



# INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

**CURRENT AFFAIRS**

**APRIL 2019**

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INSIGHTSIAS

# GENERAL STUDIES - I

*Topics: Indian culture will cover the salient aspects of Art Forms, Literature and Architecture from ancient to modern times.*

## 1. MAHARSHI BADRAYAN VYAS SAMMAN' AWARDS

### What to study?

- For Prelims and Mains: About Maharshi Badrayan, contributions and awards, what is Vedanta philosophy?

**Why in News?** Vice President recently conferred around 100 'President's Certificate of Honour' and 'Maharshi Badrayan Vyas Samman' Awards to scholars in Classical Languages.

### Who was Maharshi Badrayan?

- He was an Indian philosopher about whom almost no personal details are reliably known.
- Badarayana is regarded as having written the basic text of the Vedanta system, the **Vedāntasūtra** a.k.a. **Brahmasūtra**. He is thus considered the founder of the Vedānta system of philosophy.
- The date of Badarayana and his **Brahma Sutras** is uncertain. Different scholars have dated the Brahma Sutras variously from 500 BCE to 450 BCE.

### 'Maharshi Badrayan Vyas Samman' Awards:

The Maharshi Badrayan Vyas Samman distinction is conferred on persons in recognition of their substantial contribution in the field of Sanskrit, Persian, Arabic, Pali, Prakrit, Classical Oriya, Classical Kannada, Classical Telugu and Classical Malayalam.

- Introduced in the year 2002.
- Given to selected young scholars in the age group of 30 to 45 years.
- Carries a certificate of honour, a memento and a one-time cash prize of Rs.1 lakh.

## 2. HINDU NEW YEAR

**Context:** Hindu New Year was welcomed in different parts of the country with traditional festivities and celebrations.

**The Chaitra Sukladi, Ugadi, Gudi Padava, Navareh, Navroz and Chetti Chand** are the same festivals in different names, marking the occasion.

- Andhra Pradesh and Telangana: Ugadi.
- Karnataka: Yugadi /Ugadi.
- Maharashtra: Gudi Padwa.
- Sindhis: Cheti Chand.
- Manipuris: Sajibu Cheiraoba.
- Hindus of Bali and Indonesia also celebrate their new year on the same day as Nyepi.
- Kashmir: Navreh.

## 3. RAJASTHAN'S GUJJAR QUOTA FACES A LEGAL CHALLENGE

### What to study?

- For Prelims: Highlights of the Bill
- For Mains: Significance and concerns associated with the reservations, solutions to the problem of reservation.

**Context:** The Supreme Court has refused to entertain a plea challenging the grant of **5% quota to Gujjars and four other castes in jobs and educational institutions in Rajasthan** through an amendment in February.

- SC has dismissed the **appeal against a Rajasthan High Court order refusing to grant interim relief on the petition challenging the quota to Gujjars and others, treating them as socially and economically backward classes.**

### What's the issue?

- Rajasthan government has proposed to give 5% reservation to Gujjars and four other nomadic communities in jobs and education in Rajasthan, citing them as being an "extremely backward class".
- However, the PIL argues that this law breached the 50% ceiling on reservation. The PIL had also cited the proportion of Gujjars' population as per the last Census instead of referring to the quantifiable data of backwardness in education and public employment.

### Rajasthan Backward Classes Amendment Bill, 2019:

- The Rajasthan government has passed the Rajasthan Backward Classes (Reservation of Seats in Educational Institutes in the State and of Appointments and Posts in Services under the State) Amendment Bill, 2019.
- **The bill seeks to provide 5% reservation to Gujjars, Banjaras, Gadia Lohars, Raikas and Gadaria.** At present, the communities are provided 1% reservation under More Backward Classes (MBC).
- The bill has increased the OBC reservation in Rajasthan from the present 21% to 26%. It has also increased the income limit for defining creamy layer in OBC from Rs. 2.5 lakh to Rs. 8 lakh/annum.
- **The Rajasthan government has also passed a resolution requesting the Centre to include the bill in Schedule IX of the Indian Constitution.** This is because Rajasthan has breached the 50% cap on reservations set by the Supreme Court.

### What is Ninth schedule all about?

- A law enacted and included in the Ninth Schedule gets protection under Article 31-B (validation of certain Acts and Regulations) and is not subject to judicial review. However, in 2007, the Supreme Court ruled that all laws including those in the Ninth Schedule would be open to judicial review if they violated the basic structure of the constitution.

### What are the concerns?

- Multiple commissions appointed by State governments have recommended the implementation of the 5% quota on the basis of the community's "extreme" or "most" backward nature.
- But the lack of adequate data in the absence of a proper socio-economic caste census to prove this has led to the policy's undoing in judicial orders.
- Also, the repeated agitations reveal the shortfall in adequate, gainful and secure job opportunities in States such as Rajasthan.

Sources: the hindu.

## 4. KANDHAMAL HALDI

### What to study?

- For Prelims: GI tags and about Kandhamal Haldi.
- For Mains: Significance of GI tags.

**Context:** Odisha's Kandhamal Haldi (turmeric), famous for its healing properties, has received GI tag.

### Key facts:

- The golden yellow spice, named after the district where it is produced, has been cultivated since time immemorial and is known for its medicinal value.
- Turmeric is the main cash crop of tribal people in Kandhamal. Apart from domestic use, turmeric is also used for cosmetic and medicinal purposes.
- More than 60,000 families (nearly 50% of Kandhamal population) are engaged in growing the variety. The crop is sustainable in adverse climatic conditions.

### About GI tag:

- **What is it?** A GI is primarily an agricultural, natural or a manufactured product (handicrafts and industrial goods) originating from a definite geographical territory.
- **Significance of a GI tag:** Typically, such a name conveys an assurance of quality and distinctiveness, which is essentially attributable to the place of its origin.
- **Security:** Once the GI protection is granted, no other producer can misuse the name to market similar products. It also provides comfort to customers about the authenticity of that product.
- **Provisions in this regard:** GI is covered as element of intellectual property rights (IPRs) under Paris Convention for Protection of Industrial Property.

- At international level, GI is governed by **WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)**. In India, **Geographical Indications of Goods (Registration and Protection Act), 1999** governs it.

## 5. SARASWATI SAMMAN

**Context:** Telugu poet **K Siva Reddy** has been selected for the prestigious **Saraswati Samman**, 2018 for his work **Pakkaki Ottigilite** which is a collection of poetry.

- Saraswati Samman** is the **annual award given to an outstanding literary work in any Indian language mentioned in Schedule VIII of the Constitution and published in 10 years preceding the specified award year.**
- It is the highest recognition in the field of Indian literature in the country and carries a citation, a plaque and award money of ₹15 lakh.**
- The award is presented by the **KK Birla Foundation**, a literary and cultural organisation that also gives the **Vyas Samman** for Hindi, and **Bihari Puraskar** for Hindi and Rajasthani writers of Rajasthan.

## 6. GARIA FESTIVAL

- Garia festival** is an important festival for the **Tripuri tribal community** of the state. The **Garia dance** is very popular among the **Tripuris** and the **Reangs**. Symbolic of the worship of deities as well as of the socio-economic activities of the households, these dances represent hunting, fishing, food-gathering and various other activities.
- The Garia Puja is usually **held from the beginning of the last day of the month of Chaitra till the seventh day of the month of April (Vaishakha)**.
- They offer prayers to a **bamboo pole** whom they considered as their Lord Garia and sought His blessings for a good and prosperous life.
- The devotees sacrifice roosters as part of the rituals during the puja.
- The puja is followed by **traditional dance derived from the Garia dance** or the dance of Shiva and other cultural activities.

**Topics:** *Modern Indian history from about the middle of the eighteenth century until the present- significant events, personalities, issues.*

## 1. HISTORY OF MUSLIM LEAGUE IN KERALA AND INDIA

### What to study?

- For Prelims: About Muslim League- establishment, evolution, objectives and accomplishments.
- For Mains: Evolution of Muslim league in India after independence and recent issues associated.

**Why in News?** Uttar Pradesh chief minister Yogi Adityanath recently equated the **Indian Union Muslim League (IUML)** with the pre-partition Muslim League.

### About Muslim League:

- It was a political party established in 1906 in the British Indian Empire.** Its strong advocacy for the establishment of a separate Muslim-majority nation-state, Pakistan, successfully led to the partition of British India in 1947 by the British Empire.
- The party **arose out of a literary movement begun at The Aligarh Muslim University** in which Syed Ahmad Khan was a central figure.
- The first stage of its formation was the **meeting held at Lucknow in September 1906**, with the participation of representatives from all over India.
- With global events leading up to World War II and the Congress party's effective protest against the United Kingdom unilaterally involving India in the war without consulting the Indian people, **the Muslim League went on to support the British war efforts.**

### **Evolution post- independence:**

- Soon after Partition, the **All India Muslim League**, which had led the movement for Pakistan, was disbanded. Over the next few months, the party of Mohammed Ali Jinnah was succeeded by the Muslim League in West Pakistan and The All Pakistan Awami Muslim League in East Pakistan.
- In East Pakistan, the **Awami Muslim League** championed the cause of Bengali nationalism, and sought to chart a course independent from Punjabi-dominated West Pakistan. Under the leadership of Sheikh Mujibur Rahman, East Pakistan ultimately broke free from the West.

### **In India:**

- In independent India, the All India Muslim League was succeeded by the Indian Union Muslim League (IUML).
- The IUML fought elections under the Constitution of India, and has always had a constant, if small, presence in Lok Sabha.
- The **IUML** is the strongest in **Kerala**, and has a unit in Tamil Nadu as well. It has long been recognised by the Election Commission of India as a **state party in Kerala**.

Sources: Indian express.

## **2. BATTLE OF KANGLA TONGBI**

### **What to study?**

- For Prelims and Mains: Battle- causes, effects, features and significance.

### **Why in News?**

- The Platinum Jubilee of the Battle of Kangla Tongbi War was commemorated on 07 Apr 2019 by Army Ordnance Corps at Kangla Tongbi War Memorial near Imphal honouring the valiant brave hearts of Ordnance Personnel of 221 Advance Ordnance Depot who made their supreme sacrifice in the line of duty during the battle of World War-II on the night of 6/ 7 April 1944.

### **Significance:**

- The Kangla Tongbi War Memorial is a mute testimony to this battle and the unflinching devotion to duty of the Ordnance personnel of 221 AOD, 19 of whom made the supreme sacrifice.
- It conveys to the world at large that Ordnance personnel, apart from being professional logisticians, are second to none in combat, being equally proficient soldiers, should the occasion demand.

### **About the Battle of Kangla Tongbi:**

- It is considered one of the fiercest battles of World War II. It was fought by Ordnance personnel of 221 Advance Ordnance Depot (AOD) on the night of 6/7 April 1944 against Japanese forces. Japanese forces had planned a three pronged offensive to capture Imphal and the surrounding areas.
- In their attempt to extend their line of communication to Imphal, the 33rd Japanese Division cut in behind the 17th Indian Division at Tiddim (Myanmar) and establishing themselves firmly on the main Kohima – Manipur highway, started advancing towards Kangla Tongbi. However, combatant role of AOD personnel shook the enemy and forced the Japanese to withdraw.

## **3. JALLIANWALA INCIDENT**

### **What to study?**

- For Prelims and Mains: Jallianwala Bagh incident- overview, impacts and outcomes, why do you think the UK should apologize now?

**Context:** British Prime Minister Theresa May has reiterated the UK government's long-standing expression of 'deep regret' over the April 1919 Jallianwala Bagh massacre and called the massacre a 'shameful scar' on British Indian history. However, the country has refused to formally apologise. Britain's refusal to squarely apologise for the Jallianwala Bagh massacre is expected but disappointing.

### **About the incident:**

- **April 13, 1919**, marked a turning point in the Indian freedom struggle. It was **Baisakhi that day**, a harvest festival popular in Punjab and parts of north India. Local residents in Amritsar decided to hold a meeting that

day to discuss and protest against the confinement of Satya Pal and Saifuddin Kitchlew, two leaders fighting for Independence, and implementation of the Rowlatt Act, which armed the British government with powers to detain any person without trial.

- The crowd had a mix of men, women and children. They all gathered in a park called the Jallianwala Bagh, walled on all sides but for a few small gates, against the orders of the British. The protest was a peaceful one, and the gathering included pilgrims visiting the Golden Temple who were merely passing through the park, and some who had not come to protest.
- While the meeting was on, Brigadier-General Reginald Edward Harry Dyer, who had crept up to the scene wanting to teach the public assembled a lesson, ordered 90 soldiers he had brought with him to the venue to open fire on the crowd. Many tried in vain to scale the walls to escape. Many jumped into the well located inside the park.
- Brigadier General (temporary rank) Reginald Dyer took a strike force of 50 rifles and 40 khukri-wielding Gurkhas into an enclosed ground, Jallianwala Bagh, where a peaceful public meeting of 15,000-20,000 was being held.
- The firing of 1,650 rounds was deliberate and targeted, using powerful rifles at virtually pointblank range. Eyewitness accounts and information collected by Sewa Samiti, a charity organisation point to much higher numbers. Non-Indian writers place the number killed at anything between 500 to 600, with three times that number wounded.
- Post incidence events – More was to follow after the proclamation, two days after the massacre, of Martial Law in Punjab: the infamous crawling order, the salaam order, public floggings, arbitrary arrests, torture and bombing of civilians by airplanes — all under a veil of strictly enforced censorship.
- After calls for an investigation, including by liberals in Britain, a Disorders Inquiry Committee, soon to be known by the name of its Chairman, Lord Hunter, was set up.

#### Outcomes:

- Considered the 'The Butcher of Amritsar' in the aftermath of the massacre, General Dyer was removed from command and exiled to Britain.
- Rabindranath Tagore and Mahatma Gandhi, as a sign of condemnation, renounced their British Knighthood and Kaiser-i-Hind medal respectively.
- In 1922, the infamous Rowlett Act was repealed by the British.

#### What does 'deep regret' by UK mean ?

- Deep regret is all we may get instead of the unequivocal apology that is mandated. The expectation could be that time will add more distance to the massacre, making these calls for apology increasingly an academic exercise.
- The fact remains that there are many ways to heal a festering wound between nations, as Canada's apology for the Komagata Maru shows; clever drafting is not one of them.

Sources: the hindu.

(Q) The tragedy of Jallianwala Bagh is a shameful scar on British Indian history. Comment.

*Topics: Women and women related issues.*

## 1. MHA DISTRIBUTES SPECIAL KITS TO STATES, UTS TO HELP PROBE SEXUAL ASSAULT CASES

#### What to study?

- For prelims: components of the kit.
- For mains: sexual assault cases- numbers, concerns, challenges and significance of kits, other measures needed.

**Context:** Ministry of Home Affairs has distributed special kits to carry out immediate investigations into sexual assault cases. The Sexual Assault Evidence Collection Kits or 'rape investigation kits' are designed to carry out immediate medico-legal investigation.

### **Components and significance of the kits:**

- Each of these kits **comprises essential items that will aid in furnishing evidence such as blood and semen samples in sexual assault and rape cases**, thus helping the prosecution to gather evidence against the accused.
- The kit has a **set of test tubes and bottles**, which mention contents and specifications.
- These kits also contain instructions on collection of evidence from the crime scene. The SAECKs would be sent to the closest laboratory and within two months the results would be out.
- The kits are expected to **help law enforcement agencies to ensure effective investigation in a timely manner for better prosecution and convictions in sexual assault cases**.
- The kits were procured with financial support **under the central government's 'Nirbhaya Fund'**, which was named after the 2012 Delhi gang-rape victim.

### **Background:**

- Incidents of crime against women rose from 3,29,243 in 2015 to 3,38,954 in 2016.
- In 2015, as many as 34,651 cases of rape were registered in the country. The figure increased to 38,947 in 2016, according to the data of the National Crime Records Bureau.

Sources: the Hindu.

## **2. PLEA TO PROTECT ACCUSED IN SEXUAL ABUSE CASES**

### **What to study?**

- For prelims and mains: sexual abuse cases- need for protection for both victims and accused, concerns over false cases and how to handle them?

**Context:** A petition has been filed in the Supreme Court to frame guidelines **to protect the reputation and dignity of persons accused of sexual offences**.

### **Concerns:**

- A person was **considered innocent unless proven guilty** by a court of law. If a person was falsely accused, his **reputation would be lost forever and exposed to public ridicule for no fault of his**. This would be a **violation of the fundamental right to life enshrined under Article 21 of the Constitution**. It does not only destroy an individual's life but also creates a social stigma for the family members too.
- Disclosure of his identity, especially during trial, would lead to **media trial**. Besides, **considering the wide reach of social media, the person's name and even that of his family, which might include minors, would be exposed on the Internet**. This would be a violation of their fundamental right to **privacy**.

### **Increased vulnerability:**

- In present times, where people are in a virtual world, the reputation and integrity of a person is always an easy target to destroy.
- It would be tragic that the person, even after being found innocent, would continue to be known as a suspected sex offender on social media because once his identity entered the public domain it would become searchable and permanent.
- The previous identification as a suspect will endure in the public sphere.

### **Need of the hour:**

- some **preventive measures** must be taken so as to avoid and to deal with such situations in the interest of justice.
- Amend **Section 228-A** of the Indian penal Code that provides punishment for disclosing the identity of the victims but does not provide any safeguard for protection of the identity and integrity of the accused in case of false accusation.
- Court should **frame the guidelines** like it had earlier framed in *Vishaka & Ors. v. State of Rajasthan* to protect the integrity of victim and to safeguard the victim from facing the social stigma.

### **Conclusion:**

- Supreme Court had on many occasions reinforced that the “right to reputation” is an integral part of Articles 21 and 19(2) of the Constitution of India.
- Therefore, some preventive measures must be taken to avoid and deal with such situations in the interest of justice.

### **Few incidents:**

- S. Nambi Narayanan (who is an Indian scientist and aerospace engineer and also awarded India's third highest civilian award the Padma Bhushan) was falsely charged with espionage and was later cleared of all charges and had to put up a long fight to save his reputation.
- However, no amount of compensation could restore what he had lost in the process.

Sources: The Hindu.

*Topics: Population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.*

## **1. GREEN URBAN AREAS**

### **What to study?**

- For Prelims: About CPWD.
- For Mains: Green Space Areas- their significance, need and measures needed to increase green spaces in urban areas.

**Context:** CPWD recently organized National Seminar on “Greener and Landscaping”.

**Following recommendations were made during the Seminar:**

1. Green Urban Areas play an important role in the social and natural sustainability and improve quality of life.
2. Greenery and Dense plantation have a major impact on the conservation of energy, and reduce the energy requirement of the building.
3. In order to maintain sustainable environment, pollution free clean air, it is essential to take up the plantation work.
4. Cost of land has increased manifold and high rise buildings are coming up, people are getting hardly any area for the greenery. Keeping in view the same, plantation, greenery and other environment friendly applications should be planned around the building by way of dwarf trees, small shrubs, ground covers, hanging baskets, creepers, etc.
5. There is need to adopt wood alternative in building construction. Use of alternate materials like Bamboo needs to be encouraged.
6. Orientation and proper training should be imparted to the persons engaged in landscaping and Horticulture, for implementation of the new technologies in this field to save the labour and cost of the project in long run.
7. Emphasis should be given for conserving and transplanting indigenous and grown up trees.
8. Herbal and medicinal plants need to be encouraged. Herbal plants are useful for keeping the life healthy.
9. Application of Organic Manure needs to be adopted for healthy and nutritious food.
10. Water conserving irrigation method like drip irrigation, Sprinkler irrigation and pop up system needs to be adopted.
11. Plants and greenery help in reducing adverse effects of climate change. Therefore every individual should adopt minimum one tree.
12. Green initiative needs to be taken up on a mission mode by every nation, every city, every society and every individual so that future generations may lead happy and healthy life.

### **What are Green Urban Areas/Spaces and why are they significant?**

- Green spaces such as parks and sports fields as well as woods and natural meadows, wetlands or other ecosystems, represent a fundamental component of any urban ecosystem.
- Green urban areas facilitate physical activity and relaxation, and form a refuge from noise. Trees produce oxygen, and help filter out harmful air pollution, including airborne particulate matter. Water spots, from lakes to rivers and fountains, moderate temperatures.

- Urban parks and gardens play a critical role in cooling cities, and also provide safe routes for walking and cycling for transport purposes as well as sites for physical activity, social interaction and for recreation. Recent estimates show that physical inactivity, linked to poor walkability and lack of access to recreational areas, accounts for 3.3% of global deaths.
- Green spaces also are important to mental health. Having access to green spaces can reduce health inequalities, improve well-being, and aid in treatment of mental illness. Some analysis suggests that physical activity in a natural environment can help remedy mild depression and reduce physiological stress indicators.

## 2. RESILIENT CITIES ASIA-PACIFIC (RCAP) CONGRESS

### What to study?

- For Prelims: About RCAP and ICLEI- key objectives.
- For Mains: Significance and the need for urban resilience and climate change adaptation, challenges therein.

**Context:** 4<sup>th</sup> Resilient Cities Asia-Pacific (RCAP) Congress 2019 was recently organized by the International Council for Local Environmental Initiatives (ICLEI) in association with South Delhi Municipal Corporation.

### Need for urban resilience and climate change adaptation:

- Current changes in climate, combined with rapid and often unplanned urbanisation, make Asia one of the regions of the world most vulnerable to the impacts of climate change. Increasing temperatures, changing precipitation patterns, intensification of extreme weather events and rising sea levels are already a reality in the region.
- At the same time, increasing population and spreading of human settlements in low lying, flood prone coastal areas magnify the risks coming from climate change related disasters, thus increasing the vulnerability of people, especially the urban poor, who live in hazardous areas. More than 60% of the world's population resides in Asia and the region was most affected by natural disasters.

