chief Information Commissioner on ground of high-handedness and taking decisions unilaterally.

Process For Removal Of SCIC Or State Information Commissioner (SIC)

* As per the provisions of the **RTI ACt, 2005,** the SCIC or SIC shall be removed from his office **only by order of the Governor** on the ground of **proved misbehaviour or incapacity** after the Supreme Court, on a reference made to it by the Governor, has on inquiry, reported that they ought to be removed on such ground. The **Governor in meantime may suspend from office**, SCIC or SIC

* The Governor may by order remove from office the SCIC or SIC on grounds such as: being **adjudged an insolvent**; has been **convicted of an offence** which, in the opinion of the Governor, involves moral turpitude; engages during his term of office in any **paid employment** outside the duties of his office; or has **acquired such financial or other interest as is likely to affect prejudicially his functions**.

C-40 Clean Air City Declaration

* Clean Air Cities Declaration was signed in in Copenhagen to implement substantive clean air policies by 2025.

* The aim is also to reduce air pollution and work towards meeting the **World Health Organization's (WHO) Air Quality Guidelines**.

Specific Declarations:

* To set ambitious pollution reduction targets and try exceeding national commitments.

* Putting cities on a path towards meeting WHO guidelines.

* Publicly report progress on achieving these goals.

Benefits Of The Move

* If signatories are able to reduce annual average PM 2.5 levels to **WHO guidelines (10 ug/m3)** it could avoid **40,000 deaths** each year.

* The research also shows that if all C-40 cities cleaned their transport, buildings and industry this would reduce GHG emissions by **87%**, **PM 2.5 by nearly 50%** and would avoid over **220,000 premature deaths** every year.

Ganga Amantran Abhiyan

* It is a month-long exploratory **water rafting and kayaking expedition**, covering nearly **2,500 kilometres** from **Devprayag in Uttarakhand to Ganga Sagar in West Bengal**.

* This is the first ever effort by the **National Mission for Clean Ganga** to raft across the entire stretch of the river and also the longest ever social campaign undertaken through an adventure sporting activity to spread the message of river rejuvenation and water conservation on a massive scale.

* The expedition will **draw attention to the ecological challenges** being faced by the Ganga.

* It will cover the five Ganga basin states, namely Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal.

Multidisciplinary Drifting Observatory For The Study Of Arctic Climate (MOSAiC)

- **Vishnu Nandan**, a polar researcher from Kerala, will be the only Indian among 300 scientists from across the world aboard the MOSAiC expedition.

- The **aim of the expedition** is to parameterise the atmospheric, geophysical, oceanographic and all other possible variables in the Arctic and use it to more accurately forecast the changes in our weather systems.

- It will be the **largest ever Arctic expedition** in history, will be the first to conduct a study of the North Pole for an entire year.

- The expedition is being spearheaded by the **Alfred Wegener Institute** in Germany and scientists from 17 nations will take part in the year-long mission.

Significance:

- The Arctic is the key area of global climate change, with **warming rates exceeding twice the global average**.

- It is well possible that the Arctic ocean will become **ice free** in summer during the **21st century**.

- This dramatic change strongly **affects weather and climate on the whole northern hemisphere** and fuels **rapid economic development in the Arctic**.

Green Wall of India

- The government is planning to have a **1400 km** long and **5 km wide** green belt from **Gujarat to the Delhi-Haryana border**. This is planned on the lines of the **Great Green Wall** running through the width of Africa, from **Dakar (Senegal) to Djibouti**, to combat climate change and desertification.

- The green belt may not be contiguous, but would cover entire degraded Aravalli range through a massive afforestation programme.

Significance Of The Move

- It will help India's efforts to deal with **land degradation** and the **eastward march of the Thar desert**.

- It is line with the goal to restore **26 million hectares of degraded land by 2030**.

- The programme will be great boost towards meeting India's Paris target of having carbon sink of **2.5 to 3 billion tonne** by **2030**.

- The green belt will act as a **barrier for dust** coming from the deserts in western India and Pakistan.

- About **96.4 mha** of India's land is degraded, which is **29.3%** of the country's total geographical area (328.7 mha).
- The **Desertification and land Degradation Atlas, 2016** (ISRO) noted that Gujarat, Rajasthan and Delhi were among states/ UT where more than **50% of the total area** was degraded land and those under the threat of desertification.
- The international community is moving towards **land degradation neutrality** by 2030 under **UN Convention on Desertification.**

Green Crackers

Indian Council of Scientific and Industrial Research (CSIR) has developed green crackers, which are new and improved formulations of the previous sound-emitting.

Background

- Supreme Court in **November 2016**, suspended the sale of fireworks in the NCR.

- The Court also asked the **Central Pollution Control Board (CPCB)** and some others to conduct a study on the impact of bursting fireworks during Dussehra and Diwali on the health of the people.

About Green Crackers

- They are **less harmful and less dangerous** than the conventional crackers.

- They are the crackers with **reduced emission and decibel level**.

- It promises a **reduction in particulate matters and harmful gases**, like nitrous oxide and sulphur oxide by **30-35%**.

- They are known as green cracker as they have a chemical formulation that **produces water molecules**, which substantially reduces emission levels and absorbs dust.

- The green crackers will be **25-30% cheaper** to manufacture than conventional crackers.

Delhi Government Odd-Even Rule

- The Delhi government has decided to launch odd-even road rationing scheme from **4 to 15 November, 2019** to tackle the issue of air pollution.

- Under it private vehicles will be allowed to run across the Delhi based on their registration numbers. **For Ex-**, if a vehicle's registration number ends with an odd digit, it will be allowed on the road on January 1, while that ending with an even number can be driven on the next day.

- This system was implemented in **Beijing in 2008 during Summer Olympics**. The rule was initially temporary, however, it turned out to be so effective the government made it permanent.

- Similar road-rationing rules were imposed in **Paris, Mexico and Bogota** to curb road jams and pollution.

- Experts believe that the efficacy of the scheme would depend on **availability of public transport** *i.e.* If public transport is robust, the government would be in a position to include more than 60 lakh two-wheelers that contribute heavily to the city's pollution.

Graded Response Action Plan (GRAP)

- These measures were approved by the Supreme Court (SC) in **2016** as an emergency measure to deal with the issue of **air pollution in Delhi**-NCR region.

- When the **air quality** shifts from **poor to very poor**, the measures listed below have to be followed.

About GRAP:

- The plan requires action and coordination among **13 different agencies** in Delhi-NCR areas like pollution control boards, industrial area authorities, municipal corporations, regional officials of the India Meteorological Department etc.