### What can be done?

- Town planners need to integrate sustainable solutions such as harvesting solar energy, enhancing green cover and water conservation as an essential part of town planning.
- Municipal administrators to accord priority to tree plantation, solid waste management, protection and rejuvenation of water bodies.
- Need for collaborative efforts of governments at state and centre to reduce the divide by providing urban amenities in rural areas.
- Dependency on fossil fuel must be reduced and new forms of energy sources such as solar must be explored.
- Need to adopt multi-dimensional and innovative approaches to ensure low emissions oriented development. Need to promote public transport in cities to reduce congestion and air pollution.

### About Resilient Cities Asia-Pacific:

- It is the annual global platform for **urban resilience and climate change adaptation**.
- It is convened by **ICLEI – Local Governments for Sustainability** and co-hosted by the World Mayors Council on Climate Change and the City of Bonn.
- It was launched in **2010** with the goal of forging partnerships and dialogues that matter.
- The **Asia-Pacific Forum on Urban Resilience and Adaptation – Resilient Cities Asia Pacific Congress (RCAP)** is a response to heightened demand from the Asia Pacific Region, which encouraged ICLEI to expand the congress series to include Resilient Cities Asia-Pacific, bringing the event and the focus to the Asia-Pacific region, catering to the situation, challenges and opportunities of local governments specifically in this region.
- **Aim:** To provide an Asian platform for urban resilience and climate change adaptation where partnerships are forged and concrete dialogues are happening, with the ultimate goal of identifying solutions and creating lasting impacts for cities in the region.

### Facts for Prelims:

- **ICLEI – Local Governments for Sustainability** is a global network of more than 1,750 local and regional governments committed to sustainable urban development.

*Topics: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc.*

## 1. IMD RAINFALL DISTRIBUTION CATEGORIES

**Context:** While releasing its monsoon forecast recently, the India Meteorological Department (IMD) expressed the projected rainfall in terms of Long Period Average (LPA), saying that it was expected to be 96% of LPA. The LPA of the monsoon season over the country is 89 cm, calculated for the period 1951-2000.

**What is LPA?**

- This is the average rainfall recorded during the months from June to September, calculated during the 50-year period, and is kept as a benchmark while forecasting the quantitative rainfall for the monsoon season every year.

**How is it measured?**

- Like the nationwide figure, IMD maintains an independent LPA for every homogeneous region of the country, which ranges from 71.6 cm to 143.83 cm.
  1. **The region-wise LPA figures are:** 83 cm for East and Northeast India, 97.55 cm for Central India, 71.61 cm for South Peninsular India, and 61.50 for Northwest India, which put together bring the all-India figure to 88.75 cm.
  2. **The monthly LPA figures for the season are** 36 cm for June, 28.92 cm for July, 26.13 cm for August and 17.34 cm for September.
- So, when IMD forecasts the category of rainfall, be it for country, region or month, the forecast is based on these standardised figures calculated for a period of 50 years.
- As per the outputs obtained from the weather models, the rainfall is categorised as normal, below normal, or above normal. IMD maintains five rainfall distribution categories on an all-India scale. These are:
  1. **Normal or Near Normal:** When per cent departure of actual rainfall is +/-10% of LPA, that is, between 96-104% of LPA.
  2. **Below normal:** When departure of actual rainfall is less than 10% of LPA, that is 90-96% of LPA.
  3. **Above normal:** When actual rainfall is 104-110% of LPA.
  4. **Deficient:** When departure of actual rainfall is less than 90% of LPA.
  5. **Excess:** When departure of actual rainfall is more than 110% of LPA.

## 2. WESTERN DISTURBANCE

**What to study?**

- For Prelims and Mains: Western Disturbances- causes, effects and significance.

**Why in News?** The western disturbance has brought heavy rainfall across various parts of the country.

**Formation:**

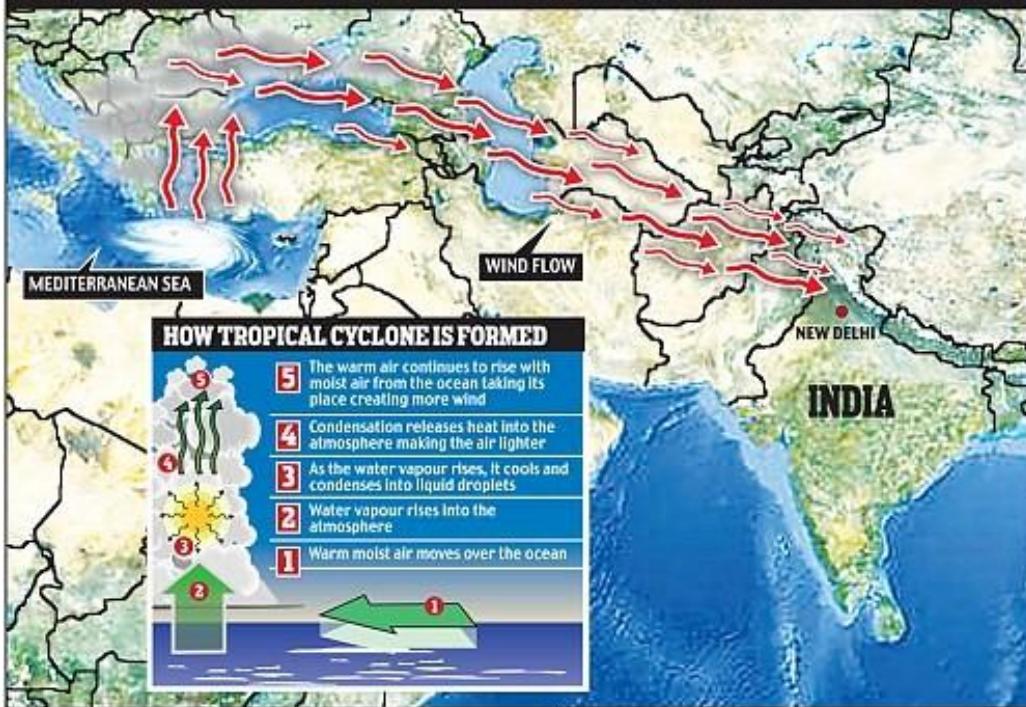
- Western Disturbance originates in the Mediterranean Sea as extra-tropical cyclones. A high-pressure area over Ukraine and neighbourhood consolidates, causing the intrusion of cold air from Polar Regions towards an area of relatively warmer air with high moisture.
- This generates favourable conditions for cyclogenesis in the upper atmosphere, which promotes the formation of an eastward-moving extratropical depression. They gradually travel across the middle-east from Iran, Afghanistan and Pakistan to enter the Indian sub-continent.

**What is Western Disturbance?**

- It is an **extratropical storm** originating in the **Mediterranean region** that brings **sudden winter rain** to the **north-western** parts of the **Indian sub-continent**. It is a non-monsoonal precipitation pattern driven by the westerlies.
- **Extratropical** storms are a **global phenomenon** with **moisture** usually carried in the **upper atmosphere**, unlike their **tropical** storms where the **moisture** is carried in the **lower atmosphere**. In the case of the Indian subcontinent, moisture is sometimes shed as rain when the storm system encounters the Himalayas.

# FAST AND FURIOUS

The extreme weather conditions are a result of a weather phenomenon called western disturbance, which is going to be quite intense



## WESTERN DISTURBANCE

■ Western disturbance is a cyclonic circulation in the mid and lower troposphere (between 2.1 and 7.6 km above sea level) which originates over the Mediterranean Sea, Caspian Sea and Black Sea

■ It is one of the most important weather systems that causes adverse weather conditions over North-West India and particularly over the western Himalayan region

■ Western disturbance during winter leads to occurrence of clouds, rainfall and snowfall

■ An intense western disturbance usually produces widespread heavy snowfall over the western Himalayan region and rains over northern plains for a day or two and may trigger avalanches

### Impact:

- Plays important role in bringing moderate to heavy rain in low-lying areas and heavy snow to mountainous areas of the Indian Subcontinent.
- This disturbance is usually associated with cloudy sky, higher night temperatures and unusual rain. This precipitation has great importance in agriculture, particularly for the Rabi crops. Wheat among them is one of the most important crops, which helps to meet India's food security.
- Excessive precipitation due to this disturbance can cause crop damage, landslides, floods and avalanches. Over the Indo-Gangetic plains, it occasionally bring cold wave conditions and dense fog. These conditions remain stable until disturbed by another western disturbance. When western disturbances move across northwest India before the onset of monsoon, a temporary advancement of monsoon current appears over the region.

Sources: the hindu

## 3. CYCLONE FANI

- **Why in News?** Cyclone Fani is likely to turn into a 'severe cyclonic storm'.
- **It was formed at low pressure region in south east of Sumatra** (Indonesian island), which further intensified into a depression.
- **Classification of Tropical Cyclones:** The criteria followed by Meteorological Department of India (IMD) to classify the low pressure systems in the Bay of Bengal and in the Arabian Sea as adopted by World Meteorological Organisation (WMO) are as under:

### Terminology:

- Cyclones are given many names in different regions of the world – They are known as **typhoons** in the China Sea and Pacific Ocean; **hurricanes** in the West Indian islands in the Caribbean Sea and Atlantic Ocean; **tornados** in the Guinea lands of West Africa and southern USA.; **willy-willies** in north-western Australia and **tropical cyclones** in the Indian Ocean.

<b>Type of Disturbances</b>	<b>Associated Wind Speed in the Circulation</b>
Low pressure Area	Less than 17 knots (<31 kmph)
Depression	17 to 27 knots (31 to 49 kmph)
Deep Depression	28 to 33 knots (50 to 61 kmph)
Cyclonic Storm	34 to 47 knots (62 to 88 kmph)
Severe Cyclonic Storm	48 to 63 knots (89 to 118 kmph)
Very Severe Cyclonic Storm	64 to 119 knots (119 to 221 kmph)
Super Cyclonic Storm	119 knots and above (221 kmph and above)

## 4. MANGO SHOWERS

- Mango showers is a colloquial term to describe the **occurrence of pre-monsoon rainfall**. They are notable across much of South and Southeast Asia, including India, and Cambodia.
- These rains normally **occur from March to April**, although their arrival is often difficult to predict. Their intensity can range from light showers to heavy and persistent thunderstorms.
- In India, the mango showers occurs as the result of thunderstorm development over the Bay of Bengal. **They are also known as ‘Kaal Baishali’ in Bengal, as Bordoisila in Assam and as Cherry Blossom shower or Coffee Shower in Kerala.**
- **Benefits:** Towards the close of the summer season, pre-monsoon showers are common, especially in Kerala, Karnataka and parts of Tamil Nadu in India. They help in the early ripening of mangoes, hence the name.

# GENERAL STUDIES - II

**Topics:** Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

## 1. ARTICLE 370

### What to study?

- For Prelims: Key features of Article 370 and related facts.
- For Mains: Arguments in favour and against the removal of Article 370, what is the right move and can an amendment solve the issue?

**Context:** The constitutional relationship between J&K and the Indian Union has been the subject of numerous discussions in recent times. Recently, Jammu and Kashmir, PDP president Mehbooba Mufti said that **the relationship between the Union and the State would be over if Article 370 of the Constitution is revoked.**

### Important provisions under the article:

- **According to this article, except for defence, foreign affairs, finance and communications, Parliament needs the state government's concurrence for applying all other laws.** Thus the state's residents live under a separate set of laws, including those related to citizenship, ownership of property, and fundamental rights, as compared to other Indians.
- Indian citizens from other states **cannot purchase land or property in Jammu & Kashmir.**
- **Under Article 370, the Centre has no power to declare financial emergency under Article 360 in the state.** It can declare emergency in the state only in case of war or external aggression. The Union government can therefore not declare emergency on grounds of internal disturbance or imminent danger unless it is made at the request or with the concurrence of the state government.
- Under Article 370, the **Indian Parliament cannot increase or reduce the borders of the state.**
- **The Jurisdiction of the Parliament of India in relation to Jammu and Kashmir is confined to the matters enumerated in the Union List, and also the concurrent list.** There is no State list for the State of Jammu and Kashmir.
- At the same time, while in relation to the other States, the residuary power of legislation belongs to Parliament, in the case of Jammu and Kashmir, **the residuary powers belong to the Legislature of the State, except certain matters to which Parliament has exclusive powers such as preventing the activities relating to cession or secession, or disrupting the sovereignty or integrity of India.**
- **The power to make laws related to preventive detention in Jammu and Kashmir belong to the Legislature of J & K and not the Indian Parliament.** Thus, no preventive detention law made in India extends to Jammu & Kashmir.
- **Part IV (Directive Principles of the State Policy) and Part IVA (Fundamental Duties) of the Constitution are not applicable to J&K.**

### How should the centre counter the growing unrest in the region?

1. **Focus on investing in J&K's infrastructure.**
2. **Absence of an effective information and communication plan** has hobbled the government's ability to respond even when it is on the moral high ground. This must be immediately corrected.
3. **Standard operating procedures must require the use of lethal force only when there is an imminent threat to life and property,** force should be used proportionately and not as a punitive measure.
4. **What is needed at the moment is the deployment of new socio-cultural resources, and a new operational culture to wind down the militancy without alienating more locals** who could either join or influence their relatives and friends to join various terrorist organisations.

### What is Article 370?

**Article 370** of the Indian Constitution is a 'temporary provision' which grants special autonomous status to Jammu & Kashmir.

- **Under Part XXI of the Constitution of India,** which deals with "Temporary, Transitional and Special provisions", the state of Jammu & Kashmir has been accorded special status under Article 370.
- All the provisions of the Constitution which are applicable to other states are not applicable to J&K.

5. **Lethal force should be the last resort**, used only when lives are threatened. Promptly investigating allegations of abuses and prosecuting those responsible is key to resolving this mess.
6. **Externally, wide-ranging peace talks between India and Pakistan, the Indian administration and ‘azaadi’ groups is needed** and internally, peace-building on the ground by multiple stakeholders involved is necessary.

Sources: the hindu.

**(Q)** Critically comment on the history of Article 370 of the Indian Constitution, its implications and relevance for the Union of India.

## 2. PRIME MINISTER AND SADR-E-RIYASAT OF JAMMU & KASHMIR

### What to study?

- For Prelims and Mains: Prime Minister and Sadr-e-Riyasat of Jammu & Kashmir- when they were in existence and when were they removed? Reasons for and significance of amendments leading to the abolition of these posts.

### Historical background:

- The J&K Constituent Assembly was constituted in September 1951 and dispersed on January 25, 1957. The J&K Constitution was adopted on November 17, 1956 but came into effect only on January 26, 1957.
- The Constituent Assembly resolved that the head of state, named **Sadr-e-Riyasat**, would be elected by the **Legislative Assembly for a term of five years and recognised by the President of India**.
- **New Delhi agreed to allow J&K to recognise an elected Sadr-e-Riyasat instead of an appointed Governor**.
- **Eligibility**: Only a permanent resident of J&K could become Sadr-e-Riyasat. Once elected by the Legislative Assembly, the Sadr-e-Riyasat had to be recognised and then appointed by the President of India.
- On the recommendation of the J&K Constituent Assembly, the **President issued a Constitution Order on November 17, 1952 under Article 370 saying that the state government means the elected Sadr-e-Riyasat, acting on the aid and advice of council of ministers**.
- **J&K had its own Prime Minister and Sadr-e-Riyasat until 1965**, when the J&K Constitution was amended (**Sixth Constitution of J&K Amendment Act, 1965**) by the then Congress government, which replaced the two positions with Chief Minister and Governor respectively. **The state had nine more Prime Ministers before Independence**.
- **The first Prime Minister of J&K, appointed by Dogra ruler Maharaja Hari Singh**, was Sir Albion Banerjee (1927-29).

### When was it changed and why?

- **The Sixth Amendment to the J&K Constitution, carried out in 1965**, made a fundamental change to its basic structure.
- **Under Section 147**, an amendment is to be assented by the Sadr-e-Riyasat after a Bill is passed by a two-thirds majority of the House, while Section 147 itself cannot be amended by the state legislature, and neither can an amendment that changes the provisions of Constitution of India as applicable in relation to J&K.
- **Sadr-e-Riyasat, however, was replaced with Governor across the J&K Constitution, except in Section 147 which could not be amended**. This has led to **the existence of two kinds of heads of state in the Constitution — Sadr-e-Riyasat as well as Governor**. In 1975, a Presidential Order issued under Article 370 barred the J&K Legislature from making any change to the J&K Constitution regarding appointment and powers of the Governor.
- In December 2015, the **J&K High Court** ruled that the **conversion of the post of Sadr-e-Riyasat into Governor was unconstitutional**. The ‘elective’ status of Head of the State was an important attribute of Constitutional autonomy enjoyed by the State, a part of ‘Basic Framework’ of the State Constitution and therefore not within the amending power of the State legislature. In terms of aforesaid amendment Governor is appointed by the President and is to be Head of the State. **The office of Head of the State in wake of amendment ceases to be ‘elective’**.
- The Sixth Amendment therefore did not merely change the nomenclature, but the eligibility, mode and method of appointment of Head of the State.”

#### **Recent demands:**

- J&K's major parties have been demanding restoration of J&K's autonomy to its original status as agreed during the 1947 negotiations.
- In 2000, when the NC was in power after having won with a two-thirds majority in 1996, the Legislative Assembly passed a State Autonomy Report, seeking restoration of the state's autonomy to the 1953 position, which would have meant restoration of the Prime Minister and Sadr-e-Riyasat positions. The then Vajpayee government summarily rejected the resolution passed by the Assembly.

Sources: ie.

## **3. KEY CHANGES TO EGYPT'S CONSTITUTION**

#### **What to study?**

- For Prelims and Mains: Proposed key changes in Egypt's constitution and relevance.

**Context:** Egypt is holding a three-day referendum on constitutional amendments that could allow President Abdel Fattah al-Sisi to stay in office until 2030. Parliament this week overwhelmingly approved the proposals, which would also bolster the role of the military and expand the president's power over judicial appointments.

- Critics say they fear that the changes will further limit the space for dissent after a wide-ranging security crackdown.

#### **What are the key changes?**

- An amendment to Article 140 of the constitution extends the presidential term to six years from four. An outright bar on any president serving more than two terms will change to a bar on serving more than two consecutive terms.
- The amendments provide for the creation of a second parliamentary chamber known as the Council of Senators. It would have 180 members, two-thirds elected by the public and the rest appointed by the president.
- Article 200 of the constitution on the role of the military is expanded, giving the military a duty to protect "the constitution and democracy and the fundamental make-up of the country and its civil nature, the gains of the people and the rights and freedoms of individuals".
- The amendments also create the post of vice president, allowing the president to appoint one or more deputies. They task the president with choosing head judges and the public prosecutor from a pool of senior candidates pre-selected by the judiciary. They further create a quota setting women's representation in parliament at a minimum of 25 percent.

#### **Concerns:**

- Critics say the amendments are driven by Sisi and his close entourage, and by the powerful security and intelligence agencies. They also fear the changes thrust the armed forces into political life by formally assigning them a role in protecting democracy.

Sources: the hindu.

## **4. KHASI 'KINGDOMS' TO REVISIT 1947 AGREEMENTS**

#### **What to study?**

- For prelims: the 1948 agreement between khasi kingdoms and the government, about Khasi tribe.
- For mains: threats to their ethnicity, concerns and what needs to be done.

**Context:** A federation of 25 **Himas** or **Khasi kingdoms** that have a cosmetic existence today, plan to revisit the **1948 agreements** that made present-day Meghalaya a part of India.

#### **Need:**

- The revisiting is aimed at safeguarding tribal customs and traditions from Central laws in force or could be enacted, such as the Citizenship (Amendment) Bill.

#### **Background:**

- During the British rule, the Khasi domain was divided into the Khasi states and British territories. At that time, **the British government had no territorial right on the Khasi states and they had to approach the chiefs of these states if they needed land for any purpose.**
- After independence, the British territories became part of the Indian dominion but the **Khasi states had to sign documents beginning with the Standstill Agreement that provided a few rights to the states.**
- The 25 Khasi states had signed the **Instrument of Accession and Annexed Agreement with the Dominion of India between December 15, 1947, and March 19, 1948.** The conditional treaty with these states was signed by Governor General Chakravarty Rajagopalachari on August 17, 1948.
- The Khasi states, though, did not sign the **Instrument of Merger** unlike most other states in India.

#### **Demand:**

- Though the Constitution has provided self-rule to a considerable extent through **tribal councils**, there has been an increasing demand for giving more teeth to the Khasi states.

Sources: The Hindu.

*Topics: Separation of powers between various organs dispute redressal mechanisms and institutions.*

## **HOW IS A SUPREME COURT JUDGE TO BE PROBED?**

**Context:** The allegations made by a former Supreme Court employee against the Chief Justice of India have brought the focus on the mechanism that exists to examine charges of misconduct against members of the higher judiciary.

#### **How are allegations of misconduct against judges of High Courts and the Supreme Court dealt with?**

- Allegations of misconduct against serving judges of the superior judiciary, that is, the various high courts and the Supreme Court, are dealt with through an '**in-house procedure**'.
- Most complaints may pertain to judicial conduct, and may be at the behest of parties aggrieved by the outcome of their cases. However, some may concern the personal conduct of judges.
- **Two purposes are served** by the adoption of an internal procedure to deal with such complaints:
  - when the allegations are examined by the judge's peers, outside agencies are kept out, and the independence of the judiciary is maintained.
  - awareness about the existence of a mechanism to examine such complaints will preserve the faith of the people in the impartiality and independence of the judicial process.
- The in-house procedure envisages that false and frivolous allegations can be rejected at an early stage and only those that are not baseless, and may require a deeper probe, are taken up for inquiry.

#### **When was the in-house procedure adopted?**

- A five-judge committee was formed to devise the procedure. The report of the committee was adopted by a resolution of the Full Court on December 15, 1999. This procedure has been adhered to since then. However, the in-house procedure was not in the public domain for many years.
- In 2014, a Supreme Court Bench directed the court's registry to make the in-house procedure public for the sake of transparency.

#### **How does the in-house procedure work? What are the various steps?**

- When a complaint is received against a High Court judge, the Chief Justice concerned has to examine it. If it is frivolous or concerns a judicial matter, she may just file the complaint and inform the Chief Justice of India.
- If she considers it serious, she should get a response from the judge concerned. If she is satisfied with the response and feels no further action is required, she may close the matter and keep the CJI informed. However, if the CJI feels a deeper probe is needed, she should send the complaint as well as the judge's response to the CJI, with her own comments, for further action.
- The procedure is the same if the CJI receives the complaint directly. The comments of the high court Chief Justice, the judge concerned and the complaint would be considered by the CJI. If a deeper probe is required, a three-member committee, comprising two Chief Justices from other High Courts and one High Court judge,

has to be formed. The committee will hold a fact-finding inquiry at which the judge concerned would be entitled to appear. It is not a formal judicial proceeding and does not involve lawyers or examination or cross-examination of witnesses.

- If the charge is against a high court Chief Justice, the same procedure of getting the person's response is followed by the CJI. If a deeper probe is deemed necessary, a three-member committee comprising a Supreme Court judge and two Chief Justices of other High Courts will be formed.
- If the charge is against a Supreme Court judge, the committee would comprise three Supreme Court judges. There is no separate provision in the in-house procedure to deal with complaints against the CJI.

#### What are the possible outcomes from the inquiry committee?

- If it finds that there is substance in the allegations, the committee can either hold that the misconduct is serious enough to warrant removal from office, or that it is not so serious as to warrant removal. In the former case, it will call for initiation of proceedings to remove the judge.
- The judge concerned would be advised to resign or take voluntary retirement. If the judge is unwilling to quit, the Chief Justice of the High Court concerned would be advised to withdraw judicial work from him, and the President of India and the Prime Minister would be informed of the situation.
- Such an action may clear the way for Parliament to begin the political process for impeachment. In case, the committee finds substance in the allegation, but it is not grave enough to warrant removal from office, the judge concerned would be advised accordingly, and the committee's report will be placed on record.

*Topics: Statutory, regulatory and various quasi-judicial bodies.*

## 1. ENVIRONMENT POLLUTION (PREVENTION AND CONTROL) AUTHORITY (EPCA)

#### What to study?

- For Prelims and Mains: EPCA- objectives, composition and significance.

**Context:** EPCA comes out with parking management plan for Delhi. In report, agency flags free parking on public land, multiplicity of agencies to be key cause of congestion and parking menace.

#### Some of the key recommendations listed in the report are:

- Implementing agencies are unanimous that residential parking will have to be regulated and managed.
- Parking spill over from residential buildings will require management.
- Multiplicity of responsibility is at the core of the problems of governance in the city and parking regulations must not add to this.
- Pricing for residential parking should be determined jointly by the local agency and RWA/shop-keepers association but it must be based on the principle of charging differential and higher rates for additional cars.
- The local parking plan must ensure that there is provision for movement of emergency vehicles and green areas, parks and footpaths may not be allowed to be used for parking.
- The Delhi Police may be directed to greatly improve enforcement against illegal and unauthorised parking through state-of-the art equipment, including cameras and automated challans.

#### About Environment Pollution Control Authority (EPCA):

- EPCA was constituted with the objective of 'protecting and improving' the quality of the environment and 'controlling environmental pollution' in the National Capital Region. The EPCA also assists the apex court in various environment-related matters in the region.
- EPCA is **Supreme Court mandated body** tasked with taking various measures to tackle air pollution in the National Capital Region.
- It was notified in **1998** by Environment Ministry under Environment Protection Act, 1986.

#### Composition:

- Besides the chairman, the EPCA has 14 members, some of whom are the environment secretary of the National Capital Territory of Delhi (NCT), chairperson of the New Delhi Municipal Council, transport commissioner of the NCT, the commissioners of various municipal corporations of Delhi and professors at IIT Delhi and Jawaharlal Nehru University.

#### Functions:

- To protect and improve quality of environment and prevent and control environmental pollution in National Capital Region.
- To enforce **Graded Response Action Plan (GRAP)** in NCR as per the pollution levels.

Sources: down to earth.

## 2. COMMITTEES TO HEAR AND DECIDE ON COMPLAINTS AGAINST CIC AND ICS

### What to study?

- For Prelims: About CIC and ICs- appointment, eligibility and other related key facts.
- For Mains: Issues related to appointment of CIC and issues of transparency in appointment, proposed committees and issues associated with them.

**Context:** The Centre is planning to setup **bureaucrat-led committees to hear and decide on complaints against the Chief Information Commissioner (CIC) and Information Commissioners (ICs)**. This move has evoked sharp criticism from Right to Information (RTI) activists and former Information Commissioners.

- The proposed change would be in **contravention to the current Right To Information (RTI) law** and therefore is being seen by the CIC as “**an attempt to erode its independence and undermine its role.**”

### Concerns and issues associated with this move:

- Central Information Commission must **function autonomously without being subjected to directions by any other authority under this Act (Section 12(4) or RTI Act)**. The committees proposed are not authorities under this Act. Government cannot create any such authority in the absence of any enabling provision in the Act.

### What can be done?

The current proposal under discussion creates issues of conflict of interest. A possible solution, though there can be more, is the **creation of a committee which will be comprised of one member from every party represented in either House to examine complaints against information officers of a serious nature**.

- **These may be vetted and screened for removal of frivolous or baseless allegations by another committee of MPs who are elected as Independents.** The removal of these complaints should also be time-bound and designed such that there is no domination of treasury benches.
- There also needs to be a **better process to handle complaints against these people but the complaints should be done within the commission itself** and the finding should be published on the website.
- Of course, **if there is a recording of every proceeding, it will go a long way in handling this kind of issue.**

### Current checks and balances- Section 14 in The Right To Information Act, 2005:

- **Subject to the provisions of sub-section (3),** the Chief Information Commissioner or any Information Commissioner shall be removed from his office only by order of the President on the ground of proved misbehaviour or incapacity after the Supreme Court, on a reference made to it by the President, has, on inquiry, reported that the Chief Information Commissioner or any Information Commissioner, as the case may be, ought on such ground be removed.
- **The President may suspend from office,** and if deem necessary prohibit also from attending the office during inquiry, the Chief Information Commissioner or Information Commissioner in respect of whom a reference has been made to the Supreme Court under sub-section (1) until the President has passed orders on receipt of the report of the Supreme Court on such reference.
- Notwithstanding anything contained in sub-section (1), the President may by order remove from office the Chief Information Commissioner or any Information Commissioner if the Chief Information Commissioner or a Information Commissioner, as the case may be:
  - is adjudged an insolvent; or
  - has been convicted of an offence which, in the opinion of the President, involves moral turpitude; or
  - engages during his term of office in any paid employment outside the duties of his office; or
  - is, in the opinion of the President, unfit to continue in office by reason of infirmity of mind or body; or
  - has acquired such financial or other interest as is likely to affect prejudicially his functions as the Chief Information Commissioner or a Information Commissioner.
- If the Chief Information Commissioner or an Information Commissioner is, in any way, concerned or interested in any contract or agreement made by or on behalf of the Government of India or participates in any way in the profit thereof or in any benefit or emolument arising therefrom otherwise than as a member

and in common with the other members of an incorporated company, he shall, for the purposes of sub-section (1), be deemed to be guilty of misbehaviour.

Sources: the hindu.

### 3. COMPETITION COMMISSION OF INDIA (CCI)

The **Competition Commission of India (CCI)** was established under the **Competition Act, 2002** for the administration, implementation and enforcement of the Act, and was duly constituted in March **2009**.

- Chairman and members are appointed by the central government.

**The following are the objectives of the Commission:**

- To prevent practices having adverse effect on competition.
- To promote and sustain competition in markets.
- To protect the interests of consumers.
- To ensure freedom of trade.

**Functions of the commission:**

- It is the duty of the Commission to eliminate practices having adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade in the markets of India.
- The Commission is also required to give opinion on competition issues on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.

**The Competition Act:**

- The Competition Act, 2002, as amended by the Competition (Amendment) Act, 2007, prohibits anti-competitive agreements, abuse of dominant position by enterprises and regulates combinations (acquisition, acquiring of control and M&A), which causes or likely to cause an appreciable adverse effect on competition within India.

### 4. CENTRAL DRUGS STANDARD CONTROL ORGANISATION (CDSCO)

**What to study?**

- For Prelims: CDSCO- key facts, about PvPI.
- For Mains: Misuse of various drugs and the need for stringent provisions to prevent their misuse.

**Context:** The Central Drugs Standard Control Organisation (**CDSCO**) has asked commonly-used antibiotics manufacturers to ensure its details be made available to the general public. This decision was taken considering directives from the National Co-ordination Centre of the Pharmacovigilance Programme of India (**PvPI**).

**What is Pharmacovigilance Programme of India (PvPI)?**

- The PvPI was started by the Government of India on 14th July 2010 with the AIIMS New Delhi as the National Coordination Centre for monitoring Adverse Drug Reactions (ADRs) in the country for safe-guarding Public Health.
- Pharmacovigilance is defined as the science relating to the detection, assessment, understanding and prevention of adverse effects, principally long term and short term adverse effects of medicines. The CDSCO has a nation-wide Pharmacovigilance Programme for protecting the health of the patients by promising drug safety.
- The Programme is coordinated by the Indian Pharmacopeia commission, Ghaziabad as a National Coordinating Centre (NCC).

**About CDSCO:**

- The Central Drugs Standard Control Organisation (CDSCO) under Directorate General of Health Services, Ministry of Health & Family Welfare, Government of India is the **National Regulatory Authority (NRA) of India**.
- **Functions:** Under the Drugs and Cosmetics Act, CDSCO is responsible for approval of New Drugs, Conduct of Clinical Trials, laying down the standards for Drugs, control over the quality of imported Drugs in the country and coordination of the

activities of State Drug Control Organizations by providing expert advice with a view of bringing about the uniformity in the enforcement of the Drugs and Cosmetics Act.

- **CDSO along with state regulators, is jointly responsible for grant of licenses of certain specialized categories of critical Drugs** such as blood and blood products, I. V. Fluids, Vaccine and Sera.

Sources: the hindu.

## 5. INVESTOR EDUCATION AND PROTECTION FUND (IEPF) AUTHORITY

### What to study?

- For Prelims and Mains: IEPF- composition, objectives and functions.

**Context:** The Investor Education and Protection Fund (**IEPF**) Authority has been able to force The Peerless General Finance and Investment Company Ltd to transfer deposits worth about Rs 1,514 crore to the IEPF.

### Background:

- This depositor's money was pending with The Peerless General Finance and Investment Company Limited for the last 15 years. This amount was taken by the company by issuing about 1.49 Cr Deposit Certificates and include more than 1 Cr individual investors.

### About IEPF Authority:

- set up under the **Ministry of Corporate Affairs**, Government of India as a **statutory body** under Companies Act 2013.
- It aims to administer the **Investor Education and Protection Fund** with the objective of promoting **Investor's Education, Awareness and Protection**.
- The Authority takes various initiatives to fulfil its objectives through Investor Awareness Programmes and various other mediums like Print, Electronic, Social Media, and Community Radio etc.
- **Composition:** Secretary Ministry of Corporate Affairs is the Chairperson of the Authority. Joint Secretary Ministry of Corporate Affairs is the Chief Executive Officer of the Authority.

**Topics:** *Government policies and interventions for development in various sectors and issues arising out of their design and implementation.*

## 1. BS NORMS

### What to study?

- For Prelims and Mains: BS norms- key differences and significance, challenges in switching.

**Context:** NCR districts switch to Euro-VI grade fuels (**BS-VI fuels**). The supply of ultra-clean Euro-VI grade fuel (also known as Bharat Stage VI grade fuel) began in cities adjoining the National Capital Region (NCR) on April 1, 2019.

- Delhi in April 2018 became the first city in the country to roll-out ultra-clean Bharat Stage VI (BS-VI) grade fuel, both petrol and diesel.

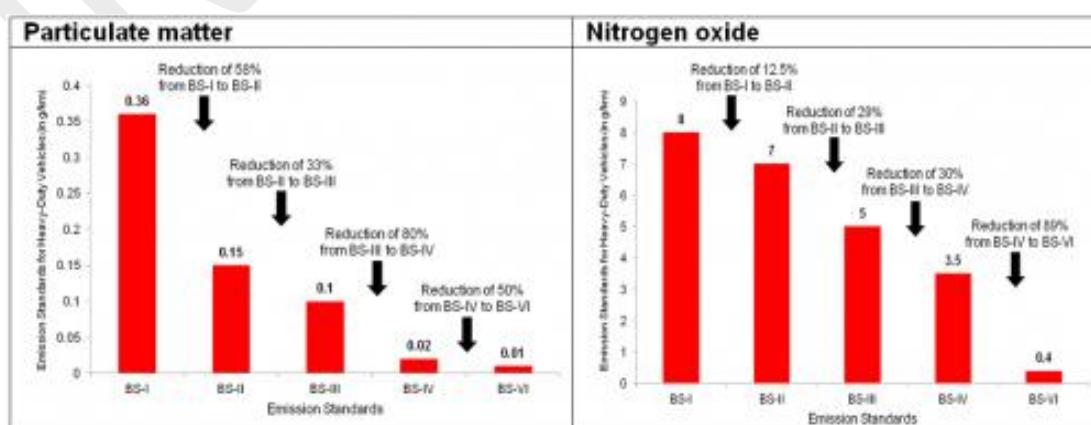


Figure showing emission standards in BS-II, BS-III, BS-IV & BS-VI

### Difference between BS-IV and the new BS-VI:

- The major difference in standards between the existing BS-IV and the new BS-VI auto fuel norms is the presence of sulphur. The newly introduced fuel is estimated to reduce the amount of sulphur released by 80%, from 50 parts per million to 10 ppm. As per the analysts, the emission of NOx (nitrogen oxides) from diesel cars is also expected to reduce by nearly 70% and 25% from cars with petrol engines.

### Why is it important to upgrade these norms?

- Upgrading to stricter fuel standards helps tackle air pollution. Global automakers are betting big on India as vehicle penetration is still low here, when compared to developed countries. At the same time, cities such as Delhi are already being listed among those with the poorest air quality in the world. The national capital's recent odd-even car experiment and judicial activism against the registration of big diesel cars shows that governments can no longer afford to relax on this front.
- With other developing countries such as China having already upgraded to the equivalent of Euro V emission norms a while ago, India has been lagging behind. The experience of countries such as China and Malaysia shows that poor air quality can be bad for business. Therefore, these reforms can put India ahead in the race for investments too.

Sources: the hindu.

### What are BS norms?

- The BS — or Bharat Stage — emission standards are norms instituted by the government to regulate the output of air pollutants from internal combustion engine equipment, including motor vehicles.
- India has been following the European (Euro) emission norms, though with a time-lag of five years.

## 2. ENEMY PROPERTIES

### What to study?

- For Prelims: Meaning of enemy properties and key features of the enemy properties act.
- For Mains: Significance and key features of the act.

**Why in News?** The government has sold enemy shares worth around Rs 1,150 crore in IT major Wipro to LIC and two other state-owned insurers.

### What are enemy properties?

- Enemy properties are those properties that were left behind by the people who took citizenship of Pakistan and China.
- There are 9,280 such properties left behind by Pakistani nationals and 126 by Chinese nationals.
- Of the total properties left behind by those who took Pakistani citizenship, 4,991 are located in Uttar Pradesh, the highest in the country. West Bengal has 2,735 such estates and Delhi 487.
- The highest number of properties left by Chinese nationals is in Meghalaya (57).West Bengal has 29 such properties and Assam seven.
- The estimated value of all enemy properties is approximately Rs 1 lakh crore.

### Enemy properties Act:

- After the Indo-Pakistan War of 1965, the Enemy Property Act was enacted in 1968, which regulates such properties and lists the custodian's powers.
- The government amended the Act in the wake of a claim laid by the heirs of Raja Mohammad Amir Mohammad Khan, known as Raja of Mahmudabad, on his properties spread across Uttar Pradesh and Uttarakhand.
- The government has vested these properties in the Custodian of Enemy Property for India, an office instituted under the Central government.

Sources: the hindu.

### 3. EWS QUOTA

**Context:** In January, the **Rajya Sabha passed** the **Constitution Amendment Bill** guaranteeing **10% quota** in **education and employment** to economically weaker sections (EWS) in the **general category**.

#### Who is eligible?

- **Families that earn an annual income of less than ₹8 lakh and do not possess agricultural land of five acres or above** are eligible for the quota.

#### What's the issue now?

- As per the criteria, **95% of Indian households are eligible for reservation**. The Bill has served an unintended purpose, though: Reservation is no more the preserve of the so-called merit-less. **The proposed quota has transformed cynics of the reservation policy into champions of it.**

#### Questions raised?

1. Are economically weaker sections from the general category remain “excluded from attending the higher education institutions” in India “due to their financial incapacity”?
2. Why private educational institutions have been brought under its ambit?

#### The reality:

- It is true that SC/ST/OBC students remain **greatly under-represented**, especially in premier private educational institutions.
- This is despite the fact that the SC/ST/OBC population constitutes about 70% of the total population of India (NSSO, 2011-12).

#### Conclusion:

- The proposed policy seems to be **empirically unfounded**.
- By contrast, what emerges from the NIRF data is the under-representation of the ‘socially challenged category’ in premier education institutions.

### 4. UTKARSH BANGLA, SABUJ SATHI BAG PRESTIGIOUS UN AWARDS

#### What to study?

- For Prelims and Mains: Key features of the schemes and about WSIS awards.

**Context:** West Bengal’s Utkarsh Bangla and Sabuj Sathi schemes have won the prestigious World Summit on the Information Society (**WSIS**) awards under the **United Nations**.

#### Key facts:

- Utkarsh Bangla and Sabuj Sathi were selected out of 1,062 nominations and they also topped the list in their respective categories.
- **Utkarsh Bangla** got the topmost award and emerged a winner in the Capacity Building category.
- **Sabuj Sathi** ranked in the first five as a champion project under the ICT application: E-Government category.

#### About WSIS:

- WSIS is, at global level, **the world’s largest annual gathering of the ‘ICT for development’ community** and provides an opportunity for information exchange, knowledge creation and sharing of best practices, while identifying emerging trends and fostering partnerships, taking into account the evolving Information and Knowledge Societies.
- The **WSIS Forum** is co-organized by The International Telecommunication Union (ITU), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Conference on Trade and Development (UNCTAD) and the United Nations Development Programme (UNDP).
- In 2019, The World Summit on the Information Society (WSIS) Forum will celebrate its **10th anniversary** of the establishment of WSIS Forum from April 8 to 12 in Geneva at the International Telecommunication Union, under the theme “**Information and Communication Technologies for achieving the Sustainable Development Goals**”.

#### About Utkarsh Bangla:

- Under Utkarsh Bangla, skill development training is given to youths. Several centres have been opened and youths are being given training there. The trained youths are then absorbed in different industries.

#### About Sabooj Sathi:

- Sabooj Sathi is a scheme for distribution of bicycles to the students of class IX to XII studying in Govt. run and Govt. aided Schools and Madrashas.

Sources: the hindu.

#### World Summit on the Information Society Awards:

- Aims to create an effective mechanism to evaluate and recognize individuals, governments, civil society, local, regional and international agencies, research institutions and private-sector companies for outstanding success in implementing development oriented strategies that leverage the power of ICTs as an enabler of the development.

## 5. NAMAMI GANGE GETS GLOBAL RECOGNITION AT WORLD SUMMIT

#### What to study?

- For Prelims: Key features of the project, About Namami Gange Programme.
- For Mains: Significance of the project and issues associated with the cleaning of river Ganga.

**Context:** The National Mission for Clean Ganga (NMCG) was awarded the distinction of “**Public Water Agency of the Year**” by **Global Water Intelligence** at the **Global Water Summit in London**.

#### About Namami Gange Programme:

- Namami Gange Programme** – is an umbrella programme which integrates previous and currently ongoing initiatives by enhancing efficiency, extracting synergies and supplementing them with more comprehensive & better coordinated interventions. **Government of India is supplementing the efforts of the state governments in addressing the pollution of river Ganga by providing financial assistance to the states.**
- Need:** Each day, more than 500 million liters of wastewater from industrial sources are dumped directly into Ganga. In many places, this wastewater entering the rivers is completely raw, completely untreated.

#### Main Pillars of the Namami Gange Programme are:

- Sewerage Treatment Infrastructure
- River-Surface Cleaning
- Afforestation
- Industrial Effluent Monitoring
- River-Front Development
- Bio-Diversity
- Public Awareness
- Ganga Gram

#### Its implementation has been divided into:

- Entry-Level Activities (for immediate visible impact),
- Medium-Term Activities (to be implemented within 5 years of time frame) and
- Long-Term Activities (to be implemented within 10 years).