CATEGORY	ACTION PLAN
Moderate to Poor PM2.5—61-120 µg/m3 PM10—101-350 µg/m3	➤ Stop garbage burning, impose heavy fines ➤ Enforce pollution regulations in all industries ➤ Do periodic mechanised road sweeping ➤ Stop plying of visibly polluting vehicles ➤ Enforce SC order on diversion, ban on crackers ➤ Ensure fly ash ponds are watered every alternate day from Mar – May ➤ Use apps to inform people and register complaints
Very Poor PM2.5—121-250µg/m3 PM10—351-430 µg/m3	➤ Stop use of diesel gensets ➤ Enhance parking fee by 3-4 times ➤ Increase bus and Metro services ➤ Stop use of coal/firewood in hotels and restaurants ➤ RWAs to provide electric heaters to security staff to stop bonfires ➤ Issue media alerts and advisories
Severe PM2.5—250 µg/m3 PM10—430µg/m3	➤ Close hot mix plants, stone crushers ➤ Shut down Badarpur power plant and maximise generation from natural gas-based plants ➤ Intensify public transport ➤ Mechanised cleaning of road and sprinkling of water
Emergency PM2.5—300µg/m3 PM10—500 µg/m3 *(persist for 48 hours or more)*	➤ Stop entry of trucks except those carrying essential commodities ➤ Stop construction ➤ Introduce odd-even scheme without exemptions ➤ Task Force to decide on additional steps

- Overall the plan is coordinated by the **Environment Pollution (Prevention and Control) Authority (EPCA)**.

- For each action to be taken under a particular air quality category, executing agencies are clearly marked.

- Three major policy decisions for which credit can be given to EPCA under GRAP are the **closure of the thermal power plant at Badarpur**, **bringing BS-VI fuel** and the **ban on Pet coke** as a fuel in Delhi NCR.

Way forward:

- The next challenge before GRAP and EPCA is to extend the measures beyond Delhi for having positive impact in true sense.

- There is also a need for increasing the number of monitoring stations, data dissemination, public participation in planning and implementation.

Bioswale

- These are vegetated channels to manage rainwater, recommended as long term **sustainable solution for urban floods**.

- They are **long channelled depression** or trench that receives rainwater runoff and has **vegetation** such as grasses, flowering herbs and organic matter such as mulch to slow water infiltration and filter out pollutants.

- It is believed to be the most effective type of **green infrastructure facility** in slowing runoff velocity and cleansing water while recharging the underlying groundwater table.

E-waste Clinic In Bhopal

- The Bhopal Municipal Corporation (BMC) and the Central Pollution Control Board (CPCB) have joined hands to set up the **country's first e-waste clinic** that would enable segregation, processing and disposal of waste from both household and commercial units.

- The clinic is being conceived in compliance with **extended eroducer responsibility (EPR)** under the **Solid Waste Management Rules, 2016.**

- Under it e-waste will be collected door-to-door and can also be deposited directly at the clinic in exchange for a fee.

- The **CPCB will provide technical support** at the unit

- India is **ranked 5th** in the world among top e-waste producing countries. (USA, China, Japan and Germany are top 4 e-waste producing countries). The volume of e-waste is growing at an estimated **21% annually**.

Aarey Milk Colony

- Recently, a proposed metro car depot at Aarey milk colony in Mumbai has become an important environmental issue and electoral in the upcoming state elections.

- The project will wipe out 2,646 trees, which environmentalists say will destroy Mumbai's **green lungs** and floodplains of **Mithi River**.

- Aarey Colony has been categorised as **unclassed forest** in the **Sanjay Gandhi national park** (SGNP). An unclassed forest is recorded in land records as forests, but not reserved or protected by the government.

- Further, the Supreme Court (SC) on 7th October 2019 ordered a halt on any further cutting of trees until the next hearing.

Issue

- Aarey's trees, grassland, bushes and marshes are also home to **leopards, migratory birds, snakes, scorpions, spiders, butterflies** and more species.

- Further, the area has more than **290 wild species of flora and fauna**, such as leopard and rusty-spotted cats that are **classified as vulnerable**.

- Aarey is also home to over **3,500 families of Warli adivasis** and other tribal groups spread over 27 hamlets and many of them may face displacement now.

- However, some expert have claimed that Aarey is not a **notified forest**.

- The state estimates that over **7.5 million people** travel in Mumbai's suburban trains daily and the upcoming metro will serve passengers by easing the pressure off from the world's most congested railways.

Final Analysis

- Rational cost-benefit assessment of any large project calls for transparency and engagement between policymakers, civil society, scientists and business in the development planning process.

- There is a need to consider the ecosystem services that Aarey provides to Mumbai and how it may be impacted by the diversion of **33 hectares, roughly 2% of the total area**.

- Moreover, the benefits of augmenting Mumbai's public transport system compared to cost of diverting a section of the green belt, and other options of locating the infrastructure, must also be considered.

Snow Leopard

- India will commission its **first ever survey** to estimate the population and geographical range of the snow leopard.

- Snow leopard have been listed as **Vulnerable** on the IUCN Red List of Threatened Species.

- They are inhabit of **alpine and subalpine zones** at elevations of **3,000 to 4,500 meters** and their habitat extends to **twelve countries** *i.e.* Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan and Uzbekistan.

- It is also the **state animal of Himachal Pradesh** and the **National Heritage Animal of Pakistan**.

- Efforts to save their population has been taken in form of establishment of **Global Snow Leopard Forum, 2013** and signing of **Bishkek Declaration**.

- The snow leopard are protected under Schedule I, part I (Mammals).

UNEP Colombo Declaration

- UN Environment Programme (UNEP) member states signed **Colombo Declaration** that calls for tackling global nitrogen challenge.

- Nitrogen is an **inert gas** that's necessary for life. But humans are changing it into forms that are harmful, overloading the environment with it. Further, Nitrogen compounds running off farmland have led to **water pollution** problems around the world, while nitrogen emissions from industry, agriculture and vehicles make a big contribution to **air pollution**.

- According to the WHO, **nitrate-contaminated drinking water** can cause reduced blood function, cancer and endemic goiter. Surplus inputs of nitrogen compounds have been found to cause **soil acidification**. The lowering pH, as a result of the acidification, can lead to nutrient disorders and increased toxicity in plants. It may also affect natural soil decomposition.

About the Declaration:

- The Colombo Declaration has been developed with the technical support of the **International Nitrogen Management System (INMS)**, a joint initiative of the **UNEP and the International Nitrogen Initiative** supported by the **Global environmental facility**.

- The aim of the declaration is to **halve nitrogen waste by 2030**. Moreover, a campaign on sustainable nitrogen management called **Nitrogen for Life** has also been launched.

- It also urges countries to conduct a comprehensive assessment on nitrogen cycling aspects at a national level and sensitize the citizens to understand the natural nitrogen cycle and how human impacts alter its balance.

Syrian Government and Opposition Meet to Draft Constitution

Context:

- Syrian opposition and government representatives met to draft a new constitution for the country.

- These two opposing sides in the Syrian civil war **met for the first time in eight and a half years** in an attempt to put together a new constitution for the war-torn country.

Key Highlights:

- A total of 150 Syrian constitutional committee delegates representing the Syrian government, opposition and civil society met in the **United Nations office in Geneva, Switzerland**.

- This body has started work on drafting a new constitution that should lead to UN-supervised elections.