Sources: the hindu.

#### Global Water Awards:

- The Global Water Awards are **presented at the Global Water Summit**, the major business conference for the water industry worldwide.
- The awards recognise excellence across the international water industry and reward those initiatives in the water, waste water, and desalination sectors, which bring remarkable improvements in the lives of people.

#### Global Water Summit:

- Global Water Summit** is the annual business conference for the water industry worldwide. The summit attracts high-level executives from industry, municipalities and international water companies and provides the opportunity to connect with hard-to-reach industry insiders that will not attend any other water event.
- The summit provides a platform for connecting the public and private sector and for accelerating change and innovation within the sector**, it attracts the most influential industry representatives and also becomes a forum for business development and expanding your network.

#### About NMCG:

- National Mission for Clean Ganga, endeavors to deploy best available knowledge and resources across the world for Ganga rejuvenation.
- Clean Ganga has been a perennial attraction for many international countries that have expertise in river rejuvenation.

## 6. OFFICIAL SECRETS ACT

### What to study?

- For Prelims and Mains: Key features of the act, concerns over certain provisions and the need for review.

**Why in News?** Supreme Court has rejected the Centre's twin arguments and ruled that classified documents accessed by the media on the Rafale fighter jet deal can be admitted as evidence and agreed to review its own order that the government had interpreted as a clean chit.

- The court upheld the right of The Hindu newspaper to publish documents that the government had described as "stolen". "The right of such publication would seem to be in consonance with the constitutional guarantee of freedom of speech.

### Need for review:

- Since the classification of secret information is so broad, it is argued that the colonial law is in direct conflict with the Right to Information Act.
- Under Section 5, both the person communicating the information, and the person receiving the information, can be punished by the prosecuting agency.
- The SARC report** states that as the OSA's background is the colonial climate of mistrust of people and the primacy of public officials in dealing with the citizens, it created a culture of secrecy.
- Another contentious issue with the law is that its Section 5, which deals with potential breaches of national security, is often misinterpreted. The Section makes it a punishable offence to share information that may help an enemy state. The Section comes in handy to book journalists when they publicise information that may cause embarrassment to the government or the armed forces.

Sources: the hindu.

**(Q)** "Secrecy in government operations is necessary, but it has to be limited by absolute necessity, keeping the confidentiality strictly time-bound." In the light of recent debate on Official Secrets Act 1923, critically comment on the statement.

### About Official Secrets Act:

- The law meant for ensuring secrecy and confidentiality in governance, mostly on national security and espionage issues.
- The Indian Official Secrets Act, 1904 was enacted during the time of Lord Curzon, Viceroy of India from 1899 to 1905.
- One of the main purposes of the Act was to muzzle the voice of nationalist publications.
- The Indian Official Secrets Act (Act No XIX of 1923) replaced the earlier Act, and was extended to all matters of secrecy and confidentiality in governance in the country.

### Ambit of the Act:

- The secrecy law broadly deals with two aspects — spying or espionage, which is dealt with in Section 3 of the Act, and disclosure of other secret information of the government, which is dealt with in Section 5. The secret information can be any official code, password, sketch, plan, model, article, note, document or information.

## 7. CITIZENSHIP BILL

### What to study

- For prelims: Key features of the Bill, what is Assam Accord?
- For main: controversy and issues surrounding, how the bill seeks to affect the interests of indigenous people?

**Context:** The citizenship Bill does not require any changes if **Clause 6 of the Assam Accord** is implemented properly, says Assam Chief Minister Sarbananda Sonowal. If Clause 6 is implemented in letter and spirit, then the indigenous people of Assam are well guarded and protected.

### What is Assam Accord?

- The Assam Accord (1985) was a Memorandum of Settlement (MoS) signed between representatives of the Government of India and the leaders of the Assam Movement in New Delhi on 15 August 1985.
- The accord brought an end to the **Assam Agitation** and paved the way for the leaders of the agitation to form a political party and form a government in the state of Assam soon after. As per the Accord, those Bangladeshis who came between 1966 and 1971 will be barred from voting for ten years.
- The Accord also mentions that the international borders will be sealed and all persons who crossed over from Bangladesh after 1971 are to be deported. Though the accord brought an end to the agitation, some of the key clauses are yet to be implemented, which has kept some of the issues festering.

### What does Clause 6 say?

- **Clause 6 of the Assam Accord**, which was signed in 1985 after the Assam Agitation of 1979-85, envisages that appropriate constitutional, legislative and administrative safeguards should be provided to protect, preserve and promote the cultural, social, linguistic identity and heritage of the people of Assam.

### WHAT IS THE CITIZENSHIP AMENDMENT BILL 2016?

- The Citizenship Amendment Bill 2016 seeks to **allow illegal migrants from certain minority communities in Afghanistan, Bangladesh and Pakistan eligible for Indian citizenship**. In other words, it amends the Citizenship Act of 1955.
- The Bill provides that the **registration of Overseas Citizen of India (OCI) cardholders may be cancelled if they violate any law**.

### WHAT DOES IT WANT?

- The Citizenship Amendment Bill seeks to **allow illegal migrants belonging to the Hindu, Sikh, Buddhist, Jain, Parsi or Christian religious communities coming from Afghanistan, Bangladesh or Pakistan to not be imprisoned or deported**.
- It also appeals for the **minimum years of residency in India to apply for citizenship to be lessened from at least 11 to six years for such migrants**.
- The Bill, however, does **not extend to illegal Muslim migrants. It also does not talk about other minority communities in the three neighbouring countries**, such as Jews, Bahais etc.

Sources: the Hindu.

(Q) Critically analyse various criticisms made against the Citizenship (Amendment) Bill, 2016.

*Topics: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.*

## 1. PMUY

### What to study?

- For Prelims: PMU- key features.
- For Mains: PMUY- objectives, features, significance and measures needed to sustain the momentum.

**Context:** According to a recent survey, **most rural households with LPG (liquefied petroleum gas) connections still use chulhas with firewood or dung cakes, to the detriment of rural health**.

### Key findings:

- About 85% of Ujjwala beneficiaries in four States still use earthen stoves- rural Bihar, Madhya Pradesh, Uttar Pradesh and Rajasthan.
- The resultant indoor air pollution can lead to infant deaths and harm child development, as well as contribute to heart and lung disease among adults, especially the women, cooking on these chulhas.
- Almost 70% of households do not spend anything on solid fuels, meaning that the relative cost of an LPG cylinder refill, even if subsidised, is far higher.
- Women are more likely to make dung cakes, and while men are more likely to cut wood, women are often the ones collecting and carrying it. The study argues that these women, who do the unpaid labour needed for “free” solid fuels, are not typically economic decision-makers in the household, hindering a shift to LPG usage.

### About Pradhan Mantri Ujjwala Yojana:

- Pradhan Mantri Ujjwala Yojana aims to provide LPG (liquefied petroleum gas) connections to poor households.
- **Who is eligible?** Under the scheme, an adult woman member of a below poverty line family identified through the Socio-Economic Caste Census (SECC) is given a deposit-free LPG connection with financial assistance of Rs 1,600 per connection by the Centre.

### Top five States under Ujjwala scheme

State	Number of connections
Uttar Pradesh	1,26,40,088
West Bengal	78,47,110
Bihar	77,51,825
Madhya Pradesh	63,31,815
Rajasthan	55,34,808

Source: Ministry of Petroleum and Natural Gas

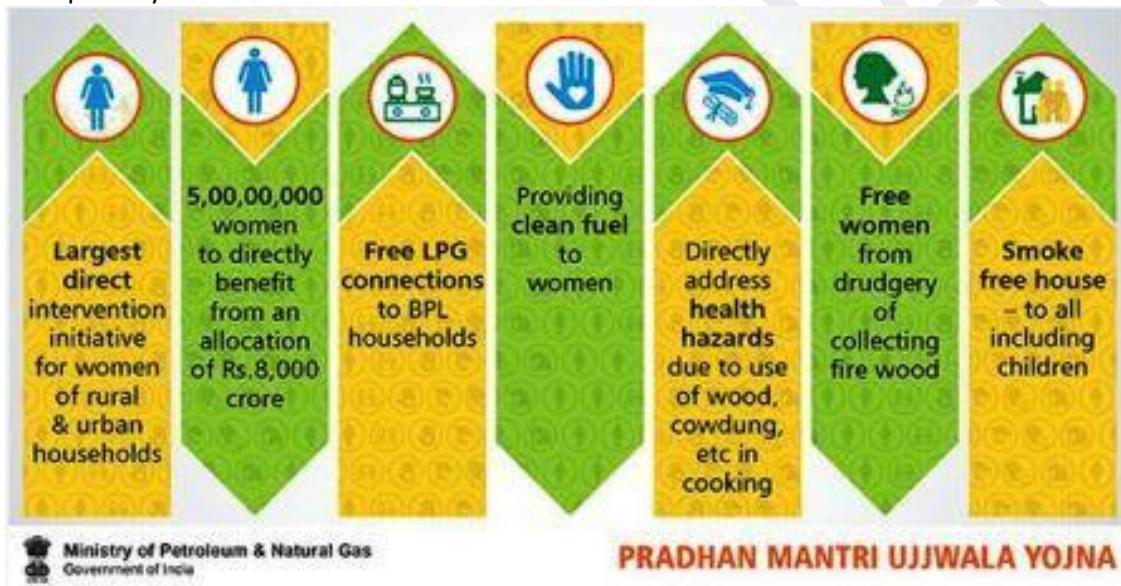
- **Identification of households:** Eligible households will be identified in consultation with state governments and Union territories. The scheme is being implemented by the Ministry of Petroleum and Natural Gas.

#### Key objectives of the scheme are:

- Empowering women and protecting their health.
- Reducing the serious health hazards associated with cooking based on fossil fuel.
- Reducing the number of deaths in India due to unclean cooking fuel.
- Preventing young children from significant number of acute respiratory illnesses caused due to indoor air pollution by burning the fossil fuel.

#### What makes LPG adoption necessary?

- A large section of Indians, especially women and girls, are exposed to severe household air pollution (HAP) from the use of solid fuels such as biomass, dung cakes and coal for cooking. A report from the Ministry of Health & Family Welfare places HAP as the second leading risk factor contributing to India's disease burden.
- According to the World Health Organization, solid fuel use is responsible for about 13% of all mortality and morbidity in India (measured as Disability-Adjusted Life Years), and causes about 40% of all pulmonary disorders, nearly 30% of cataract incidences, and over 20% each of ischemic heart disease, lung cancer and lower respiratory infection.



#### Way ahead:

- The PMUY is a bold and much-needed initiative, but it should be recognised that this is just a first step. The real test of the PMUY and its successor programmes will be in how they translate the provision of connections to sustained use of LPG or other clean fuels such as electricity or biogas.
- Truly smokeless kitchens can be realized only if the government follows up with measures that go beyond connections to actual usage of LPG. This may require concerted efforts cutting across Ministries beyond petroleum and natural gas and including those of health, rural development and women and child welfare.

Sources: the hindu.

## 2. COMPENSATION FOR VICTIMS

**Context:** In ordering the Gujarat government to pay ₹50 lakh to Bilkis Yakoob Rasool Bano, a gang-rape survivor of the 2002 communal pogrom in the State who has bravely fought her case, the Supreme Court has endeavoured to achieve restitutive justice.

#### What's the issue?

- **Compensation to victims is a relatively less recognised component of criminal justice.** In a system that focusses mainly on the accused, an order of compensation is a recognition of the state's obligation to victims of crime, especially horrific acts.

#### **Need for compensation:**

- While convictions are not easy to come by in cases of mob violence, victim compensation may often be the only way to ensure some justice.

#### **Efforts in this regard:**

- The Code of Criminal Procedure was amended in 2008 to insert **Section 357A** under which **every State government has to prepare a scheme to set up a fund from which compensation can be paid to victims of crime and their dependants who have suffered loss and injury and who may require rehabilitation.**
- The Centre has a **Central Victim Compensation Fund**.
- On Supreme Court directions, the National Legal Services Authority has prepared a **compensation scheme for women victims and survivors of sexual assault and other crimes**. Many States have notified schemes on these lines.

#### **Challenges:**

- While on paper there is a mechanism to assess rehabilitation needs and pay compensation, there is a need to streamline the schemes and ensure that the compensation process is not done in an ad hoc manner, but is based on sound principles.

***Topics: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.***

## **1. WHO GUIDELINES FOR CHILDREN UNDER 5 YEARS OF AGE**

#### **What to study?**

- For prelims: highlights of guidelines.
- For mains: need for and significance of guidelines, challenges remaining and measures needed to meet these challenges.

**Context:** New WHO guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age have been released .

#### **Background:**

- The new guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age were developed by a WHO panel of experts.
- They assessed the effects on young children of inadequate sleep, and time spent sitting watching screens or restrained in chairs and prams. They also reviewed evidence around the benefits of increased activity levels.

#### **Recommendations at a glance:**

(1) Infants (less than 1 year) should:

- Be physically active several times a day in a variety of ways, particularly through interactive floor-based play; more is better. For those not yet mobile, this includes at least 30 minutes in prone position (tummy time) spread throughout the day while awake.
- Not be restrained for more than 1 hour at a time (e.g. prams/strollers, high chairs, or strapped on a caregiver's back). Screen time is not recommended. When sedentary, engaging in reading and storytelling with a caregiver is encouraged.
- Have 14–17h (0–3 months of age) or 12–16h (4–11 months of age) of good quality sleep, including naps.

(2) Children 1-2 years of age should:

- Spend at least 180 minutes in a variety of types of physical activities at any intensity, including moderate-to-vigorous-intensity physical activity, spread throughout the day; more is better.
- Not be restrained for more than 1 hour at a time (e.g., prams/strollers, high chairs, or strapped on a caregiver's back) or sit for extended periods of time. For 1-year-olds, sedentary screen time (such as watching TV or videos, playing computer games) is not recommended. For those aged 2 years, sedentary screen time should be no more than 1 hour; less is better. When sedentary, engaging in reading and storytelling with a caregiver is encouraged.

- Have 11-14 hours of good quality sleep, including naps, with regular sleep and wake-up times.

(3) Children 3-4 years of age should:

- Spend at least 180 minutes in a variety of types of physical activities at any intensity, of which at least 60 minutes is moderate- to vigorous intensity physical activity, spread throughout the day; more is better.
- Not be restrained for more than 1 hour at a time (e.g., prams/strollers) or sit for extended periods of time. Sedentary screen time should be no more than 1 hour; less is better. When sedentary, engaging in reading and storytelling with a caregiver is encouraged.
- Have 10–13h of good quality sleep, which may include a nap, with regular sleep and wake-up times.

#### **Significance:**

- 1) Improving physical activity, reducing sedentary time and ensuring quality sleep in young children will improve their physical, mental health and wellbeing, and help prevent childhood obesity and associated diseases later in life.
- 2) The important interactions between physical activity, sedentary behaviour and adequate sleep time, and their impact on physical and mental health and wellbeing, were recognized by the Commission on Ending Childhood Obesity, which called for clear guidance on physical activity, sedentary behaviour and sleep in young children.
- 3) Applying the recommendations in these guidelines during the first five years of life will contribute to children's motor and cognitive development and lifelong health.

#### **Need for guidelines:**

- Failure to meet current physical activity recommendations is responsible for more than 5 million deaths globally each year across all age groups.
- Currently, over 23% of adults and 80% of adolescents are not sufficiently physically active.
- If healthy physical activity, sedentary behaviour and sleep habits are established early in life, this helps shape habits through childhood, adolescence and into adulthood.

#### **Way ahead:**

- Investing in early childhood development is one of the best investments a country can make to boost economic growth, promote peaceful and sustainable societies, and eliminate extreme poverty and inequality.
- Equally important, it is necessary to uphold the right of every child to survive and thrive.

Sources: The Hindu.

## **2. WHO GUIDELINES ON USAGE OF DIGITAL HEALTH TECHNOLOGY**

#### **What to study?**

- For Prelims and Mains: Highlights, need and significance of these guidelines, overall significance of digital health technology.

**Context:** The World Health Organization (**WHO**) has released new **recommendations** on 10 ways that countries can use digital health technology, accessible via mobile phones, tablets and computers, to improve people's health and essential services.

- **Various digital interventions include:** decision-support tools to guide health workers as they provide care; and enabling individuals and health workers to communicate and consult on health issues from across different locations.

#### **Key highlights:**

- Health systems need **to respond to the increased visibility and availability of information**. People also must be **assured that their own data is safe and that they are not being put at risk** because they have accessed information on sensitive health topics, such as sexual and reproductive health issues.
- Provide **supportive environments for training, dealing with unstable infrastructure, as well as policies to protect privacy** of individuals, and governance and coordination to ensure these tools are not fragmented across the health system.

- Encourage **policy-makers and implementers to review and adapt to these conditions** if they want digital tools to drive tangible changes and provide guidance on taking privacy considerations on access to patient data.
- **Telemedicine** allows people living in remote locations to obtain health services by using mobile phones, web portals, or other digital tools. This is a valuable complement to face-to-face-interactions, but it cannot replace them entirely. It is also important that consultations are conducted by qualified health workers and that the privacy of individuals' health information is maintained.
- **Reach vulnerable populations**, and ensure that digital health does not endanger them in any way.

#### Why it matters?

- Digital health technology is increasingly popular around the world, perhaps unsurprisingly, as around two-thirds of the world's population owns a smartphone. But as the technologies grow in adoption, experts warn that it must be done thoughtfully, looking at the challenges of each region.
- Digital health has the potential to help address problems such as distance and access, but still shares many of the underlying challenges faced by health system interventions in general, including poor management, insufficient training, infrastructural limitations, and poor access to equipment and supplies.

Sources: down to earth.

### 3. WORLD HEALTH DAY

#### What to study?

- For Prelims and Mains: World Health Day, theme and significance, challenges to UHC and the need for international cooperation.

**Context:** April 7 of each year marks the celebration of World Health Day. This year's World Health Day will focus on equity and solidarity.

- **Theme of World Health Day 2019** is "Universal Health Coverage: Everyone, Everywhere".

#### Background:

- From its inception at the First Health Assembly in 1948 and since taking effect in 1950, the celebration has aimed to create awareness of a specific health theme to highlight a priority area of concern for the World Health Organization.
- Over the past 50 years this has brought to light important health issues such as mental health, maternal and child care, and climate change. The celebration is marked by activities which extend beyond the day itself and serves as an opportunity to focus worldwide attention on these important aspects of global health.

#### What is Universal health coverage?

- Universal health coverage (UHC) is about ensuring all people and communities have access to quality health services where and when they need them, without suffering financial hardship.
- It includes the full spectrum of services needed throughout life—from health promotion to prevention, treatment, rehabilitation, and palliative care—and is best based on a strong primary health care system.
- Achieving UHC is one of the key targets of the 2030 Agenda for Sustainable Development.

### 4. INTERNATIONAL CONVENTION ON WORLD HOMOEOPATHY DAY

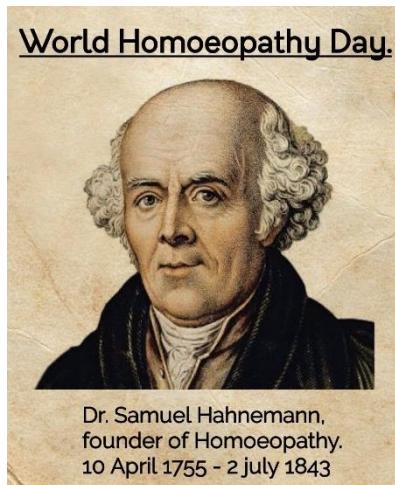
#### What to study?

- For Prelims and Mains: The day- significance, objectives and background, overview of Homeopathy and significance.

**Context:** A convention is being organised by the Central Council for Research in Homoeopathy (CCRH), an autonomous research organisation, **Ministry of AYUSH** on the occasion of the World Homoeopathy Day.

#### Why is it Celebrated?

- The **World Homoeopathy Day 2019** will be observed across the world on **April 10, 2019** to commemorate the birth anniversary of the **founder of Homoeopathy**, Dr. Christian Fredrich Samuel Hahnemann.



### **Who was Samuel Hahnemann?**

- Samuel Hahnemann, a German physician, a great scholar, linguist and an acclaimed scientist, is known as the
  - ✓ Father of Homeopathy
  - ✓ Father of Human Pharmacology
  - ✓ Father of Nano Medicine
  - ✓ Father of Infinite Dilution concept in Chemistry.

### **Need of hour:**

- There is an imminent need to focus on improving the quality of education and enhancing the success rate of an average practitioner. There is also a need to ensure the production and availability of high quality homeopathic drugs in the market.

## **5. WORLD IMMUNIZATION WEEK 2019**

### **What to study?**

- For prelims: world immunisation week, what are vaccines and how do they work?
- For mains: significance and the need for vaccines.

**Context:** World Immunization Week is celebrated in the **last week of April month**.

- The week aims to promote the use of vaccines to protect people against various diseases. Immunization is recognised as the most successful and cost-effective health invention, which saves millions of lives every year.
- The theme for this year's immunization week is – Protected Together: Vaccines Work! The week will also be celebrating **Vaccine Heroes** from around the world. Vaccine heroes are the people from parents, community members to innovators and health workers who help ensure that everyone is protected from diseases by getting vaccinated.

### **How does vaccination work?**

- Our immune system is composed of various types of cells. These cells defend us against invaders and remove the harmful pathogens. However, for that our immune system needs to recognise that an invader is dangerous.
- **Vaccination works by teaching our immune system how to recognise new diseases.** Vaccines stimulate our bodies to make antibodies against antigens of pathogens. It also teaches the immune system to remember the antigens that cause infection, which leads to a faster response to the same disease in the future.
- In simple terms, vaccines work by exposing you to a safer version of a disease. While the body responds to the vaccine, it builds an adaptive immune system, which helps the body to fight off the actual infection in the future.

### **A vaccine has two parts:**

- A vaccine usually consists of two parts and is usually given through an injection.
  1. The first part is the **antigen**, which is a piece of disease one's body must learn to recognise.
  2. The second part is the **adjuvant**, which sends a danger signal to the body and helps your immune system to respond strongly against the antigen.
- All this helps in developing your immunity.

## **6. DRUG-RESISTANT DISEASES COULD KILL 10 MILLION A YEAR BY 2050**

### **What to study?**

- For prelims: what are drug resistant diseases and how do they become drug resistant?
- For mains: concerns associated, effects and what needs to be done?

**Context:** UN Ad Hoc Interagency Coordinating Group on Antimicrobial Resistance has warned that Drug-resistant diseases could cause 10 million deaths each year by 2050.

### **Key findings:**

- By 2030, antimicrobial resistance could force up to 24 million people into extreme poverty.

- Currently, at least 7,00,000 people die each year due to drug-resistant diseases, including 2,30,000 people who die from multidrug-resistant tuberculosis.
- More and more common diseases, including respiratory tract infections, sexually transmitted infections and urinary tract infections, are becoming untreatable; lifesaving medical procedures are becoming riskier, and food systems are getting increasingly precarious.

#### What needs to be done?

- Without investment from countries in all income brackets, future generations will face the disastrous impacts of uncontrolled antimicrobial resistance. Countries need to prioritise national action plans to scale-up financing and capacity-building efforts.
- Countries must put in place stronger regulatory systems and support awareness programs for responsible and prudent use of antimicrobials by professionals in human, animal and plant health and invest in ambitious research and development for new technologies to combat antimicrobial resistance.

#### Why is antimicrobial resistance a global concern?

- New resistance mechanisms are emerging and spreading globally, threatening our ability to treat common infectious diseases, resulting in prolonged illness, disability, and death.
- Without effective antimicrobials for prevention and treatment of infections, medical procedures such as organ transplantation, cancer chemotherapy, diabetes management and major surgery (for example, caesarean sections or hip replacements) become very high risk.
- Antimicrobial resistance increases the cost of health care with lengthier stays in hospitals and more intensive care required.
- Antimicrobial resistance is putting the gains of the Millennium Development Goals at risk and endangers achievement of the Sustainable Development Goals.

Sources: The Hindu.

## 7. CANDIDA AURIS INFECTION

#### What to study?

- For Prelims and Mains: candida auris infection- causes, symptoms, spread and treatment.

**Context:** ICMR releases guidelines for candida auris infection and treatment.

- The killer germ, a fungus called **Candida auris**, has showed up in countries as far apart as Australia and Canada, Venezuela and Japan, over the past few years. It has set alarm bells ringing because it is often resistant to multiple anti-fungal drugs.

#### What is Candida auris and why is it worrisome?

- Candida auris is an emerging fungus, multidrug-resistant yeast that presents a serious global health threat.
- Patients can remain colonised with C. auris for a long time and C. auris can persist on surfaces in healthcare environments. This can result in spread of C. auris between patients in healthcare facilities. Public health authorities in several countries have reported that C. auris has caused severe illness in hospitalized patients.
- Infections caused by C. auris often do not respond to commonly used antifungal drugs, making them difficult to treat. Also, C. auris can persist on surfaces in healthcare environments and spread between patients in healthcare facilities.
- C. auris is difficult to identify with standard lab methods. It may have had a role to play in the development of its resistance. Healthcare personnel oblivious to it for long continue to prescribe antibiotics — giving the organism time to acclimatise to the medication. C. auris is known to cause outbreaks in hospitals, where it finds vulnerable individuals.

#### Antimicrobial Resistance (AMR)

- Antimicrobial resistance (AMR) is the ability of a microorganism (like bacteria, viruses, and some parasites) to stop an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against it. As a result, standard treatments become ineffective, infections persist and may spread to others.
- The term is used in the context of resistance that pathogens or cancers have “acquired”, that is, resistance has evolved.
- When an organism is resistant to more than one drug, it is said to be multidrug-resistant.

- Patients who have a long stay in an intensive care unit, have serious medical conditions, and who have previously received antibiotics or antifungal medications, appear to be at highest risk of infection.

#### **How can the spread of C. auris be prevented?**

- Meticulous attention to infection prevention and control, including good hand hygiene (either hand washing with soap and water or hand sanitizing with an alcohol-based hand rub), is critical for everyone including healthcare personnel and healthcare facility visitors.
- It is important that healthcare personnel strictly follow infection prevention and control measures, such as the proper use of gowns and gloves. When visiting a healthcare facility, visitors must follow facility directions to prevent the spread of infection.
- Finally, appropriate and effective environmental cleaning and disinfection by the healthcare facility is a key part of infection prevention and control.

#### **Is C. auris treatable?**

- Most C. auris infections are treatable with antifungal drugs. However, some C. auris infections have been resistant to all three main classes of antifungal medications, making them more difficult to treat.
- C. auris infection often goes unnoticed and its resistance to drugs makes it even more difficult to treat. Moreover, it is difficult to identify with standard laboratory tests, increasing the risk of mismanagement or misidentification if not diagnosed properly.
- As per CDC, more than 90 per cent of C. auris infections are resistant to at least one drug, and 30 per cent are resistant to two or more antibiotics. And other prominent strains of the fungus Candida have not developed significant resistance to drugs, said the CDC. Finding a cure for the infection is now a matter of urgency.

#### **Precautions, treatment:**

- The key is to prevent the fungus from spreading, so the management of the infection is hinged on isolation of the patient, ideally in a single room, with strict hand hygiene.
- Everyone who has come in contact with a patient should be screened for the fungus, and all equipment used for the care of the patient should be cleaned every day in accordance with clinical care recommendations.
- Guidelines for treatment say that only when there are symptoms of an infection should the patient be given anti-fungals such as Caspofungin and Micafungin.

#### **What are the signs and symptoms of C. auris infection?**

- Symptoms may not be noticeable, because patients infected with C. auris are often patients in the hospital with another serious illness or condition.
- Symptoms can vary greatly depending on the part of the body affected and can cause different types of infection such as bloodstream infection, wound infection, and ear infection, etc. Doctors say symptoms can include fever, body aches, and fatigue.

#### **How fatal can C. auris infection be?**

- Nearly half of patients die within 90 days of being diagnosed with the fungus. In most cases, patients who have died with C. auris had other serious conditions that increased their risk of death.

#### **Infection prevention and control measures for C. auris:**

- Placing the patients with C. auris in single rooms and using Standard and Contact Precautions.
- Increasing emphasis on hand hygiene.

#### **Spread:**

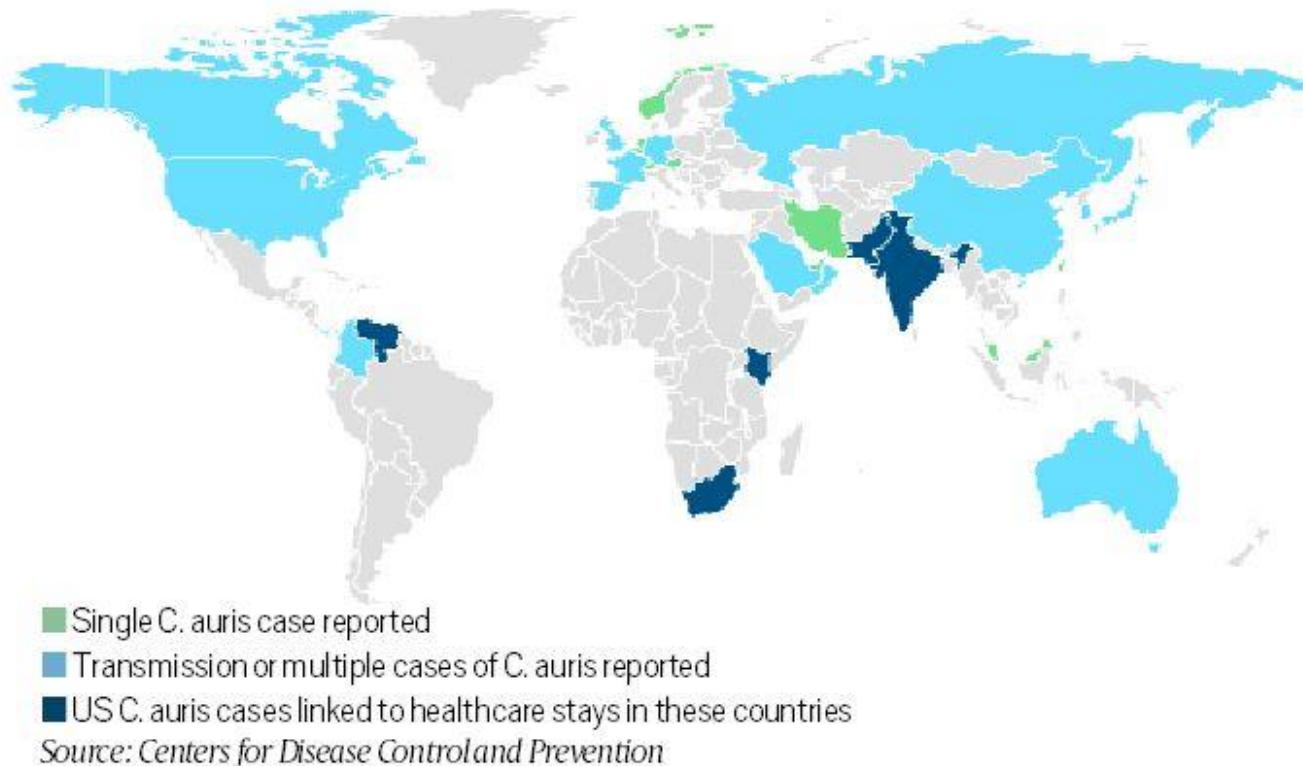
- C. auris can be spread in healthcare settings through **contact with contaminated surfaces or equipment**, or from physical **contact with a person** who is infected or colonized.
- Basically, C. auris can spread in hospitals, targeting people with weakened immune systems.
- Healthy people usually don't get infected with the fungus. Yet, more research is required to further understand how it spreads.

#### **Why is multidrug resistance a problem?**

- The increase in resistant organisms is fueled by overuse of antimicrobial drugs, not just in healthcare settings but also in agriculture. As more microorganisms evolve ways to survive commonly used drugs, treating infections becomes more difficult. This increases the risks associated with hospitalizations and surgeries.

- Cleaning and disinfecting patient care environment and reusable equipment with recommended products.
- Inter-facility communication about patient's C. auris status – when a patient is being transferred to another healthcare facility.
- Conducting surveillance for new cases to detect ongoing transmission.
- Screening patients to identify C. auris colonisation is a vital part of infection prevention and control.

## CANDIDA AURIS CASES WORLDWIDE



Sources:toi; ie

## 8. MEASLES

**Context:** New York City recently declared a **public health emergency** and ordered **mandatory vaccinations for measles** in a part of Brooklyn **that is home to a large Orthodox Jewish community.**

### Concerns:

- Measles typically begins with a high fever, and several days later a characteristic rash appears on the face and then spreads over the body.
- Among serious complications, 1 in 20 patients get pneumonia, and 1 in 1,000 get brain swelling that can lead to seizures, deafness or intellectual disability.
- While it's rare in the U.S., about 1 in every 1,000 children who get measles dies.

### How does it spread?

- By coughing or sneezing, and someone can spread the virus for four days before the telltale rash appears. The virus can live for up to two hours in the air or on nearby surfaces. Nine of 10 unvaccinated people who come into contact with someone with measles will catch it.

### Worldwide scenario:

- Measles is far more common around the world. The World Health Organization said it claimed 110,000 lives in 2017. The WHO says there's been a 30 % increase in measles cases in recent years.

### Is the vaccine safe?

- Yes. In the late 1990s, one study linked MMR vaccine to autism but that study was found to be a fraud. Later research found no risk of autism from the vaccine.

### Why isn't everyone vaccinated?

- Some people can't be immunized for medical reasons- including infants and people with weak immune systems- and most states allow religious exemptions. But while vaccination against a list of contagious diseases is required to attend school, 17 states allow some type of non-medical exemption for "personal, moral or other beliefs."
- In Washington state, lawmakers are debating ending that personal or philosophical exemption, as are several other states. California ended a similar exemption in 2015 after a measles outbreak at Disneyland sickened 147 people and spread across the U.S. and into Canada.

### Why so many cases in New York's Orthodox Jewish communities?

- Most families in Brooklyn's Orthodox enclaves do have their children vaccinated, and most rabbis say there is no religious reason not to get them. But anti-vaccine propaganda has found an audience among a larger than usual percentage of parents in a community used to cultural clashes with city officials.
- It is also a community whose members travel frequently to other countries where measles is more prevalent.

## 9. WORLD HAEMOPHILIA DAY

### What to study?

- For Prelims and Mains: Haemophilia- causes, effects, treatment and spread.

**Context:** April 17 is World Haemophilia Day.

### What is it?

- Haemophilia is a medical condition, mostly inherited, in which the ability of blood to clot is severely reduced, so that even a minor injury can cause severe bleeding.

### Worldwide spread:

- It is a rare disorder worldwide — one type, called **Haemophilia A**, occurs in about 1 in 5,000 births, while **Haemophilia B** is even rarer at about 1 in about 20,000 births. A vast number of cases, however, are believed to go unreported, particularly in India.
- According to the World Federation of Haemophilia's Annual Global Survey 2017, released in October 2018, there were over 1.96 lakh persons living with haemophilia across the world in 2017. **In the country-wise data, India emerges with the highest count at nearly 19,000.**

### Why men are more vulnerable?

- Because of the genetics involved in the way the sex of a child is determined, men are more vulnerable to haemophilia than women.
- **Haemophilia is caused by a defect in the X chromosome.** If a girl is born with one defective X chromosome, her other X chromosome can compensate for it. In such a case, she is a carrier of haemophilia but will not suffer from the condition herself. Only if both her X chromosomes are defective will she suffer from haemophilia herself. On the other hand, if a boy is born with a defective X chromosome, he does not have the second X chromosome to compensate for it, and will suffer from haemophilia. **That is the reason haemophilia is more common among men.**

### Treatments for haemophilia:

- There's no cure for haemophilia, but treatment usually allows a person with the condition to enjoy a good quality of life. **Genetically engineered clotting factor medicines** are used to prevent and treat prolonged bleeding. These medicines are given as an injection.
- In milder cases, injections are usually only given in response to prolonged bleeding. More severe cases are treated with regular injections to prevent bleeding.

Sources: ie.

## 10. MOSQUIRIX: WORLD'S FIRST MALARIA VACCINE

### What to study?

- For prelims and mains: malaria- causes, spread, symptoms and treatment, about mosquirix.

**Context:** African Nation, **Malawi** will be undertaking large scale pilot tests for the world's most advanced experimental malaria vaccine in a bid to prevent the disease. The vaccine has been **recommended by WHO** for **pilot introduction** in selected areas of 3 African countries- **Ghana, Kenya and Malawi**.

### About Malaria:

- caused by the **infectious Plasmodium**
- **Spread:** Female Anopheles mosquitoes deposit parasite sporozoites into the skin of a human host.
- Malaria is a leading cause of human morbidity and mortality. Despite huge progress in tackling the disease, there are still 212 million new cases of malaria and 430,000 malaria-related deaths worldwide each year according to the World Health Organisation (WHO). Most cases (80%) and deaths (90%) were in sub-Saharan African.

### World's first vaccine against a parasitic disease: Mosquirix:

- RTS,S known by its trade name **Mosquirix**, uses antibodies to target proteins presented by sporozoites (such as the circumsporozoite protein of falciparum) to enhance the immune system and help prevent the parasite from infecting the liver.
- Mosquirix is also engineered using a hepatitis B viral protein and a chemical adjuvant to further boost the immune response for enhanced effectiveness.

### India's efforts in this regard:

- India's progress in fighting malaria is an outcome of concerted efforts to ensure that its malaria programme is country-owned and country-led, even as it is in alignment with globally accepted strategies.
- At the **East Asia Summit in 2015**, India pledged to eliminate the disease by 2030. Following this public declaration, India launched the five-year National Strategic Plan for Malaria Elimination. This marked a shift in focus from malaria "control" to "elimination". The plan provides a roadmap to achieve the target of ending malaria in 571 districts out of India's 678 districts by 2022.

### Durgama Anchalare Malaria Nirakaran (DAMAN) initiative:

- Among states, **Odisha's Durgama Anchalare Malaria Nirakaran (DAMAN)** initiative is significant.
- The initiative aims to deliver services to the most inaccessible and hardest hit people of the State. The initiative has in-built innovative strategies to combat asymptomatic malaria.
- The programme is jointly implemented by Indian Council of Medical Research-National Institute of Malaria Research (ICMR-NIMR), National Vector Borne Disease Control Programme (NVBDCP), Odisha and Medicines for Malaria Venture (MMV).

Sources: the Hindu.

## 11. ICMR LAUNCHES 'MERA INDIA' TO ELIMINATE MALARIA BY 2030

### What to study?

- For prelims: MERA India- key features, targets and significance.
- For mains: Malaysia- key facts, spread and measures needed to eliminate the disease.

**Context:** The Indian Council of Medical Research (ICMR) has launched the '**Malaria Elimination Research Alliance (MERA) India**' – a conglomeration of partners working on malaria control – in order to prioritise, plan and scale up research to **eliminate the disease from India by 2030**.

### Key facts:

- The **principal activity of the alliance is to** prioritise, plan, conduct, scale up and translate relevant research in a coordinated and combinatorial way in order to have a tangible impact on the population who are at risk of malaria.
- The alliance will **facilitate trans-institutional coordination and collaboration** around a shared research agenda which responds not only to programmatic challenges and addresses

### About Malaria:

- **Caused by a Plasmodium Parasites** that is transmitted from one human to another by the bite of infected Anopheles mosquitoes.
- In humans, the parasites (called sporozoites) migrate to the liver where they mature and release another form, the merozoites.
- The majority of Malaria symptoms are caused by the massive release of merozoites into the bloodstream such as anaemia is caused by the destruction of the red blood cells.
- There are **five parasites that can cause Malaria in humans** and the deadliest of all is **Plasmodium Falciparum**.
- Children under the age of 5 and pregnant women are **most susceptible to the disease**.

- gaps in available tools, but also proactively contributes to targeted research.
- It aims to harness and reinforce research in coordinated and combinatorial ways in order to achieve a tangible impact on malaria elimination.

#### Various efforts by government:

- Over the past two decades, India has made impressive progress in malaria control. The **malaria burden has declined by over 80 per cent, 2.03 million cases in 2000 to 0.39 million in 2018, and malaria deaths by over 90 per cent, 932 deaths in 2000 to 85 in 2018**.
- This success has provided a strong foundation for the commitment from the leadership of the government of India to eliminate malaria from India by 2030.
- National Vector Borne Diseases Control Program (NVBDCP)** of India has developed a comprehensive framework to achieve the overarching vision of “**Malaria free India by 2030**”.
- NVBDCP’s National Strategic Plan clearly recognises the critical role of research to support and guide malaria elimination efforts.

Sources: The Hindu.

## 12. MELAMINE

### What to study?

- For prelims and mains: melamine- contamination and its effects, can such bans be imposed?

**Context:** The government has extended **the ban on import of milk and its products, including chocolates, from China** till laboratories at ports for testing presence of toxic chemical **melamine** are upgraded.

#### Background:

- Food regulator FSSAI had recommended extending the ban until all labs at ports are modernised to test the chemical.
- The ban was first imposed in September 2008 and extended subsequently from time to time.

#### Key facts:

- India is the world's largest producer and consumer of milk.** It produces around 150 million tonne milk annually.
- Uttar Pradesh is the leading state in milk production** followed by Rajasthan and Gujarat.
- Although India does not import milk,** milk products from China, it has imposed the ban as a preventive measure.

#### Why is melamine added into milk and powdered infant formula?

- In China, where adulteration has occurred, water has been added to raw milk to increase its volume. As a result of this dilution the milk has a lower protein concentration. Companies using the milk for further production (e.g. of powdered infant formula) normally check the protein level through a test measuring nitrogen content. **The addition of melamine increases the nitrogen content of the milk and therefore its apparent protein content.**
- Addition of melamine into food is not approved by the FAO/WHO Codex Alimentarius (food standard commission), or by any national authorities.

#### Has melamine been found in other food products?

- In 2007, melamine was found in wheat gluten and rice protein concentrate exported from China and used in the manufacture of pet food in the United States.** This caused the death of a large number of dogs and cats due to kidney failure.
- melamine contamination has also been found in a number of different brands of powdered infant formula, in one brand of a frozen yogurt dessert and in one brand of canned coffee drink. All these products were most probably manufactured using ingredients made from melamine-contaminated milk.