- **Decisions will be taken by consensus** where possible, and otherwise by a **majority of 75%**, so that no one bloc can dictate the outcomes.

Analysis:

- After two years of hard work, a Syrian constitutional commission has been established. However, the analysts warn not to expect too much from this commission.

- It will not be able to resolve the Syrian crisis. But it may help **overcome differences among Syrians**, help build mutual trust, and initiate a comprehensive political process in the country.

Background:

- In September 2019, both sides involved in Syrian war reached a deal to establish the constitutional committee in line with **Security Council resolution 2254**. This deal was brokered by United Nations.

- Resolution 2254, adopted in 2015, endorsed a road map for a peace process in Syria that would establish "credible, inclusive and non-sectarian governance".

All About Syrian Crisis:

- **President Bashar al-Assad** succeeded his father, Hafez, after he died in 2000. By 2011, many Syrians were complaining about high unemployment, corruption and a **lack of political freedom under Assad.**

- In March 2011, pro-democracy demonstrations erupted in the southern city of Deraa, inspired by the "Arab Spring" in neighbouring countries.

- When the **government used deadly force** to crush the dissent, protests demanding the president's resignation erupted nationwide.

- Opposition supporters took up arms and the violence rapidly escalated. As a result, the country descended into civil war.

- Since then, Syria has become the **ground for proxy war**. Assad government's key supporters are Russia and Iran, while Turkey, Western powers and several Gulf Arab states have backed the opposition.

Saudi Arabia Allows Women to Serve in Armed Forces

- As Saudi Arabia embarks on a broad programme of economic and social reforms, It has allowed women in the kingdom to serve in the armed forces.

- According to new rule, women would be able to serve as private first class, corporal or sergeant. Last year, Saudi Arabia authorised women to join their security forces.

WTO Gives US Final Authorisation to Impose Tariffs on EU Products

Context:

- The World Trade Organisation gave the United States final authorisation to impose tariffs on EU products.

- This authorization was given in **retaliation for illegal subsidies given to Airbus**.

Key Highlights:

- US has been given a green light to impose tariffs on about $7.5 billion worth of European goods

- As a result, US has announced that it **would slap 10 per cent tariffs** on European-made Airbus planes and **25 per cent duties** on French wine, Scotch and Irish whiskies, and cheese from across the continent as punishment.

Analysis:

- EU manufacturers are **already facing US tariffs on steel and aluminum** and a threat from US President Donald Trump to penalise EU cars and car parts. The recent move has potential to aggravate the situation by igniting a **tit-for-tat transatlantic trade war**.

- The measures would follow tariffs levied by the **United States and China** on hundreds of billions of dollars of each other's goods in their **more than year-old trade war**.

- The tariffs heavily target the **four Airbus consortium countries**, including Spanish olives, British sweaters and woollens, and German tools and coffee, as well as British whisky and French wine.

- Cheese from nearly every EU country will be hit with the 25 per cent tariffs, but Italian wine and olive oil were spared, along with European chocolate.

- The Trump administration **believes tariffs were effective** in bringing China to the negotiating table over trade and in convincing Japan to open its agricultural market to US products.

- However, the champions of globalization are criticizing this attitude as it would further give **rise to the protectionism**.

- A trade war between the United States and European Union would be **more damaging than the one raging with China**. Hence, the leaders of both the sides must rely on reaching a consensus rather than using tariffs as a tool.

Background:

- Airbus and Boeing, the world's two largest planemakers, have **waged a war of attrition over subsidies at the WTO since 2004**.

- The WTO had already found that **both Airbus and Boeing received** billions of dollars of **illegal subsidies** in the world's largest corporate trade dispute.

- The global trade body is due to decide early in 2020 on the level of **annual tariffs the EU can impose on US imports**.

Dispute Settlement Body (DSB):

- A dispute arises when a member government believes another member government is violating an agreement or a commitment that it has made in the WTO.

- The General Council convenes as the DSB to deal with disputes between WTO members.

- It is the most effective mechanism of WTO.

Canadian Federal Election

Context:

- The 2019 Canadian federal election (formally the 43rd Canadian general election) was held on October 21, 2019.

- The **Liberal Party**, led by **incumbent Prime Minister Justin Trudeau**, won 157 seats to form **a minority government**.

The Electoral System of Canada

- It is a **constitutional monarchy**, composed of the Queen of Canada, who is officially represented by the **Governor General** (or by a lieutenant-governor at the provincial level), the Senate and the House of Commons.

- There are **105 seats in the Senate**, whose members are appointed by the Governor General on the **recommendation of the Prime Minister**.

- The **House of Commons has 338 seats**, held by members elected by citizens who vote in general elections or by-elections.

- The Government originates in the elected House of Commons. Canada's electoral system is referred to as a "**single-member plurality" system** (also commonly called a "**first-past-the-post**" system).

Trudeau's Election: What does it mean for India?

- From an Indian viewpoint, Trudeau's alleged **tolerance towards the fundamentalist Sikhs** worries decision-makers and strategic thinkers in New Delhi.

- **Jagmeet Singh-led New Democratic Party** (NDP) has secured 24 electoral seats. The prospects of a Liberal-NDP alliance is set to raise concerns in New Delhi.

- Jagmeet is viewed critically by many for his views on the military action in the Golden Temple and the 1984 violence against the Sikhs.

- A second term provides an opportunity for Trudeau to repair his standing in India that **suffered significantly after his 2018 visit**. There is need to put emphasis on developing the **strategic component of the relations** as well.

Sri Lanka Removed From FATF's Grey List

- Sri Lanka has been removed from the "Grey List" of the international terror financing watchdog FATF. On the other hand, the FATF retained **Pakistan on its "Grey List"** and warned it of getting blacklisted, if it does not control terror funding by February 2020.

- The FATF took these decisions in its plenary meeting concluded Paris.

- It said that Sri Lanka has made **significant progress in addressing the strategic anti-money laundering/countering the financing of terrorism (AML/CFT) deficiencies** identified earlier.

- Sri Lanka was placed in FATF's Grey-List in its meeting at Buenos Aires, Argentina in October 2017.

- The FATF is an **inter-governmental body** established in 1989 to **combat money laundering, terrorist financing** and other related threats to the integrity of the international financial system.

Indo-French Knowledge Summit

- The **second edition** of the Indo-French Knowledge Summit took place at the University of Lyon in France.

- The summit was dedicated to higher education, research and innovation.

- **Organised b**y - The Embassy of France in India in association with the Ministry of Science and Technology and the HRD Ministry.

- The **first Knowledge Summit** was held during the **2018 state visit of French President** Emmanuel Macron to India.

Visit of Prime Minister of Bangladesh to India

- Sheikh Hasina, Prime Minister of Bangladesh, paid an Official visit to India from October 3-6, 2019.

- This was the **first visit** of the Prime Minister of Bangladesh to India **since the completion of elections in Bangladesh and India**.

Key Highlights:

- PMs of both the countries jointly inaugurated via videolink three bilateral projects. The projects include **import LPG from Bangladesh; inauguration of the Vivekananda Bhavan at Ram Krishna Mission in Dhaka** and **inauguration of Bangladesh-India professional skill development Institute** at the Institute of Engineers in Khulna.

- Both the countries signed seven agreements. These are:

o Standard Operating Procedure (SOP) on the use of Chattogram and Mongla ports,

o Memorandum of Understanding (MoU) withdrawal of 1.82 cusec of water from Feni river by India for drinking water supply in Tripura,

o Agreement concerning implementation of GoI Line of Credits (LOC) extended to Bangladesh,

o MoU between University of Hyderabad and University of Dhaka,

o Cultural exchange programme,

- o MoU on co-operation in Youth Affairs,

- o MoU on providing **coastal surveillance system**.

- The two sides agreed that the **remaining restrictions on entry/ exit from land ports** in India for citizens of Bangladesh travelling on valid documents would be **removed in a phased manner**, beginning with **checkpoints at Akhaura (Tripura) and Ghojadanga (West Bengal)**.

- The two countries also agreed to cooperate in **commemorating** the milestone events of **Bangabandhu Sheikh Mujibur Rahman's birth centenary** in 2020, and in 2021, to **commemorate the 50th anniversary of Bangladesh's War of Liberation** as well as the **establishment of India-Bangladesh bilateral diplomatic ties**.

Analysis:

- Bangladesh is one of the closest partners of India. Bilateral trade between these two was over US$9 billion in 2017-18.

- They were able to resolve their **contentious maritime boundary** issue in 2014 through arbitration by the Permanent Court of Arbitration.

- To **resolve their territorial boundary**, in 2011 a protocol to the **Land Boundary Agreement** was signed which was implemented after the Indian parliament ratified it in 2015.

- During the recent visit, both countries agreed on issues such as enhancing connectivity, border security and management, defence cooperation, development cooperation and cross-border energy cooperation.

- On economic issues, India has **agreed to extend duty free and quota free access** to Bangladeshi exports to the Indian market. In 2019, for the first time, exports from Bangladesh to India has crossed the US$1 billion.

- The tree projects inaugurated via videolink would further strengthen the relationship. The import of bulk LPGs will benefit both the neighbours, including the creation of exports, income and employment opportunities.

- The Bangladesh-India professional skill development Institute will help develop skilled manpower and technicians to support Bangladesh's industrial development.

- However, **few contentious issues remain unaddressed**. These were – *the question of the deportation of people excluded in the final NRC list, India's position on the Rohingya issue and inconclusive the Teesta water agreement*.

- **NRC** - In its 2014 judgement, the Indian Supreme Court directed the Union government to "**enter into necessary discussion** with the Government of Bangladesh to streamline the procedure of deportation" of 'illegal immigrants'.

- However, the government of India has **not entered into any such talks**. Instead it has repeatedly assured Bangladesh that none of the excluded people will be deported to Bangladesh.

- **Rohingya** - It is estimated that around 40,000 Rohingyas are living in India including 16,000 who have refugee documents. The Union government wants to identify and deport them. This has become a bone of contention between India and Bangladesh.

- Transboundary Rivers Water Sharing - India and Bangladesh **share 54 rivers** between them. Out of which, the **414 kilometres-long Teesta is important**. Instead of focussing too much on Teesta, India and Bangladesh is focussing on other rivers.

- During this visit, Bangladesh agreed to **let India withdraw about 1.82 cusec** of water from the Feni River for drinking purpose of the people of Sabroom in Tripura. However, there is an urgent need of addressing the issues regarding Teesta water.

Coastal Surveillance Radar System in Bangladesh

- India and Bangladesh has inked an important MoU that will **enable Delhi to set up a coastal surveillance system radar in Bangladesh**.

- India has provided such systems to **Mauritius, Seychelles, Maldives** and planning one in Myanmar.

- The coastal surveillance system will pave way for **Indo-Bangladesh White Shipping Agreement** in future. This will be useful amid **growing terror threats** via seas and growing presence of China in the Bay of Bengal region.

India's 1st Naval Drill with Bangladesh

- Navies of India and Bangladesh **participated for the first time** in a **IN-BN Bilateral Exercise** at Visakhapatnam from 12 to 16 October 2019.

- The maiden edition of this Bilateral Exercise was held after the **second edition** of **Indian Navy and Bangladesh Navy Coordinated Patrol (CORPAT,** first edition in 2018**)**.

India-Bangladesh Rail Links Closed After 1965 War With Pakistan Will Reopen

- Prime Minister of Bangladesh has announced that all the rail links with India closed after the 1965 war will be reopened.

- The first rail line between **India and Dhaka was opened in 2008** when **Maitree express** between **Dhaka and Kolkata** was started.

- In 2017 **Bandhan express** was also started between **Kolkata and Khulna**.

- In September 2019, both countries jointly laid the foundation stone for up-gradation and laying of missing tracks of **Haldibari- Chilahati** railway track.

- At present, there are **4 operational rail links** between India and Bangladesh. Two more rail links namely Karimganj/Mahisasan in India to Shahbazpur in Bangladesh and Haldibari in India to Chilhati in Bangladesh are being revived to connect West Bengal and Assam with Bangladesh.

Visit of President of China to India

- The President of China visited Chennai, India from October 11-12, 2019 for the 2nd Informal Summit.

- This summit has been called as **Chennai Connect** as a follow up to the **Wuhan spirit.**

- The two leaders had their **inaugural Informal Summit** in Wuhan, China on 27-28 April 2018.

Key Highlights:

- Informal summit provides a very good platform for the leadership to engage and helps in deepening of the strategic communication between the two countries.

- Many of the dialogue mechanisms which have been formed or which have been reformed *since the Wuhan summit* have created a very good momentum in relationship.

- Hence both the leaders endorsed the idea of **continuation of such informal summits** in the future.

- Two leaders agreed on **establishment of sister-state relations** between **Tamil Nadu and Fujian Province**. This was the province in which the **city of Quanzhou** is located where recently or in the last decade or so **Tamil inscriptions and fragments of a Shaivaite temple** have been discovered.

There is now increasing evidence that traders from Tamil Nadu as well as from other parts of Southern India actually established community at this place.

- The leaders agreed on exploring the possibility of establishing an academy to study links between **Mahabalipuram and Fujian province** on the lines of the experience between **Ajanta and Dunhuang** and conducting research on maritime links between China and India in view of our extensive contacts over the centuries.

- Two Leaders have decided to designate **2020 as Year of India-China Cultural and People to People Exchanges.** They agreed that the **70th anniversary of the establishment of India-China relations in 2020** will be fully utilized to deepen exchanges at all levels.

- **To celebrate the 70th anniversary** of diplomatic relations the two countries will organize **70 activities** including a conference on a ship voyage that will trace the historical connect between the two civilizations.