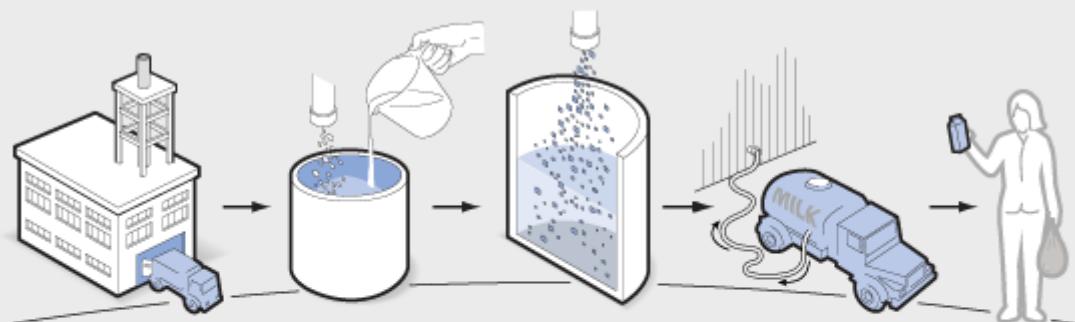
#### What is melamine?

- Melamine is an **organic base chemical** most commonly found in the form of white crystals rich in nitrogen.

#### What is melamine generally used for?

- Melamine is widely used in plastics, adhesives, countertops, dishware, whiteboards.

## Corrupted milk | How melamine got into China's dairy products:



Chemical factories that produce melamine sell the scrap cheaply to small businesses.

Those operations mix Melamine, which causes kidney damage, with other substances and resell it as 'protein powder'.

'Protein powder' is purchased by dairy farmers and milk collection agents, and added to raw milk to fool quality tests, along with other unauthorized additives, including antibiotics and fat.

Adulterated milk is sold to large dairy manufacturers.

Milk is sold to consumers.

Note: Illustration is schematic  
Source: WSJ reporting

### What are the health effects of melamine consumptions in humans?

- While there are no direct human studies on the effect of melamine data from animal studies can be used to predict adverse health effects. **Melamine alone causes bladder stones in animal tests. When combined with cyanuric acid, which may also be present in melamine powder, melamine can form crystals that can give rise to kidney stones.**
- Melamine has also been shown to have **carcinogenic effects in animals** in certain circumstances, but there is insufficient evidence to make a judgment on carcinogenic risk in humans.

## 13. GLOBAL INITIATIVE OF ACADEMIC NETWORKS (GIAN)

### What to study?

- For Prelims and Mains: GIAN Program- objectives, significance and features.

**Context:** The National Institute of Technology, Tiruchi, had launched a programme under the Global Initiative of Academic Networks (**GIAN**) in **Higher Education**, aimed at tapping the talent pool of **scientists and entrepreneurs**.

### What is GIAN program?

- Global Initiative of Academic Networks (**GIAN**) in Higher Education was launched in 2015. It is a program of Ministry of Human Resource and Development (**MoHRD**)
- Aim:** GIAN aims at tapping the talent pool of scientists and entrepreneurs to engage with the institutes of higher education in India to augment the country's existing academic resources, accelerate the pace of quality reforms, and further strengthen India's scientific and technological capabilities.

### GIAN is envisaged to achieve the following objectives:

- To increase the footfalls of reputed international faculty in the Indian academic institutes.
- Provide opportunity to our faculty to learn and share knowledge and teaching skills in cutting edge areas.
- To provide opportunity to our students to seek knowledge and experience from reputed International faculty.
- To create avenue for possible collaborative research with the international faculty.
- Develop high quality course material in niche areas, both through video and print that can be used by a larger body of students and teachers.
- To document and develop new pedagogic methods in emerging topics of national and international interest.

Sources: the hindu.

## 14. TRADITIONAL KNOWLEDGE DIGITAL LIBRARY (TKDL)

### What to study?

- For prelims and mains: TKDL- features, significance and need.

**Context:** AYUSH ministry and the Council of Scientific and Industrial Research (CSIR), New Delhi will collaborate in research and education in areas of traditional systems of medicine and its integration with modern science.

- This is not the first collaboration of the two organisations. CSIR and the Department of AYUSH (now Ministry) developed the **Traditional Knowledge Digital Library (TKDL)**.

### About TKDL:

- The Traditional Knowledge Digital Library (TKDL) is an Indian **digital knowledge repository** of the **traditional knowledge**, especially about medicinal plants and formulations used in Indian systems of medicine.
- Set up in 2001, as a **collaboration between the Council of Scientific and Industrial Research (CSIR) and the MINISTRY OF AYUSH**.
- objective of the library is **to protect the ancient and traditional knowledge of the country from exploitation** through biopiracy and unethical patents, by documenting it electronically and classifying it as per international patent classification systems.
- Apart from that, the non-patent database serves to **foster modern research based on traditional knowledge**, as it simplifies access to this vast knowledge of remedies or practices.

**The TKDL contains documentation of publicly available traditional knowledge (TK) that:**

- relates to Ayurveda, Unani, Siddha and Yoga
- is in digitized format
- is available in five languages: English, German, French, Japanese and Spanish.

### The TKDL:

- seeks to prevent the granting of patents for products developed utilizing TK where there has been little, if any, inventive step
- intends to act as a bridge between information recorded in ancient Sanskrit and patent examiners (with its database containing information in a language and format understandable to patent examiners)
- facilitates access to information not easily available to patent examiners, thereby minimizing the possibility that patents could be granted for “inventions” involving only minor or insignificant modifications.

## 15. PLEA IN HC TO ENSURE PRESCRIPTION OF GENERIC DRUGS

**Context:** A petition filed before the Delhi High Court has sought directions to the Centre and the Medical Council of India (MCI) to ensure that doctors prescribe generic medicines.

### What's the issue?

- The petition contends that the **Pradhan Mantri Bhartiya Janaushdhi Pariyojana (PMBJP)** was introduced in 2008 to lower healthcare costs by providing quality generic medicines at affordable prices.
- The MCI had on January 21, 2013, issued a circular to deans of all medical colleges, directors of all hospitals, and presidents of all State medical councils, calling on doctors to prescribe drugs with generic names as far as possible. **The authorities have failed to ensure this despite clear statutory directions.**

### What is a Generic Medicine?

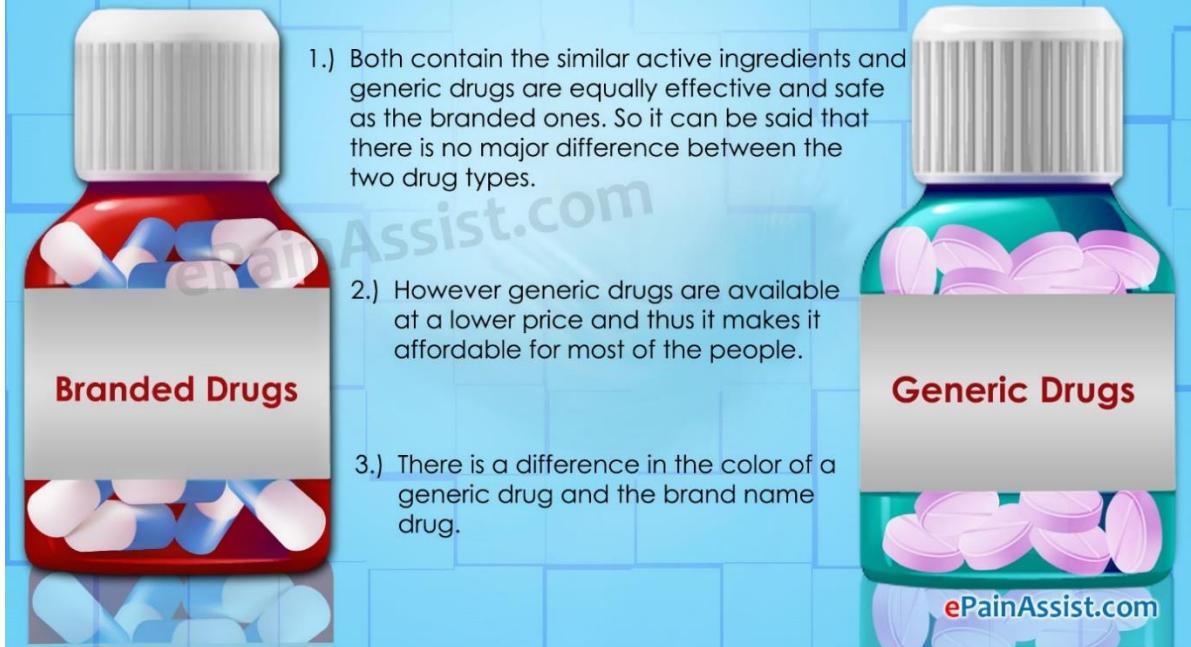
- Generic medicines are **unbranded** medicines which are **equally safe** and having the **same efficacy** as that of branded medicines in terms of their therapeutic value.
- The prices of generic medicines are much **cheaper** than their branded equivalent.

### Need of the hour:

- The petitioner sought strict compliance of regulation 1.5 of the Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002, which mandates that every physician “prescribe drugs with generic names legibly and preferably in capital letters”.

# Branded Drugs V/S Generic Drugs

The most important thing to note down between branded drugs and the generic drugs is



## What exactly is the difference between a generic drug and brand-name drug?

- When a company develops a new drug — often after years of research — it applies for a patent, which prohibits anyone else from making the drug for a fixed period. To recover the cost of research and development, companies usually price their brand-name drugs on the higher side. Once the patent expires, other manufacturers duplicate and market their own versions of the drug. **Since the manufacture of these generic drugs do not involve a repeat of the extensive clinical trials to prove their safety and efficacy, it costs less to develop them. Generic drugs are, therefore, cheaper.**
- However, because the compounds in the generic versions have the same molecular structure as the brand-name version, **their quality is essentially the same.**
- The generic drug has the same “active ingredient” as the brand-name drug. This ingredient is the one that cures the patient; and other, “inert ingredients”, which give the drug its colour, shape or taste, vary from the brand-name drug to the generics. In the United States, the Food and Drug Administration notes that the cost of a generic drug is 80% to 85% lower than the brand-name product on average.

## However, there are three fundamental areas of concern:

1. The first relates to the efficacy of Indian-made drugs. Oftentimes, such drugs have been found to contain less than the required amount of active pharmaceutical ingredient (API), rendering them ineffective.
2. Closely linked to the issue of efficacy is the lack of data integrity. The poorly managed documentation practices of Indian generic firms featured as the primary criticism flagged by foreign regulatory authorities. The lack of reliable and complete data on the test results of specific drug batches, along with inconsistencies in the records presented, meant that inspection and verification of drug quality was extremely difficult.
3. Another aspect relates to the hygiene standards of the manufacturing plants. Individuals suffering from illness are especially susceptible to infections, and inspections of generic drug plants reveal pest infestations and dilapidated infrastructure.

## 16. INDIA SHORT OF 6 LAKH DOCTORS, 2 MILLION NURSES: U.S. STUDY

### What to study?

- For Prelims and Mains: Key facts on India's healthcare industry and concerns raised by the report, what needs to be done?

**Context:** US -based Center for Disease Dynamics, Economics & Policy (CDDEP) has released a report on the state of health services.

### Key findings:

#### India specific:

- India has a shortage** of an estimated 600,000 doctors and 2 million nurses. There is one government doctor for every 10,189 people (the World Health Organisation (WHO) recommends a ratio of 1:1,000).
- Lack of access to antibiotics** kills more people currently than does antibiotic resistance.
- 65% of health expenditure is out-of-pocket**, and such expenditures push some 57 million people into poverty each year.

#### Global scenario:

- The majority of the world's annual 5.7 million antibiotic-treatable deaths occur in low- and middle-income countries**, where the mortality burden from treatable bacterial infections far exceeds the estimated annual 700,000 deaths from antibiotic-resistant infections.
- Even after the discovery of new antibiotic, **regulatory hurdles and substandard health facilities delay or altogether prevent widespread market entry and drug availability**.
- Worldwide, the **irrational use of antibiotics and poor antimicrobial stewardship lead to treatment failure and propagate the spread of drug resistance** which, in turn, further narrows the available array of effective antibiotics.

#### Concerns:

- The lack of staff** who are properly trained in administering antibiotics is preventing patients from accessing life-saving drugs.
- High out-of-pocket medical costs** to the patient are compounded by limited government spending for health services.

Sources: the hindu.

(Q) Critically examine whether making healthcare affordable through capping of prices would solve the problem of Out of Pocket Expenditure in health in India ?

### Some of the key roadblocks for India's healthcare industry:

- Population:** India has the world's second-largest population, rising from 760 million in 1985 to an estimated 1.3 billion in 2015.
- Infrastructure:** The existing healthcare infrastructure is just not enough to meet the needs of the population. The central and state governments do offer universal healthcare services and free treatment and essential drugs at government hospitals. However, the hospitals are, understaffed and underfinanced, forcing patients to visit private medical practitioners and hospitals.
- Insurance:** India has one of the lowest per capita healthcare expenditures in the world. Government contribution to insurance stands at roughly 32 percent, as opposed to 83.5 percent in the UK. The high out-of-pocket expenses in India stem from the fact that 76 percent of Indians do not have health insurance.
- Rural-urban disparity:** The rural healthcare infrastructure is three-tiered and includes a sub-center, primary health centre (PHC) and CHC. PHCs are short of more than 3,000 doctors, with the shortage up by 200 per cent over the last 10 years to 27,421.

### Other issues include:

- Weak governance and accountability.
- Irrational use and spiralling cost of drugs.
- Fragmented health information systems.
- Low public spending on health.
- Large unregulated private sector.
- Unequally distributed skilled human resources.
- A weak primary healthcare sector.

## 17. DENTISTS TO PRACTICE AS GENERAL PHYSICIANS

### What to study?

- For prelims and mains: rationale behind the move, shortage of doctors- constraints, challenges and measures needed.

**Context:** NITI Aayog, has agreed to a Dental Council of India proposal to allow dentists to practice as general physicians after a bridge course.

**Need:**

- The development comes following a meeting in the Prime Minister's Office earlier this month in which it was urged that **unconventional methods be adopted to address the shortage of doctors in the country, particularly in rural areas.**

**The proposal:**

- The DCI has proposed a post Bachelor of Dental Science (BDS) bridge course running for 3 years.
- **admission would be either through a common entrance exam or through cumulative marks secured in the BDS course, or even a combination.**
- the **syllabus curriculum**, scheme of examination, method of evaluation, degrees and registration all these criteria will be the same as recommended for MBBS.

**Opposition from IMA:**

- Country's largest body of private doctors—Indian Medical Association—which had earlier opposed a similar course for AYUSH practitioners has vehemently protested the proposed move too.
- **What's the issue?** across India MBBS graduates were not being absorbed into post-graduate courses and there was also no creation of new posts, new primary health care centres etc with the government stating that budget was a constraint.

**Need of the hour:**

- The IMA demands that **medical graduates be given their due, the health budget be flexed to include job creation for them.**

Sources: the Hindu.

## 18. GLOBAL TALENT COMPETITIVENESS INDEX

**What to study?**

- For prelims and mains: GTCI- key findings, indicators and significance.

**Context:** Global Talent Competitive Index (GTCI) for 2019 has been released.

**Background:**

- GTCI, launched in 2013, is **an annual benchmarking report that measures the ability of countries to compete for talent.**
- It is **released by INSEAD business school in partnership with Tata Communications and Adecco Group.**
- The report **measures levels of Global Talent Competitiveness** by looking at 68 variables such as ease of hiring, gender earnings gap, and prevalence of training in firms.

**Uniqueness of this year's report:**

- This year's report has a special **focus on entrepreneurial talent** – how it is being encouraged, nurtured and developed throughout the world and how this affects the relative competitiveness of different economies.
- The report also reveals that **cities rather than countries** are developing stronger roles as talent hubs and will be crucial to reshaping the global talent scene.

**India's performance:**

- India remains the laggard in the BRICS (Brazil, Russia, India, China and South Africa) region and was **ranked 80.**
- It **performs better than its lower-income peers when it comes to growing (48th) talent, primarily by virtue of the possibilities for Lifelong Learning (38th) and Access to Growth Opportunities (41st).**
- An above-average Business and Labour Landscape (38th) and Employability (34th) raise the scores of the pillars related to Enable (70th) and Vocational and Technical Skills (72nd) that are otherwise hampered by the remaining sub-pillars.

- Notwithstanding the scope for improvement across the board, **India's biggest challenge is to improve its ability to Attract (95th) and Retain (96th) talent.**
- Above all, there is a need to address its **poor level of Internal Openness** (116th)—in particular with respect to weak gender equality and low tolerances towards minorities and immigrants—and its disappointing showing in Lifestyle indicators.

#### Global findings:

- In this sixth edition, **Switzerland continues to lead the 2019 Global Talent Competitiveness index, while Singapore and the United States come in second and third respectively.**
- Yemen has finished at the bottom of this year's index at 125th, just below Congo (124th) and Burundi (123rd).**

Sources: the Hindu.

## 19. NIRF 2019 RANKINGS

#### What to study?

- For Prelims: NIRF rankings, Institutes of eminence scheme.
- For Mains: Higher education reforms.

**Context:** NIRF 2019 rankings have been released.

#### Top 5 Engineering Institutions in India-2019:

- Indian Institute of Technology, Madras
- Indian Institute of Technology, Delhi
- Indian Institute of Technology, Bombay
- Indian Institute of Technology, Kharagpur
- Indian Institute of Technology, Kanpur

#### Top 5 Universities:

- Indian Institute of Science, Bengaluru
- Jawaharlal Nehru University, New Delhi
- Banaras Hindu University, Varanasi
- University of Hyderabad, Hyderabad
- Calcutta University, Kolkata

#### Top 5 Colleges:

- Miranda House, Delhi
- Hindu College, Delhi
- Presidency College, Chennai
- Stephen's College, Delhi
- Lady Shri Ram College for Women, New Delhi

#### What is Institutions of Eminence scheme?

- The institutes of eminence scheme under the **Union human resource development (HRD) ministry aims to project Indian institutes to global recognition.**

#### Key features:

- The 20 selected institutes will enjoy complete academic and administrative autonomy.
- The government will run 10 of these and they will receive special funding.
- The selection shall be made through challenge method mode by the Empowered Expert Committee constituted for the purpose.
- Only higher education institutions currently placed in the top 500 of global rankings or top 50 of the National Institutional Ranking Framework (NIRF) are eligible to apply for the eminence tag.
- The private Institutions of Eminence can also come up as greenfield ventures provided the sponsoring organisation submits a convincing perspective plan for 15 years.

#### About NIRF:

- Started in 2015, NIRF outlines a **methodology to rank educational institutions across the country.**
- The parameters used for ranking broadly cover teaching, learning and resources, research and professional practices, graduation outcome, outreach and inclusivity, and perception.** From 2017, besides being ranked under specific disciplines, **large institutions were also given a common overall rank.**
- This year as well, **educational institutions across the country were ranked in nine categories** – overall, universities, engineering, colleges, management, pharmacy, medical, architecture and law.

#### Significance of NIRF:

- Ranking promotes competition among the Universities and drive them to strive for excellence. The rankings assume significance as performance of institutions has been linked with “Institutions of Eminence” scheme.

**Topics: Elections, ECI, Salient features of the Representation of People's Act.**

## 1. SVEEP

**What is Systematic Voters Education and Electoral Participation (SVEEP) ?**

- SVEEP is a programme of multi interventions through different modes and media designed to educate citizens, electors and voters about the electoral process in order to increase their awareness and participation in the electoral processes.
- SVEEP is designed according to the socio-economic, cultural and demographic profile of the state as well as the history of electoral participation in previous rounds of elections and learning thereof.

## 2. MAKING DEMOCRACY MEANINGFUL

**How is democracy being viewed today?**

- Periodic elections, party-based competitive candidates, and universal adult franchise have turned out to be the primary ingredients of democracy.

**Concerns associated with such views:**

- This common sense has come to cloud everything centrally associated with the idea of democracy in general and constitutional democracy in particular.
- Reading elections as democracy has also led to the equating of means with ends, celebrating the former, and abdicating it from all responsibility the latter demands.
- It tends to suggest a view of democracy in which the role of the masses decidedly ends at the hustings. This reduction of democracy to elections, today, threatens to undermine the core aspirations associated with it.

**Why Elections alone cannot be termed as the sole conveyor of democracy?**

- Elections can hardly be termed as the sole and effective conveyor belts of popular will in India any longer. The hype that has come to surround elections, the resources that it calls for, the close monitoring of the voters by boxing them in social straitjackets, and the media's obsessive focus on elections as a gladiators' den have deeply compromised elections as the preeminent device of representation of popular will.
- In the process the electoral space of the poor and the marginalised has shrunk, as other devices have been put in place to elicit their assent.
- The trustworthiness of the election machinery alone cannot ensure that the voter is enabled to make a deliberated choice of momentous significance to his everyday life, opportunities and access to resources.
- Political parties with their stakes, almost without exception, have increasingly tended to fix the voters in social silos, rather than help them redefine their affiliations and connect to the wider social ensemble, if they choose to do so.
- Redistribution of resources and opportunities has been lost in the endless litany of promises of goods and bounties. A promise, here and there, in the manifestoes of political parties that allude to redistribution sounds theatrical before their socially conservative stance.
- Sections of the media have come to play second fiddle in amplifying the sound-bites of political leaders, deploying them to construct and reconstruct opponents, with specified social constituencies in view. They have found jingoism and archaic frames easy to stoke rather than nudge public sensitivity to reinforcing the democratic temper.
- Highlighting fragments from popular memory-lane, spreading isolated events wide across the political space, and nurturing the effect of simultaneity, particularly with certain audiences in view, have been the take of much reporting these days.

**Need of the hour:**

- As a political community, the bonds that unite Indians are not given but have to be forged, and have to be forged consciously and deliberately.
- Certain inheritances, beliefs, memories and shared practices can be a great help in this direction, but it is also important to realise that they can be equally divisive. India's constitutional layout and public institutions can extend much support in streamlining and directing this political project, but cannot be its replacement.

- Auditing the election promises of political parties, extending support to some measures and rejecting others.
- Measures such as access to quality education in the mother tongue, neighbourhood schools, strengthening public health systems, public transport, entrepreneurship and skill development, universal social insurance, and reaching out to those who suffer disadvantages in accessing these measures are definitely in synchrony with the democratic project.
- At the same time for a large number of Indians the beliefs they uphold, and the practices that ensue therefrom are central to their idea of themselves. There is no reason why India's democratic project cannot encompass such embeddedness and aspirations. There is a dire need to create a helm to focus on India's democratic project.

### 3. SERVICE VOTER

#### What to study?

- For Prelims and Mains: Who is a Service Voter, how can he cast vote, significance and challenges associated.

**Context:** The soldiers of Indo-Tibetan Border Police (ITBP) were the first to cast their vote for the 2019 Lok Sabha elections in Arunachal Pradesh as Service Voters.

- Service voter belonging to defence and paramilitary forces have the option of either voting through postal ballot or through a proxy voter duly appointed by him/her.
- There are roughly 30 lakh service voters including defence and paramilitary forces who (in many cases with families at family stations) will cast their votes through service voter facility.

#### Who is a service voter?

- Service voter is a voter having service qualification. According to the provisions of sub – section (8) of Section 20 of Representation of People Act, 1950, service qualification means:
  - Being a member of the armed Forces of the Union ; or
  - Being a member of a force to which provisions of the Army Act, 1950 (46 of 1950), have been made applicable whether with or without modification ;
  - Being a member of an Armed Police Force of a State, and serving outside that state; or
  - Being a person who is employed under the Government of India, in a post outside India.

#### How is a service voter different from an ordinary elector?

- While an ordinary elector is registered in the electoral roll of the constituency in which his place of ordinary residence is located, person having service qualification can get enrolled as 'service voter' at his native place even though he actually may be residing at a different place (of posting). He has, however, an option to get himself enrolled as general elector at the place of his posting where he factually, at the point of time, is residing ordinarily with his family for a sufficient span of time.

#### Are members of all Armed Forces / Para Military Forces eligible to be enrolled as service voters?

- As per the existing arrangements, members of Indian Army, Navy and Air Force and personnel of General Reserve Engineer Force (Border Road Organization), Border Security Force, Indo Tibetan Border Police, Assam Rifles, National Security Guards, Central Reserve Police Force, Central Industrial Security Force and Sashastra Seema Bal are eligible to be registered as service voters.

#### Is wife or son/daughter of a service voter also enrolled as a service voter?

- The wife of a service voter shall, if she is ordinarily residing with him, be also deemed to be a service voter in the constituency specified by that person. The service voter has to make a statement to the effect in the relevant Form 2/2A/3 that his wife ordinarily resides with him. The wife will be enrolled as a service voter on the basis of declaration made by her husband in the application form itself submitted by him and no separate declaration / application is required to be made by the wife. A son / daughter / relative / servant etc. residing ordinarily with a service voter cannot be enrolled as service voter.

#### Is facility of enrollment as a service voter available to the husband of a female service voter?

- Under the existing law, this facility is available only to the wife of a male service voter and is not available to the husband of a female service voter.

**Can one be enrolled simultaneously as a service voter at his native place as well as a general voter at the place of posting?**

- No. A person, at a particular time, cannot be enrolled as a voter at more than one place in view of the provisions contained under Sections 17 and 18 of Representation of People Act, 1950. Likewise, no person can be enrolled as an elector more than once in any electoral roll.

#### **Who is a Classified Service Voter?**

- Service voter belonging to Armed Forces or forces to which provisions of Army Act, 1950 are applicable, has option of either voting through postal ballot or through a proxy voter duly appointed by him.
- A service voter who opts for voting through a proxy is called Classified Service Voter (CSV).

#### **Who is a 'proxy'?**

- A service voter may appoint (by applying to Returning Officer in Form 13 F of Conduct of Elections Rules, 1961 – Form available at the website of Election Commission) any person as his / her proxy to give vote on his / her behalf and in his / her name at the polling station. The proxy shall have to be ordinary resident of that constituency. He need not be a registered voter but he / she must not be disqualified to be registered as a voter.
- The provision for voting through proxy is valid till the person making the appointment is a service voter.

Sources: the hindu.

## **4. VVPAT**

#### **What to study?**

- For Prelims and Mains: What are VVPATs, why are they being used now and issues related to EVM tampering, other measures announced by ECI to enhance transparency during elections.

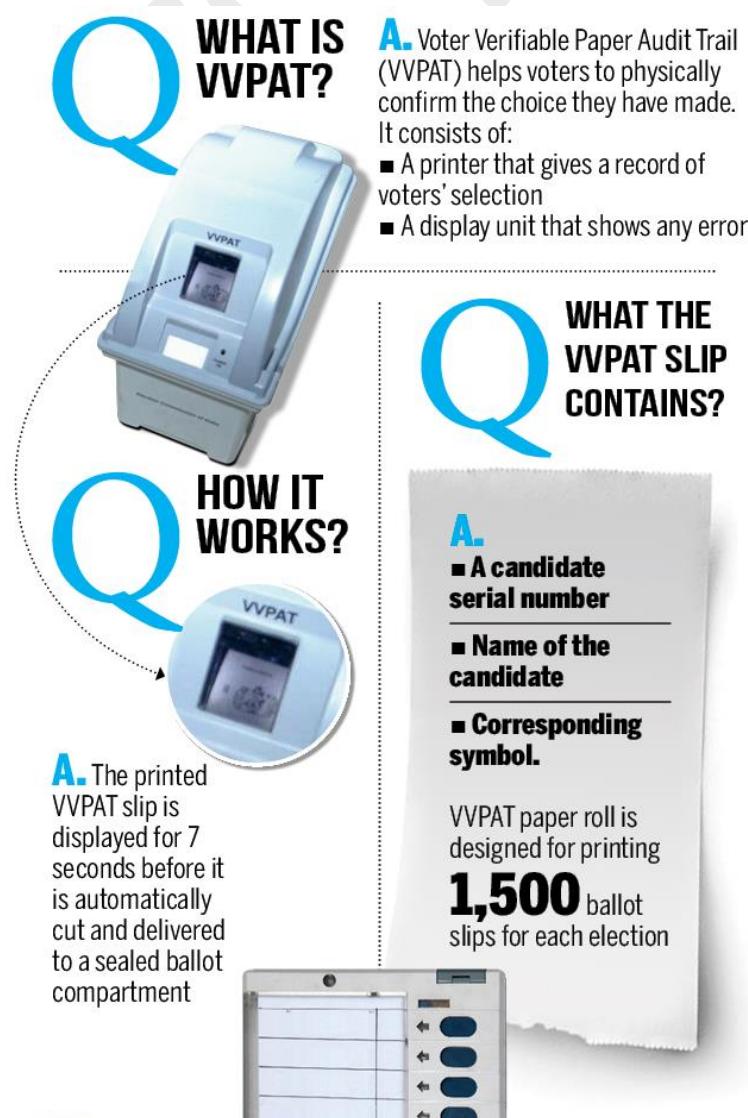
**Context:** The Supreme Court has directed the Election Commission of India (ECI) to increase the random matching of paper trail machine slips with EVM results from one to five polling booths in each assembly segment for the multiphase Lok Sabha polls. The move is aimed at bringing more "credibility" and "integrity" to the electoral process.

#### **What are VVPAT machines?**

- The Voter Verified Paper Audit Trail is a method that provides feedback to voters.
- It is an independent verification printer machine and is attached to electronic voting machines.
- It allows voters to verify if their vote has gone to the intended candidate.

#### **How do VVPAT machines work?**

- When a voter presses a button in the EVM, a paper slip is printed through the VVPAT.
- The slip contains the poll symbol and name of the candidate.



- It allows the voter to verify his/her choice. After being visible to the voter from a glass case in the VVPAT for seven seconds, the ballot slip will be cut and dropped into the drop box in the VVPAT machine and a beep will be heard.
- VVPAT machines can be accessed by polling officers only.
- VVPAT is a machine which dispenses a slip with the symbol of the party for which a person has voted for. The slip dropped in a box but the voter cannot take it home.

#### **Advantages in VVPATs:**

- Enables to verify vote: Instant feedback to voter that vote polled has been allocated to the intended candidate.
- Enables authorities to count the votes manually if there is a dispute in the electronically polled votes.
- Operates under a Direct Recording Election system (DRE) which detects fraud and existent malfunctions.
- Will ensure greater transparency in voting process.
- Gives both the voters and political parties an assurance.

Sources: the hindu.

## **5. PRESS COUNCIL GUIDELINES TO MEDIA ON POLL REPORTING**

#### **What to study?**

- For Prelims: About PCI.
- For Mains: Need for and significance of guidelines, the menace of fake news.

**Context:** The Press Council of India has issued **new guidelines**, urging the media to do objective reporting on the upcoming Lok Sabha elections and cautioning it against the phenomenon of paid news.

#### **Key Guidelines:**

- While reporting on the actual campaign, a newspaper may not leave out any important point raised by a candidate and make an attack on his or her opponent.
- The press should avoid reports which tend to promote feelings of enmity or hatred between people on the grounds of region, religion, race, caste, community or language.
- The press should refrain from publishing false or critical statements in regard to the personal character and conduct of any candidate or in relation to the candidature or withdrawal of any candidate or candidature, to prejudice the prospects of that candidate in the elections.
- The media shall not publish unverified allegations against any candidate or party.
- It should guard against paid news, which it defined as any news or analysis appearing in any form of media, print or electronic, for a price in cash or kind as consideration.
- The authorities should notify rules and orders regulating the entry of the media persons to places of election and the cut-off date for applying for passes should be given due and advance publicity.
- Whenever the newspapers publish pre-poll surveys, they should take care to preface them conspicuously by indicating the institutions that have carried on such surveys, the individuals and organisations that have commissioned them, the size and nature of sample selected and the method of selection of the sample for the findings.

#### **Way ahead:**

- Newspapers are not expected to indulge in unhealthy election campaigns, exaggerated reports about any candidate or party during the elections. It will be the duty of the press to give objective reports about the election and the candidates.

Sources: ie.

## **6. EC STALLS RELEASE OF BIOPICS**

#### **What to study?**

- For Prelims: EC's authority and jurisdiction and constitutional powers in this regard.
- For Mains: How biopics and such similar mediums influence voters during election times and what needs to be done?

### What is it?

- The Election Commission of India has banned the release of any biopic, including a film on Prime Minister Narendra Modi, which was scheduled to release on April 11, the same day when the seven-phase Lok Sabha elections are scheduled to begin.

### What has the EC ruled?

- Any poster or publicity material concerning any such certified content, which either depicts a candidate for the furtherance of electoral prospect, directly or indirectly, shall not be put to display in print media, without the prescribed instructions of pre-certification in the area where MCC is in operation.
- Any cinematograph material, certified by the appropriate authority, if there exists such a violation or on receipt of complaints in this regard, shall be examined by a committee duly constituted by the commission, which will then suggest appropriate action. The committee would be headed by a retired Justice of the Supreme Court or retired Chief Justice of any High Court.

### Why they should not be allowed?

- They have potential to disturb level playing field during the election. Creative contents that are claimed to either diminish or advance the electoral prospect of a candidate or a political party in the garb of creative freedom are a kind of surrogate publicity by the candidate or the political party during the period of MCC.
- Though the display materials claim to be a part of creative content, it is contended that these have propensity and potentiality to affect the level playing field, which is not in consonance with the provisions of the Model Code of Conduct.
- As these contents are incorporated in the storyline of the programmes being shown and there would be difficulty in proving the payment of money, they may not fall under the category of 'advertisement' strictly and may remain outside the purview of MCC certification requirement and thereby evade the directive given by the Supreme Court.
- According to the commission, such political contents pose a serious threat to the level playing field, as they may create an impression of the truthfulness of such content being shown through television, cinema, internet-based entertainment programmes or the social media.

### Background:

- Under Article 324 of the constitution, superintendence, directions and control of elections are bestowed upon the commission and it is its main duty to take necessary measures to create a level playing field and provide a conducive electoral environment to all the stakeholders.

### Conclusion:

- Free and fair elections has not only been held by the Hon'ble Supreme Court of India to be a part of the basic structure of the Indian Constitution (People's Union for Civil Liberties vs Union of India and Anr, 2013) but is also sacrosanct right of every citizen in a democracy.

Sources: the hindu.

## 7. ELECTORAL BOND SCHEME

### What to study?

- For Prelims: Key features of Electoral Bonds and highlights of the scheme.
- For Mains: Significance of the scheme, benefits and concerns associated.

**Context:** Softening its stand on electoral bonds for funding of political parties, the Election Commission has told the Supreme Court that it is not against such mode of donations as such but only the anonymity of donors, a stand stoutly opposed by the Centre which insisted that secrecy of political funding is important.

### What's the issue?

- A petition has been filed in the Supreme Court seeking to strike down the 'Electoral Bond Scheme 2018' and amendments in the Finance Act, 2017, which allow for "unlimited donations from individuals and foreign companies to political parties without any record of the sources of funding."

## Background:

- The Finance Bill, 2017 introduced “electoral bonds” — interest-free bearer bonds (like Promissory Notes) that can be purchased from specified branches of the State Bank of India in a designated 10-day window in every quarter of the financial year.
- The scheme, which was notified on January 2, 2018, allows individuals and domestic companies to present these bonds — issued in multiples of Rs 1,000, 10,000, 1 lakh, 10 lakh, and 1 crore — to political parties of their choice, which have to redeem them within 15 days.
- Buyers of the bonds have to submit full KYC details at the time of buying. But the beneficiary political party is not required to reveal the identity of the entity that has given it the bond(s).

## How will the Bonds help?

- The previous system of cash donations from anonymous sources is wholly non-transparent. The donor, the donee, the quantum of donations and the nature of expenditure are all undisclosed
- According to government the system of Bonds will encourage political donations of clean money from individuals, companies, HUF, religious groups, charities, etc. After purchasing the bonds, these entities can hand them to political parties of their choice, which must redeem them within the prescribed time.
- Some element of transparency would be introduced in as much as all donors declare in their accounts the amount of bonds that they have purchased and all parties declare the quantum of bonds that they have received.

## Key objections vs Government's arguments

### How govt defends its move?

- Electoral bonds have been introduced to promote transparency in funding and donation received by political parties.
- The scheme envisages building a transparent system of acquiring bonds with validated KYC and an audit trail. A limited window and a very short maturity period would make misuse improbable.
- The electoral bonds will prompt donors to take the banking route to donate, with their identity captured by the issuing authority. This will ensure transparency and accountability and is a big step towards electoral reform.

### Concerns expressed:

- The move could be misused, given the lack of disclosure requirements for individuals purchasing electoral bonds.
- Electoral bonds make electoral funding even more opaque. It will bring more and more black money into the political system.
- With electoral bonds there can be a legal channel for companies to round-trip their tax haven cash to a political party. If this could be arranged, then a businessman could lobby for a change in

## About Electoral bonds:

- **What are electoral bonds?** Electoral bonds will allow donors to pay political parties using banks as an intermediary.
- **Key features:** Although called a bond, the banking instrument resembling promissory notes will not carry any interest. The electoral bond, which will be a bearer instrument, will not carry the name of the payee and can be bought for any value, in multiples of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh or Rs 1 crore.
- **Eligibility:** As per provisions of the Scheme, electoral bonds may be purchased by a citizen of India, or entities incorporated or established in India. A person being an individual can buy electoral bonds, either singly or jointly with other individuals. Only the registered Political Parties which have secured not less than one per cent of the votes polled in the last Lok Sabha elections or the State Legislative Assembly are eligible to receive the Electoral Bonds.
- **Need:** The electoral bonds are aimed at rooting out the current system of largely anonymous cash donations made to political parties which lead to the generation of black money in the economy.

## How An Electoral Bond Works



Notified banks are chosen

The notified bank issues electoral bonds

The donor buys an electoral bond using a cheque/digital payment

The donor gives the party of his/her choice the bond within the specified timeframe

The party deposits the bond in an account, the details of which are with the Electoral Commission

policy, and legally funnel a part of the profits accruing from this policy change to the politician or party that brought it about.

- Electoral bonds eliminate the 7.5% cap on company donations which means **even loss-making companies can make unlimited donations**.
- **Companies no longer need to declare the names of the parties to which they have donated** so shareholders won't know where their money has gone.
- **They have potential to load the dice heavily in favour of the ruling party** as the donor bank and the receiver bank know the identity of the person. But both the banks report to the RBI which, in turn, is subject to the Central government's will to know.

#### **On what grounds has the scheme been challenged in court?**

- The petitioners have stated that the Electoral Bonds Scheme has "opened the floodgates to unlimited corporate donations to political parties and anonymous financing by Indian as well as foreign companies which can have serious repercussions on the Indian democracy".
- The scheme, they have said, has "removed the caps on campaign donations by companies and have legalised anonymous donations". This poses a "serious danger to the autonomy of the country and are bound to adversely affect electoral transparency, encourage corrupt practices in politics, and have made the unholy nexus between politics and corporate houses more opaque and treacherous and is bound to be misused by special interest groups and corporate lobbyists".

#### **The petitioners have raised four major objections:**

1. Ordinary citizens will not be able to know who is donating how much money to which political party, and the bonds "increase the anonymity of political donations".
2. The requirement to disclose in the profit and loss account the name of the political party to which a donation has been made, has also been removed.
3. With the removal of the 7.5% cap on the net profits of the last three years of a company, corporate funding has increased manifold, as there is now no limit to how much a company, including loss-making ones, can donate. This opens up the possibility of companies being brought into existence by unscrupulous elements primarily for routing funds to political parties through anonymous and opaque instruments like electoral bonds.
4. The contribution received by any eligible political party in the form of electoral bonds will be exempt from income-tax as per Section 13A of the Income Tax Act.

#### **Does the Election Commission agree?**

Not entirely. But it has its own concerns about the scheme. What are they?

- Certain provisions of the Finance Act, 2017 and corresponding amendments carried out in the Income-Tax Act, the Representation of the People Act, and the Companies Act will have serious repercussions/ impact on the transparency aspect of political finance/ funding of political parties.
- Any donation received by a political party through an electoral bond has been taken out of the ambit of reporting under the Contribution Report and if information on the money received through such bonds is not reported, it cannot be ascertained whether the political party has taken any donation in violation of provisions of the Representation of the People Act, which "prohibits the political parties from taking donations from government companies and foreign sources".
- Then there is also the issue of laws being changed to allow political parties to receive contributions from foreign companies, which would "allow unchecked foreign funding of political parties in India which could lead to Indian policies being influenced by foreign companies".

#### **What are the government's arguments on these issues?**

- The government has been defending the scheme on the ground that **it limits the use of cash in political funding, thus bringing more transparency, and provides a shield to donors by granting them anonymity**.
- The introduction of the scheme "**has brought in a marked shift from the old electoral system which suffered from many lacunas**" as "massive amounts of political donations were being made in cash, by individuals/corporates, using illicit means of funding" and identity of the donors was not known and "the 'system' was wholly opaque and ensured complete anonymity".

- All payments made for the issuance of the electoral bonds are accepted only by means of a demand draft, cheque or through the Electronic Clearing System or direct debit to the buyers' account. No black money can, therefore, be used for the purchase of these bonds.
- Buyers will have to comply with KYC requirements, and the beneficiary political party has to "disclose the receipt of this money and must account for the same". Also, limiting the time for which the bond is valid "ensures that the bonds do not become a parallel currency".
- According to the government, "non-disclosure of the identity of the donor is the core objective of the scheme... in order to safeguard the donor from political victimisation", and "the records of the purchaser are always available in the banking channel and may be retrieved as and when required by enforcement agencies".
- Donations through bonds received from a domestic company having a majority stake is permitted, subject to its compliance with KYC norms and FEMA guidelines. Therefore, the electoral bonds attempt at bringing greater transparency, ensuring KYC compliance and keeping an audit trail in comparison to the earlier opaque system of cash donations.

## 8. ROLE OF ELECTION COMMISSION

### What to study?

- For prelims and mains: what is mcc, powers of EC to regulate, limitations and reforms needed?

**Context:** Recently, Election Commission of India (EC) admitted to the Supreme Court that it was "toothless", and did not have enough powers to deal with inflammatory or divisive speeches in the election campaign.

### Where does the EC derive its powers and what is its extent?

- Article 324 says the superintendence, direction and control of all elections to Parliament, the State legislatures, and the offices of the President and Vice-President shall be vested in the EC. The Article has been interpreted by courts and by orders of the EC from time to time to mean that the power vested in it is plenary in nature.
- In other words, the EC can take any action it deems fit to ensure that elections and the election process are free and fair.

### Has the EC always been a multi-member body?

- No, the Election Commission was a single Chief Election Commissioner for decades since the body was set up in 1950 based on the provisions of the Constitution.
- It was on October 16, 1989, that two more Election Commissioners were appointed to expand the panel's composition. Their tenure ended in 1990.
- Thereafter, two Election Commissioners were appointed in 1993. Since then, the EC has been a three-member panel, with a Chief Election Commissioner and two Election Commissioners.