- The two Leaders have decided to **establish a High-Level Economic and Trade Dialogue mechanism** with the objective of achieving enhanced trade and commercial relations, as well as to better balance the trade between the two countries.

Analysis:

Informal Summits: Gaining Momentum

- Through the mechanism of such informal dialogue, leaders of both countries have demonstrated to the world that India and China are **willing to engage with each other**.

- Informal summits such as **Wuhan and Mamallapuram** offer leaders both **flexibility to have a candid conversation** on issues vexing the Sino-Indian relationship but also **unburdens the leadership of concrete expectations** in the form of a formal conclusion.

- Most importantly, such bilateral meetings allow the two countries to **navigate the geopolitical flux** currently visiting the Indo-Pacific.

Criticism of Recent Summit

- The shadow of Kashmir and Pakistan continues to haunt Sino-Indian relations and both **Wuhan and Mamallapuram** have failed to break this impasse.

- Huawei's investments in India's technological infrastructure, especially the sale of 5-G spectrum, is a hard nut to crack.

- Chinese authorities have publicly warned India of "reverse sanctions" if New Delhi follows the lead of its Western partners. The US, on the other hand, perceives any dealings with Huawei harmful for India-US strategic partnership.

- The recent Modi-Xi summit has, once again, **failed to make any breakthrough on the Sino – India border dispute**.

- The resurgence of the **Quadrilateral Security Initiative**, or the Quad, has, once again, intensified the Sino-Indian competition in the Indo-Pacific.

- **Wuhan and Mamallapuram** may help India and China to **manage these geopolitical fault lines**. However, the Modi-Xi dialogue **cannot be an end in itself**; conversation without substantive results may only accentuate the prevalent distrust in Sino-Indian relations.

India relaxes e-visa policy for Chinese Nationals

- India has announced significant relaxations in its e-visa policy for Chinese nationals.

- From October 2019 onwards, Chinese travelers can apply for an e-tourist visa of a 5 year validity with multiple entries. The fee for this 5 year e - visa will be USD 80.

- Tourists can also opt for a single-entry 30 day validity e-TV for a fee of USD 25. In addition to this, for those visiting between the months of April to June, the visa fee will be further reduced to $ 10.

- As per the current regulations, e-visas are **valid only for 60 days** for Chinese travellers and the visa for **e-conference is valid for 30 days**.

State Visit Of King And Queen Of The Netherlands To India

- King of Netherlands Willem-Alexander and Queen Máxima paid a State visit to India from 14 to 18 October 2019.

- This visit of King Willem-Alexander was the first State visit to India, following his ascension to the throne in 2013.

- The Royal couple also attended the Inaugural Session of **25th Technology Summit in New Delhi**. The **Netherlands is the partner country** for this Summit.

- India and The Netherlands have a **bilateral trade turnover of US$ 12.87 billion** (2018-2019). The Netherlands is the **5th largest investor** in India with a cumulative investment of US$ 23 billion for the period 2000 to Dec 2017.

- The Netherlands is also home to a 235,000 strong Indian Diaspora, the largest in mainland Europe.

Joint Commission Meeting between India and Thailand

- The 8th Joint Commission Meeting (JCM) between India and Thailand was held on 10 October 2019, in New Delhi.

- The Indian side was led by Indian External Affairs Minister and the Thai side was led by Mr. Don Pramudwinai, Minister of Foreign Affairs.

- **Thailand is the Chairman of ASEAN** for 2019 and also **country Coordinator for India-ASEAN Strategic Partnership for 2018-21**.

Visit of Indian President to Philippines and Japan

- President Kovind paid a State Visit to Philippines from October 17-21, 2019.

- He also visited Japan from October 21-23, 2019 to **attend the Enthronement Ceremony** of the Emperor of Japan, **Naruhito**. In 1990, when Emperor Akihito was coronated, the then Indian President R. Venkataram had represented India at the ceremony.

A. Philippines

- The State visit took place on the **occasion of 70 years of establishment of diplomatic relations** between the two countries. The last visit of Indian President to Manila was in 2006 by President APJ Kalam.

- India and Philippines **signed four agreements** covering maritime domain, security, tourism, science and technology and culture.

- This visit was aptly captioned as – "**Philippines and India at 70: Ushering Infinite Possibilities"**.

- India and Philippines are two fast growing economies in the region and there is great potential for cooperation. In terms of aspirations Philippines has their **Build-Build-Build program** and India has its **Make in India program**.

- Indian President **gifted a Tara** (Buddhist Goddess of Compassion) statue to President Duterte. Earlier Philippines have found a statue of Goddess Tara in one of their provinces, which shows that there was this **old linkage** between India and the Philippines.

- The Indian President addressed the **India-Philippines Business Conclave** and the **4th ASEAN-India Business Summit** in Manila, Philippines.

- He also unveiled a **bust of Mahatma Gandhi at the Center for Peace Education** at Mariam College.

- This visit is a milestone in the sense that it marks and affirms the high level interchange between the leaderships of the two countries. In 2017 Prime Minister Modi was in Manila and then 2018 there was President Duterte visiting India.

B. Japan

- Visit of monk Bodhisena to the temple in Nara in 752 AD nourished the roots of Buddhism in Japan. To deepen these ties, the Indian President planted a bodhi sapling at the Tsukiji Hongwanji Buddhist Temple in Tokyo.

- He also met with a delegation from the **Gotemba Peace Pagoda**. This organization founded by the famous **Fuji Guruji** built the **World Peace Stupa in Rajgir** in the Gandhi Centenary year - 1969.

Vice President's Visit to Azerbaijan

- Vice President Shri M. Venkaiah Naidu participated in the 18th Summit of the Non-Aligned Movement (NAM) held in Baku, Azerbaijan on 25-26 October, 2019.

- Theme for the Summit - "**Upholding the Bandung Principles to ensure concerted and adequate response to the challenges of contemporary world**"

- 65th anniversary of the Bandung Principles will be observed in 2020, and the 60th anniversary of the establishment of NAM in 2021.

Has India Downgraded its Representation at NAM?

- This is the **second time in a row** that PM Modi skipped NAM Summit. He did not attend the 17th NAM summit held in Venezuela.

- Since it was inaugurated in 1961, the Indian Prime Minister has always attended the NAM summit, except once in 1979, when Chaudhury Charan Singh was the caretaker PM and hence missed it.

- Many analysts believe that this **marks shift in India's Policy** from a non-aligned country to one which is supposedly multi-aligned.

- This is significant against the backdrop that India's neighbours like Nepal and Bangladesh have again reposed trust in NAM with their PMs.

- However, Ministry of External Affairs maintains that **India remains committed** to the principles and objectives of the Non Aligned Movement, including our long-standing solidarity and support for the Palestinian cause.

NAM and Contemporary World

- The scales of global geo-political balance have shifted, propelled by forces of globalisation and transformational technological progress. We are more interconnected and interdependent than ever before.

- Climate change , environmental degradation, terrorism, radicalisation, poverty, public health emergencies, humanitarian and natural calamities, cyber security threats, and the serious security implications of frontier technologies are just **some of the challenges of this new world**.

- These challenges can only be faced together, not when we are divided. Effective multilateralism remains the only answer to address these issues.

- NAM's strength lies not just in numbers but in the sheer diversity of its membership, and in **firm anchoring in commonly agreed principles**. NAM is a large grouping that can shape global responses to such challenges.

Visit of Vice President to Comoros and Sierra Leone

- Vice President of India visited the **Union of Comoros** and **Sierra Leone** from 10-14 October, 2019.

- Vice President' s visit will be the first ever high-level visit from India to the two countries.

A. Comoros

- Various MoUS signed during the visit include:
  o Co-operation in the field of defence
  o Cooperation in the field of Health and Medicine
  o Exemption of visa for diplomatic and official passport holders
  o Cooperation in the field of Arts and Culture
  o Protocol on Foreign Office Consultations

- India announced (i) gift of medicines and medical equipments worth US$ 1 Million (ii) Gift of 1000MT of rice (iii) Gifting of Interceptor Boats worth USD 2 mn (iv) Transport vehicles worth USD 1 mn.

- India also extended a Line of Credit of USD 20 million for procurement of High Speed Interceptor Boats.

India – Comoros: Brief Discussion

- In the last few years, India's engagement in various fields with Comoros has intensified. President H. E. Azali Assoumani led a delegation to participate in the Founding Conference of **International Solar Alliance in March 2018** in New Delhi.

- Earlier, the then President of Comoros attended the third **India-Africa Forum Summit** (IFAS) in October 2015.

- India has extended **concessional lines of credit of US$ 41.6 million** for setting up of a 18 MW power plant in Moroni. The bilateral trade is modest and reached US $ 47.11 million in 2018-19.

- Comoros avails scholarship/training programmes offered by India under the Indian Technical & Economic Cooperation (ITEC)/IAFS III and ICCR schemes.

B. Sierra Leone

- List of Agreements/MoUs signed during the visit:
  o Cultural Exchange Programme between the Government of Sierra Leone and the Government of India for the years 2019-2023
  o US Dollar **30 million Credit Line Agreement** between the Republic of Sierra Leone and the Export-Import bank of India for **Irrigation Development Project in Sierra Leone**

o MoU between the Republic of Sierra Leone and the Telecommunications Consultants India Limited (TCIL) for Participation in the **e-VBAB Network Project** (Technology upgradation Pan African e-network Project (PAeNP)- Phase-I) of the Ministry of External Affairs, Government of India

- India offered a Line of Credit for construction of a **new Presidential Office complex in Freetown**. It also reactivated US $ 15 Million Line of Credit for potable water project.

- Indian President reiterated India's offer to **conduct a "Jaipur Foot" camp** in Sierra Leone under our initiative "**India for Humanity**" for fitting of artificial prosthetic limbs for the disabled.

India – Sierra Leone: Brief Discussion

- India had played an important role in achieving peace and stability in Sierra Leone by contributing troops to the UN Assistance Mission in Sierra Leone (UNAMSIL) in 2000-01.

- India has extended concessional lines of credit to Sierra Leone worth US $ 123 million for in sectors such as agriculture, water and transmission line.

- India has also undertaken grant projects through IBSA fund and provided direct humanitarian assistance to Sierra Leone during Ebola crisis in 2014 and during floods in 2017.

- Sierra Leone is also a beneficiary of Indian Technical & Economic Cooperation (ITEC) programme.

- The bilateral trade has remained modest in the recent years and in 2018-19, it was US$ 124 million.

Indians Will No Longer Require Visas to Visit Brazil

- Brazilian President Jair Bolsonaro has announced that the South American nation will drop its requirement that visiting **Chinese and Indian tourists or businesspeople obtain visas**.

- Earlier this year, the Brazilian government ended visa requirements for tourists and businesspeople from the United States, Canada, Japan and Australia.

- Those countries, however, have not in return dropped their visa requirements for Brazilian citizens.

OCI Can Now Apply For National Pension System

- Overseas Citizens of India (OCI) will now be **eligible to apply for the National Pension System** at par with Non Resident Indians (NRIs).

- They will be allowed to invest in NPS tier I scheme and the option of NPS Tier II account will **not be available to NRI and OCI subscribers**.

- There are many individuals of Indian origin who have taken up foreign citizenship while working overseas and may prefer to continue investing in India from their local income sources. This step will help them.

- NPS is a **defined contribution** pension plan. There are two accounts—Tier 1 account, the pension account, which gives tax benefit and is mandatory to open for NPS, and Tier II account, an optional account with withdrawal flexibility.

Who is an Overseas Indian Citizen?

- An OCI is "A foreign national, who was eligible to become citizen of India on 26.01.1950 or was a citizen of India on or at any time after 26.01.1950 or belonged to a territory that became part of India after 15.08.1947 is eligible for registration as OCI.

- Minor children of such person are also eligible for OCI.

- However, if the applicant had ever been a citizen of Pakistan or Bangladesh, he/she will not be eligible for OCI.

US-India Defence Technology and Trade Initiative

- The ninth India-US Defence Technologies and Trade Initiative (DTTI) group meeting took place in New Delhi.

- These meetings are held to bring leadership focus to the bilateral defence trade relationship and create opportunities for **co-production and co-development** of defence equipment.

What is DTTI?

- DTTI is an initiative to provide "increased US senior level oversight and engagement to get beyond obstacles such as the presence of differing bureaucratic processes and legal requirements.

- DTTI is not a treaty or law. It is a **flexible mechanism** to make sure that senior leaders from both countries are engaged consistently to strengthen the opportunities in the field of defence.

- Its central aims include strengthening India's defence industrial base, exploring new areas of technological development and expanding U.S.-India business ties.

National Police Commemoration Day

- It is observed on October 21 every year to remember the sacrifices of ten policemen who died in Chinese firing in 1959.

- Chinese troops opened fire and threw grenades at a party of 20 police personnel. Ten were killed in the incident, which left seven others injured, who were later taken as prisoners.

- Police personnel had been responsible for manning the 2,500 mile long border of India with Tibet until the autumn of 1959.

World's Biggest Facial Recognition System

- India is set to install **world's largest facial recognition system to track and nab criminals**. For this purpose, it has asked the IT companies across the world to send proposals to NCRB (National Crime Record Bureau).

- It will consist of a **centralized database accessible to police** across all states of country that would match images from network of CCTV cameras against a database encompassing criminal records.

- This system will play a "very vital role in **improving outcomes" of solving crime cases** and help in "**detect crime patterns**" while also aid in crime prevention.

Apprehensions:

- The **involvement of foreign companies** in setting up such a critical network of India's security apparatus is likely to raise **issues of national security**.

- Many analysts feel that the system would become a **tool of social policing** and even **exerting control on certain communities**.

- India **does not have a data protection law,** hence, the project will be devoid of safeguards.

- China has already taken a lead in adopting facial recognition technology and it uses this technology to **crack down on dissent** as is evident from the Hong Kong Protest. Many critics fear that, India might walk on the same path.

Govt. Decides Not to Grant Pay Upgrade to Paramilitary Cadres

Context:

- The government has decided that **Non Functional Financial Upgradation** (NFFU) grant **cannot be granted to Paramilitary cadre officers**.

- The MHA has also moved the Supreme Court seeking a two-month extension till November 30 to implement the apex court's February 2019 order.

- The February 2019 order had granted CAPF officers Organised Group A service status bringing them at par with officials from IAS, IPS, IRS and other central services.

What is NFFU?

- It was introduced on the **recommendation of the 6th Central Pay Commission** with effect from 01-01-2006 to offset the financial loss for lack of promotional avenues in various Government services.

- NFFU implies that whenever an IAS officer gets empaneled at a particular appointment at the Centre, all other Group-A service officers are also upgraded to the same level after a period of two years from the date of empanelment, on a non-functional basis, irrespective of whether they are actually promoted or not.

- For example, if an officer of the IAS of 1989 batch is empaneled as an Additional Secretary to Govt of India, then all other Organised Group-A officers of the 1987 batch shall also be placed in the 'Additional Secretary to Government of India' pay grade (Higher Administrative Grade/HAG).

- As a result, almost all organised Group-A civil sevrice officers are retiring with the pay and pension of much higher grades than the functional grades actually held by them.

Criticism of This Step:

- Implementing NFFU would have helped increase the motivation level of the women and men in uniform operating in difficult and trying circumstances.

- Many believe that this step would **only ignite the conflict** all the more rather bring an end to the **ongoing feud between Indian Police Service and Paramilitary cadre officers.**

Origin of the feud between IPS and CAPF:

- The confusion stems from a February 2019 ruling, in which the Supreme Court said the "grant of status of Group 'A' Central Services to RPF (Railway Police Force) shall not affect (the deputation of) the IPS".

- The RPF does not fall under the CAPFs. Hence, CAPF officers are taking it at face value to mean that the **court order is only limited to the RPF and that their forces will now be headed by their own officers**.

- IPS officers, on the other hand, are interpreting the line to mean that their deputation will continue in the CAPFs despite the grant of organised service status to these forces.

- Since the order says that the deputation of IPS will continue in the RPF, the IPS officers believe that the omission of the word CAPF in the judgment is "**a human error**".

White Water Rafting Expedition – 'Rudrashila'

- Undertaken by Kalidhar Battalion at the Jodhpur Military station. The expedition will start from Rudhraprayag and end in Rishikesh.

- Aim - to prepare the soldiers to overcome adversities with grit and determination.

- The team will also spread **awareness on social issues** of "**Swachh Bharat**" campaign and "**Preservation of river eco-system**".

India Starts Sharing Maritime Data

Context:

- Last year, India had set up Information Fusion Centre – Indian Ocean Region (IFC-IOR). The aim of this center was to act as an information sharing hub of maritime data and "cuing incident responses" to maritime security situations through a collaborative approach.

- This Centre has started functioning and the National Security Adviser of India had offered **countries in the IOR use of the facility to track movement of vessels** on the high seas.

Key Highlights:

- The IFC was established at the Navy Information Management and Analysis Center (IMAC), Gurgram. It is the single point centre linking all coastal radar chain networks along the 75000 km Indian coastline and in some neighbouring countries.

- The IFC tracks and monitors 75000 – 1.5 lakh shipping vessels in real time round- the- clock.

- The IFC actively interacts with the maritime community and has already built linkages with 18 countries and 15 multinational and maritime security centres.

- The major centres with which regular exchange of maritime security information is being undertaken include **Virtual Regional Maritime Traffic Centre** (VRMTC), **Maritime Security Centre - Horn of Africa**(MSCHOA), **Regional Cooperation Agreement on Combating Piracy and Armed Robbery** (ReCAAP), **Information Fusion Centre-Singapore** (IFC-SG), and **International Maritime Bureau - Piracy Reporting Centre** (IMB PRC).

Benefit:

- India aspires to be a "**major contributor**" to maritime safety in the region. Sharing of real time data will be very helpful in this regard.

- It will promote collaboration among IOR Countries and will enable them to fight against piracy.

Open General Export Licences Issued

Context:

- Defence Minister has approved issuance of two Open General Export Licences (OGELs) for export of certain parts &components and intra-company transfer of technology to select countries.

What is OGEL?

- It is a **one-time export licence** to be granted to a company for a specific period which would initially be only two years.

- For acquiring the licences, the applicant is mandatory to have Import-Export certificate.

- **Countries allowed under OGEL** - Belgium, France, Germany, Japan, South Africa, Spain, Sweden, UK, USA, Canada, Italy, Poland and Mexico.

- The application for grant of OGEL will be **considered by Department of Defence Production** (DPP) on a **case-to-case basis**.

- Export of items to a 'Special Economic Zone' is not permitted.

Impact of this step:

- India has made significant strides in **improving its defence exports**. These have grown **seven-fold over the last two years** and reached to Rs 10,500 crore in 2018-19.

- This step will further give a **boost to defence exports** and **enhance ease of doing business**.

'PRAKHAR' Anti-Street Crime Vans

- Delhi Police has flagged off **'Prakhar' vans to control street crimes in national Capital**.

- These patrol vans are tasked especially to curb street crimes as well as crimes against women in the vulnerable areas.

- These are specially designed and equipped with latest gadgets for quick transmission of information about any crime.

UN Financial Crisis

- The United Nations is facing a "**severe financial crisis**". According to the UN Secretary-General, the organization may run out of money by the end of October.

- It is also facing the prospect of not being able to pay some of its 44,000 staff next month.

- According to the Secretary General, UN is running a $230 million deficit. As a measure to tackle this crisis, it has proposed **cost-cutting measures** like postponing conferences, reducing services and restricting official travel to only essential activities.

Reasons For This Crisis:

- This is not a budget crisis, it's a cash-flow crisis. The United Nations depends on member states meeting their obligations on time. **Many members have not yet paid their 2019 contributions**.

> Facts:
>
> - The **top contributing nations** to the 2019 regular UN budget are China ($497.3 million), Japan ($354.8 million), Germany ($252.3 million), Britain ($189.2 million) and France ($183,.4 million).
> - The **United Nations' operating budget** in 2018-2019, not including peacekeeping operations, was around US$5.4 billion.

- As of October 3, 128 of the UN's 193 member states had paid their contributions for 2019 in full.

- The United States, responsible for **22 per cent of the UN budget**, has not paid yet. The US owes some $566 million for prior regular budgets and $1 billion for the 2019 regular budget.

- The US's budgetary procedure is such, that it delays payments to UN till the end of October. Hence, the United States typically tends to pay toward the end of the year.

- Also, the Trump administration has complained about the amount of money the United States is obliged to pay. As a result, it is increasingly delaying the payment.

- **Seven nations** — the United States, Brazil, Argentina, Mexico, Iran, Israel and Venezuela — are responsible for **97 percent of the unpaid budget**.

- Unlike nations that can borrow money in global capital markets by issuing bonds, the United Nations has no such authority.

How is the UN funded?

- **All UN members** are required to **make annual payments** to help fund the bloc's regular budget.

- The **amount each member pays** is determined by a complex formula factoring in gross national income and population.

11th Nuclear Energy Conclave 2019

- Organised by - India Energy Forum at New Delhi

- Theme - Economics of Nuclear Power- Innovation towards Safer & Cost-Effective Technologies.

- It was announced that a nuclear power plant is to be constructed in Gorakhpur, Haryana. So far, nuclear power plants were restricted in southern India only.

- India Energy Forum was established in 2001 with an objective to understand India's Nuclear Energy Program.

India's Nuclear Energy Program

- Pioneered by – Dr. Homi Jahangir Bhabha

- India adopted a three-stage strategy of nuclear power generation which is Pressurized Heavy Water Reactor (PHWR), Fast Breeder Reactor (FBR) and Thorium based Reactor.

India Mobile Congress 2019

- Organised by - Department of Telecommunications along with Cellular Operation Association of India (COAI)

- This was the third edition of the India Mobile Congress. The event acts as a common platform to discuss and display the latest technology in the world.

- Apart from being the largest digital technology event, it is also the largest networking event in India.

Global Alliance on Responsible Use of Smart city Technologies

India has joined the World Economic Forum's (WEF) G20 Global Smart Cities Alliance on Technology Governance.

Background

- The alliance was established in June 2019, in conjunction with G20 Summit held in Osaka, Japan.

- It is a **league of 15 of the world's leading city networks** and technology governance organisations.

- It will create **global norms and policy standards** for the use of connected devices in public spaces

- Secretariat - World Economic Forum

Significance

- The alliance will help in **development of smart city technologies** which can help decrease traffic congestion, improve resilience during natural disasters combat crime, and reduce greenhouse gas emissions.

- Without proper governance, these technologies **pose significant risk, notably to privacy and security**. The alliance will work towards **advancing the responsible and ethical use** of smart city technologies.

- India is at the forefront of this urban transformation and is committed to ensuring that our cities develop in a way that is smart and sustainable. This alliance will help India on this front.

Technology Summit, 2019

- 25th Technology Summit 2019 has been Organised by **Department of Science and Technology** (DST) and **Confederation of India Industry** (CII).

- Theme: **Young entrepreneurship**

- The **Kingdom of Netherlands** was the Partner Country. In 2017, Canada participated in the Summit and in 2018 it was Italy.

Asia Environmental Enforcement Award

- Senior **Indian Forest Service officer Ramesh Pandey** has been selected for the **Asia Environmental Enforcement Award** by the **United Nations Environment Programme**.

- He is being given this award for his work done in **combating trans-boundary environmental crime**.

- The 2019 Awards are presented by UNEP in partnership with United Nations Development Programme (UNDP), USAID, United Nations Office on Drugs and Crime (UNODC), INTERPOL, Freeland Foundation, and Government of Sweden.

- This year the award will be given in 5 categories – Collaboration; Impact; Innovation; Integrity; Gender Leadership

- The purpose of this award is to publicly recognise **outstanding achievements by public organisations and individuals** in Asia to combat transboundary environmental crime.

Important Dates

- **World Habitat Day** – First Monday of October Every Year (2019 Theme - **Frontier Technologies as an innovative tool to transform waste to wealth**)

- **October 9:** World Post Day.

- **October 7:** World Cotton Day.

- **October 11:** International Day of Girl Child.

- **International Day for Disaster reduction** – October 13 (2019 Theme - **Reduce disaster damage to critical infrastructure and disruption of basic services**)

- **October 14:** The members of International Electro technical Commission (IEC), International Telecommunication Union (ITU) and International Organization for Standardization (ISO) celebrated the World Standards Day.

- **International Day of Rural Women** – October 15 (2019 Theme - Rural Women and Girls Building Climate Resilience)

- **World Food Day** – October 16 (2019 Theme - Our Actions Are Our Future. Healthy Diets for A #ZeroHunger World)

- **International Day for the Eradication of Poverty** – October 17 (2019 Theme - Acting together to empower children, their families and communities to end poverty)

- **United Nations Day** - October 24 (marks the anniversary of the entry into force in 1945 of the UN Charter)

- *National Unity Day:* It is observed every year on October 31.

Person in News

- **Chandi Prasad** - Noted environmentalist and social activist Chandi Prasad Bhatt has been awarded the **Indira Gandhi award for national integration** for the years 2017 and 2018. He had founded the **Dasholi Gram Swarajya Sangh** (DGSS) in Gopeshwar (Uttarakhand) in 1964, which later became a mother organisation to the Chipko Movement.

- **Anup Kumar Singh** - Senior IPS officer Anup Kumar Singh has taken charge as the **new Director General of National Security Guard** (NSG).

- **100th Nobel Prize for peace (2019):** It has been awarded to the Ethiopian Prime Minister Abhiy Ahmed Ali.

- **Kais Saied:** He has been elected as the new President of Tunisia.

- **Sourav Ganguly:** He has been elected as a new BCCI president.

- *2019 Booker prize:* Margaret Atwood and Bernardine Evaristo have been named the joint winners of the 2019 Booker Prize.

- *Girish Chandra Murmu:* He has been sworn in as first Lieutenant Governor of J&K.

- *Pankaj Kumar:* He has been appointed as CEO of UIDAI.

Miscelleneous

1. **Meghalaya tribes:** The minor tribes of Meghalaya *i.e.* Hajong, Bodo – Kachari, Mann, Rabha are together put under the category of "unrepresented tribes" for nominations in the state's autonomous councils.

2. *Aarambh:* The GoI has launched the first ever common foundation course called the "Aarambh" for civil servants at the Statue of Unity.

3. *Gram Manchitra:* It is an Spatial Planning Application for Geo Spatial based decision support system for panchayats.

4. *Swachhata Hi Seva India- Plog Run:* To propagate the idea of shunning plastics and for Fit India campaign Plog Run has been launched. Plogging involves picking up litter while jogging.

5. *The Third Pole Environment (TPE):* It is an international research program launched in 2009 that focuses on the Tibetan Plateau and surrounding mountain ranges.

6. *Asia Environmental Enforcement Award:* Senior Indian Forest Service (IFS) officer Ramesh Pandey has been selected by United Nations Environment Programme (UNEP) for prestigious Asia Environmental Enforcement Award.

7. *D28 iceberg:* A more than 1,500 sq. km. D28 iceberg recently broke off in Antarctica due to rapid warming arising from climate change.

8. *NH 766:* It is a key highway between Karnataka and Kerala passing through the Bandipur Tiger Reserve in Karnataka. Recently, there has been series of protest against the recent Supreme Court direction to the Ministry of Environment and NHAI to suggest alternative routes so to shut down NH 766 permanently.