### How decisions are made and how are EC's different from CEC?

- Decision-making within the panel is by majority.
- While the CEC can only be removed in the manner set out for a Supreme Court judge, the other two Commissioners may be removed on the recommendation of the CEC.
- In 1995, the Supreme Court held that the Election Commissioners are on a par with the CEC and the latter is not superior in standing with the other Commissioners.
- The EC has been demanding that the protection and safeguards given to the CEC under the Constitution should also be extended to the other Election Commissioners.

### What kind of control does the EC have over civil servants during an election?

- As the superintendence and control over all aspects of the election process is vested in the EC, it exercises direction and control over civil servants deployed for election-related work. This means that bureaucrats engaged in the administrative aspects of elections, including police officers with law and order duties, are also amenable to the EC's jurisdiction.
- This power enables the EC to monitor both the manner in which civil servants perform their election-related duties, and prevent activities which may be seen as partisan.

- The EC often cites its vast powers under Article 324 to transfer or suspend officials during election time, even though they normally come under the disciplinary purview of the government of India or the State governments. There have been instances of the EC transferring not only Returning Officers, but also Commissioners of Police and Superintendents of Police.

#### **What are the possible actions it can take against candidates and parties?**

- The EC monitors the adherence of political parties and candidates to the 'Model Code of Conduct'.
- If the violations are also offences under election law and the criminal law of the land, the EC has the power to recommend registration of cases against the offenders.
- However, for some violations — such as canvassing for votes during a period when electioneering is barred, making official announcements while the MCC is in force, and making appeal to voters on sectarian grounds — the EC has the power to advise or censure candidates, in addition to directing registration of cases.
- In some cases, as recent incidents would show, the EC may bar candidates or leaders from campaigning for specified periods.
- Asking individuals to leave a constituency or barring entry into certain areas are other powers that the EC may exercise. These powers are not necessarily traceable to any provision in law, but are generally considered inherent because of the sweeping and plenary nature of the EC's responsibility under the Constitution to ensure free and fair elections.
- Its powers extend to postponing elections to any constituency, cancelling an election already notified, and even to abrogate or annul an election already held.

#### **What are the limitations of the EC's powers?**

- The EC does not have the power to disqualify candidates who commit electoral malpractices. At best, it may direct the registration of a case.
- The EC also does not have the power to deregister any political party. However, the Constitution empowers the EC to decide whether a candidate has incurred disqualification by holding an office of profit under the appropriate government, or has been declared an insolvent, or acquired the citizenship of a foreign state.
- When a question arises whether a candidate has incurred any of these disqualifications, the President of India or Governor has to refer it to the EC. The poll panel's decision on this is binding.

## **9. MCC AND RELIGION**

- The Election Commission of India has barred Uttar Pradesh Chief Minister Yogi Adityanath, Azam Khan of the Samajwadi Party, Maneka Gandhi of the BJP and BSP chief Mayawati for few days for making "highly provocative" speeches that could "aggravate existing differences and create mutual hatred between different religious communities".

#### **What MCC says?**

- Paragraph 1 the Model Code of Conduct forbids parties and candidates from indulging in "any activity which may aggravate existing differences or create mutual hatred or cause tension between different castes and communities, religious or linguistic".

#### **What do RPA and IPC say on this?**

- Invoking religion to seek votes, or making statements to the effect of creating disharmony between two communities, is a violation of the poll conduct and may invite prosecution under Section 125 of the Representation of the People Act, 1951 (Promoting enmity between classes in connection with election), Sections 153A, 153B, 171C, 295A and 505(2) of the Indian Penal Code and Religious Institutions (Prevention of Misuse) Act, 1988.

#### **What's worrisome?**

- The Election Commission's weakening commitment to the Model Code of Conduct is cause for concern. There are now perceptions that the ECI has responded inadequately, or not at all, to violations of the Model Code of Conduct (MCC), which is in effect from March 10 to May 23.
- Some examples in this election include the Prime Minister's announcement on national television of India's first anti-satellite weapon test, the Rajasthan Governor making statements in favour of the ruling party,

leaders of the ruling party invoking the Indian Army in their election campaign, and, in a spate of dubious media initiatives, a continuous line of statements along communal lines.

Challenges present:

- Electoral malpractice has appeared in new forms. **Voter bribery** and **manipulation through the media** have become the techniques of unethically influencing voters in place of voter intimidation and booth capturing. These malpractices are harder to stem.
- The ECI's capacity to respond to the older types of violations of the MCC has weakened. Its response to inappropriate statements by powerful political actors has been weak, or delayed. Consequently, political actors are regaining the confidence to flout the MCC without facing the consequences.
- As the ECI's capacity to secure a level playing field has dipped, attacks on it have increased. They now encompass its processes such as the use of electronic voting machines, which had become acceptable when the ECI was stronger. A vicious cycle has been set in motion.

Need of the hour:

- The Model Code of Conduct, which evolved from a draft code voluntarily approved by representatives of leading political parties in Kerala in February 1960, has been in place since 1962, when the Election Commission circulated it to all recognised parties.
- But a lot of time has passed, and the nature of elections and electioneering have undergone many changes. It is time to revise it thoroughly.

## 10. CRIMINALIZATION OF POLITICS

**What to study?**

- For Prelims: Salient features of RPA.
- For Mains: Criminalisation of politics- concerns, challenges and solutions.

**Why in News?** A famous religious head who has been charged in a bomb blast case is contesting the elections. This has raised concerns amongst various sections of society including Politicians as well. **The legal bar on contesting applies only to individuals who have been convicted by a court.**

**What does the RPA say on this?**

- Currently, under the **Representation of Peoples (RP) Act, lawmakers cannot contest elections only after their conviction in a criminal case.**
- Section 8 of the Representation of the People (RP) Act, 1951** disqualifies a person convicted with a sentence of two years or more from contesting elections. But those under trial continued to be eligible to contest elections. The Lily Thomas case (2013), however, ended this unfair advantage.

**Criminals in Politics:**

- Protecting the parliamentary system from criminalisation has been the intention of the law from the beginning.

**The trend:**

- According to the ADR's analysis of EC data, 187 MPs in the current Lok Sabha face criminal charges (that is, 34.4 per cent). Of them, 113 face serious criminal charges. The number has gone up from 162 (76 serious) charges in 2009 and 128 (58 serious) in 2004.

**Efforts by SC in this regard:**

- The SC has repeatedly expressed concern about the purity of legislatures.
- In 2002, **it made it obligatory for all candidates to file an affidavit before the returning officer, disclosing criminal cases pending against them.**
- The famous **order to introduce NOTA** was intended to make political parties think before giving tickets to the tainted.
- In its landmark judgment of March 2014, the SC accepted the urgent need for cleansing politics of criminalisation and directed all subordinate courts to decide on cases involving legislators **within a year**, or give reasons for not doing so to the chief justice of the high court.

**Main reasons for Criminalization:**

- Corruption
- Vote bank.
- Lack of governance.

### What is the way out?

There are three possible options.

- One, political parties should themselves **refuse tickets to the tainted**.
- Two, the RP Act should be amended **to debar persons against whom cases of a heinous nature are pending from contesting elections**.
- Three, **fast-track courts** should decide the cases of tainted legislators quickly.

### Other suggested measure to curb criminalization of politics:

- Bringing **greater transparency in campaign financing** is going to make it less attractive for political parties to involve gangsters.
- The Election Commission of India (ECI) should have the power to **audit the financial accounts of political parties**, or political parties' finances should be brought under the right to information (RTI) law.
- Broader governance will have to improve for voters **to reduce the reliance on criminal politicians**.
- The Election Commission must take adequate measures **to break the nexus between the criminals and the politicians**.
- **The forms prescribed by the Election Commission for candidates disclosing their convictions, cases pending in courts and so on in their nomination papers** is a step in the right direction if it applied properly.

### Conclusion:

- Corruption and criminalisation of politics is hitting at the roots of democracy. Therefore, Parliament must take steps urgently to curb this menace. Candidates and political parties must give wide publicity to criminal cases pending against her/him in the local media, both print and electronic, after s/he files nomination to contest elections.

Sources: Indian express.

(Q) What are the factors responsible for criminalization of politics in India. Discuss.

## 11. VOTING RIGHTS OF UNDERTRIALS AND CONVICTS

### What to study?

- For Prelims: Who can and who cannot cast their votes?
- For Mains: Should undertrials and convicts be allowed to vote- arguments 'For' and 'Against'.

**Context:** The Supreme Court is hearing a plea questioning **an electoral law which denies undertrials and convicts their right to vote**.

### Who can vote and who cannot?

- Under Section 62(5) of the Representation of the People Act, 1951, individuals in lawful custody of the police and those serving a sentence of imprisonment after **conviction cannot vote**. **Undertrial prisoners** are also excluded from participating in elections even if their names are on electoral rolls.
- Only those under **preventive detention** can cast their vote through **postal ballots**.

### Why they should be given voting rights?

- The voting ban is criticised on the ground that **it makes no offence-based or sentence-based classification** — that is, prisoners are debarred from voting irrespective of the gravity of the offence they have committed, or the length of their sentence. It also makes **no distinction between convicted prisoners, undertrials, and those in lawful police custody**.
- Besides, **a person is innocent until proven guilty by law**. Despite this, it denies an undertrial the right to vote but allows a detainee the same.

### What has the SC said on this?

- The SC has observed that a person is in prison because of his or her conduct, and cannot claim equal rights as others who are not incarcerated.

### Stats:

- The '**Prison Statistics India, 2014**' published by the **National Crime Records Bureau (NCRB)**, says there were 2,82,879 undertrials and 1,31,517 convicts lodged across 1,387 prisons in the country as on December 31, 2014.

- The provision **also violates the rights to equality, vote (Article 326) and is arbitrary**. It is not a reasonable restriction.

#### **Need of the hour:**

- **Undertrials should be allowed to vote.** This is because there are many people, awaiting trial, who have spent more time in prison than the actual term their alleged crime merits. Their numbers are much bigger than convicts.

#### **Global practice:**

- In Europe, Switzerland, Finland, Norway, Denmark, Ireland, the Baltic States, and Spain already allow prisoner voting.
- Countries like Romania, Iceland, the Netherlands, Slovakia, Luxembourg, Cyprus and Germany have opted for a middle path: Voting is allowed subject to certain permits and conditions such as the quantum of sentence served.
- They are only disenfranchised as an added penalty based on the gravity of the crime. Bulgaria allows for anyone sentenced to less than a decade to vote. In Australia, the limit is five years.

#### **Way ahead:**

- The **increasing realisation that progressive criminal justice reforms, including the right to vote in the prisons, are the way forward**, also stems from the fact that voter disenfranchisement has had an ugly history related to racism and oppression of the indigenous peoples in countries such as the US and Canada.
- “**Innocent until proven guilty**” is a central tenet of the justice system. In this context, prisoner voting can prove to be a major component of rehabilitative justice and a step towards the easier integration of these people into the mainstream after serving time.

Sources: the hindu.

## **12. A CRISIS OF CREDIBILITY?**

#### **Concerns:**

- Though considered a formidable institution in leading the world in electoral efficiency since its inception, the Election Commission of India (EC), in the 2019 general election, has come under the scanner like never before in the wake of incidents involving a breach of the Model Code of Conduct, particularly those by the ruling party.

#### **Incidents:**

- On April 8, in a letter to the President of India, a group of retired bureaucrats and diplomats, in the context of recent incidents, expressed concern over the EC's “weak kneed conduct” and the institution “suffering from a crisis of credibility today”.
- Prime Minister's March 27 announcement of India's first anti-satellite (ASAT) test is a “serious breach of propriety which amounts to giving unfair publicity to the party in power”.
- Questions were also raised over the launch of NaMo TV without licence, and a biopic on the life of the Prime Minister which was scheduled for release on April 11, when elections commenced.
- Other instances: Transfers of top officials, voter verifiable paper audit trail (VVPAT) audits, violations of the MCC by Rajasthan Governor Kalyan Singh and Uttar Pradesh Chief Minister Yogi Adityanath.

#### **Root of the problem:**

- The genesis of the problem lies in **the flawed system of appointment of election commissioners, who are appointed unilaterally by the government of the day**.
- The **system of removal of Election Commissioners** is also a cause of concern. Only the Chief Election Commissioner (CEC) is protected from being removed except through impeachment. The other two commissioners having equal voting power in the functioning of the EC can outvote the CEC 10 times a day. The uncertainty of elevation by seniority makes them vulnerable to government pressure.
- **The government can control a defiant CEC through the majority voting power of the two commissioners.**

- **The EC's reputation also suffers when it is unable to tame recalcitrant political parties, especially the ruling party.** This is because despite being the registering authority under Section 29A of the Representation of the People Act, 1951, **it has no power to de-register them even for the gravest of violations.**

What needs to be done?

- **Depoliticise appointments through a broad-based consultation**, as in other countries.
- In its 255<sup>th</sup> report, the Law Commission recommended a collegium, consisting of the Prime Minister, the Leader of the Opposition and the Chief Justice of India.
- Political stalwarts such as L.K. Advani, and former Chief Election Commissioners including B.B. Tandon and N. Gopalaswami supported the idea in the past even when in office.
- The Constitution enabled protection to the CEC as it was a one-man commission initially. This **must now be extend to other commissioners, who were added in 1993, as they collectively represent the EC.**
- **EC must be empowered "to de-register a political party**, particularly in view of its constitutional mandate".

Conclusion:

- Elections are the bedrock of democracy and the EC's credibility is central to democratic legitimacy. Hence, the guardian of elections itself needs urgent institutional safeguards to protect its autonomy.
- It is time that action is taken to depoliticise constitutional appointments and the EC empowered to de-register parties for electoral misconduct. It is a step needed towards restoring all-important public faith in the institution.

### **13. SUPREME COURT SEEKS EC RESPONSE ON PLEA AGAINST VOTER PROSECUTION**

**What to study?**

- For prelims: related provisions in News.
- For mains: need for protection of electors, concerns over misuse and reforms needed.

**Context:** The Supreme Court has sought a response from the Election Commission on a plea seeking abolition of a provision in election rules that provides for **prosecution of an elector** if a complaint alleging malfunctioning of EVMs and VVPATs turns out to be false.

**Rule 49MA:**

- A petition alleged that **Rule 49MA of 'The Conduct of Elections Rules'** was unconstitutional as **it criminalises reporting of malfunctioning of Electronic Voting Machines and Voter Verified Paper Audit Trails.**
- Under the rule, where printer for paper trail is used, if an elector after having recorded his vote under rule 49M alleges that the paper slip generated by the printer has shown the name or symbol of a candidate other than the one he voted for, **the presiding officer shall obtain a written declaration from the elector as to the allegation, after warning the elector about the consequence of making a false declaration.**
- The rules outline that **if after investigation, the allegation of EVM malfunctioning is found to be false or incorrect, then the complainant can be prosecuted under Section 177 of the Indian Penal Code for "furnishing false information".**
- In such a case, **a jail term of six months or a fine of Rs 1,000 or both is guaranteed.**

**Arguments and demands by the petitioner:**

- The **obligation of proving an allegation cannot be on the voter** when machines used for voting showed 'arbitrary deviant behaviour'.
- Putting the responsibility on the elector in cases of arbitrary deviant behaviour of machines used in the election process, **infringes upon a citizen's right to freedom of expression under the Constitution.**
- When an elector is asked to cast test vote as prescribed under Rule 49MA, he may not be able to reproduce the same result which he was complaining about, one more time in a sequence, because of the **pre-programmed deviant behaviour of the electronic machines.**
- Therefore, the plea argued that holding an elector accountable for deviant behaviours of EVMs and VVPATs could deter them from coming forth and making any complaint, which is essential for improving the process.

- Since **only an elector could be a witness to the secrecy of his vote cast**, it would violate Article 20(3) of the Constitution which says that no person accused of an offence shall be compelled to be a witness against himself.

#### **Need of the hour:**

- The plea sought a direction to the EC to register a complaint of any deviant behaviour of equipment used in the election process.
- The petition said that presently, the burden of proof rests on the elector for reporting any deviant behaviour of EVMs and VVPATs, who will face criminal charges irrespective of whether the complaint was truthful and honest.

Sources: The Hindu.

*Topics: Important aspects of governance, transparency and accountability, e-governance-applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.*

## **1. COMMUNITY RADIO STATIONS**

#### **What to study?**

- For Prelims: What are Community radio stations.
- For Mains: Significance of community radio stations and challenges faced by them.

**Context:** In a first of its kind initiative, the Election Commission of India has reached out to over 150 Community Radio stations from across the country to help educate and inform the voters.

#### **What is community radio?**

- Community radio is a type of radio service that caters to the interests of a certain area, broadcasting content that is popular to a local audience.
- Community radio is confined to a small geographical area. It serves a community which uses common resources for livelihood, has common development issues and concerns, which are relatively localized, nevertheless connected to national and regional development goals.
- Today, there are more than 180 community radio stations across India, broadcasting in languages like Bundelkhandi, Garhwali, Awadhi and Santhali — tongues that typically find little or no space on television.

#### **Challenges to the Community Radio:**

- Lack of journalistic and technical skills and thus a consistent demand for training.
- Community Radio derives its strength and popularity from community participation. In practise participation is harder than it seems, because it is labour intensive, requires the right attitude, skills and mobile equipment.
- Without proper management skills, as well as some knowledge of financial management and income generation, it is very hard for Community Radio to survive without donor funding.
- Community Radio is by definition relatively small and often situated in locations where basic services, like a constant supply of electricity, are lacking. Due to these conditions equipment suffers and needs to be vigorously maintained and/or regularly replaced.
- Absence of a clear regulatory framework in which Community Radio operates.

#### **Eligibility to apply for a Community Radio Station:**

As per the 2006 policy of the Government, an organisation desirous of operating a Community Radio Station (CRS) must be able to satisfy and adhere to the following principles:

- It should be explicitly constituted as a ‘non-profit’ organisation and should have a proven record of at least three years of service to the local community.
- The Community Radio Station should serve a specific well-defined local community.
- The ownership and management structure should be such that it reflects the community which it serves.
- It should only broadcast programmes that cater to the educational, developmental, social and cultural needs of the community.
- The organization must be a Legal Entity, it should be registered (under the registration of Societies Act or any other such act relevant to the purpose).

**Regarding the content, the two important provisions made are as follows:**

- At least 50% of content shall be generated with the participation of the local community, for which the station has been set up.
- Programmes should preferably be in the local language and dialect(s).

The CRS license thus given by the government entitled them to operate a 100-watt (Effective Radiated Power) radio station, with a coverage area of approximately a 12-km radius. A maximum antenna height of 30 meters is allowed.

## 2. RAILWIRE WI-FI

### What to study?

- For Prelims and Mains: About RailWire Wi-Fi and significance and about RailTel.

**Context:** RailWire Wi-Fi by RailTel is now live at 1600 railway stations across the country, with Santacruz railway station in Mumbai becoming the 1600<sup>th</sup> station to become a RailWire Wi-Fi zone.

### What is RailWire?

- **RailWire is a retail Broadband initiative of the RailTel.** It envisages extending broadband and application services to the public. RailTel is working to establish bringing fast and free Wi-Fi at all stations (except the halt stations) within a year.
- The Wi-Fi at 415 A, A1 and C category stations has been provided **in association with Google as the technology partner.** Wi-Fi connections at 200 stations were provided with support from the **Universal Service Obligatory Fund** of the Government of India.



### About RailTel:

- RailTel Corporation a "Mini Ratna (Category-I)" PSU of Ministry of Railways, is the largest neutral telecom services providers in the country owning a Pan-India optic fiber network covering all important towns & cities of the country and several rural areas covering 70% of India's population.
- RailTel is in the forefront in providing nationwide Broadband Telecom & Multimedia Network in all parts of the country in addition to modernization of Train operations and administration network systems for Indian Railways.
- With its Pan India high capacity network, RailTel is working towards creating a knowledge society at various fronts and has been selected for implementation of various mission-mode Govt. of India projects in the telecom field.

Sources: the hindu.

## 3. LATERAL ENTRY IN BUREAUCRACY

**Context:** In a move that was widely debated inside and outside the government for a year, the Union Public Service Commission (UPSC) has announced the results of nine lateral hires on contract at the level of joint secretary in various departments and ministries. **The move is a tipping point and marks a breach in the hegemony of the IAS.**

### Background:

- In 2014, the Centre had mooted the idea of allowing lateral entry from academia and the private sector at the joint-secretary level. Initially 10 such lateral entries were to be selected and had drawn criticism from the serving and retired members of the Indian bureaucracy.

### Rationale behind this move:

- The recruitments have been done in a bid to infuse domain expertise in key government departments and is aimed at bringing in specialized talent in various government departments, contributing to better governance.

### Why this is a good move?

- **Earlier experiences showed good results:** Lateral entry has been used in the past to harness top talent from outside the civil services. Mr. Manmohan Singh, Nandan Nilekani, Ahluwalia etc served at various positions in the government and have showed promising results on ground.
- **Helps in getting private sector expertise:** Various private sector experts have also been appointed as officers on special duty, ranked between under-secretary and secretary, to ministers. Institutionalising lateral entry, thus, makes it easier for the country to benefit from private sector/non-UPSC talent.
- **Deals with vacancy issue as well:** The move will also address the drying up of the talent pool at the top level as there is an overall shortfall of about 20% in just IAS officers in 24 state cadres. The 2016 BS Baswan committee report pointed out that many large states suffer from a pronounced deficit of IAS officers, leading to their reluctance to depute officers for central posting.
- **Lateral entry will also address many structural problems the present system suffers from:** The seniority criteria in promotions has meant many talented lower ranked officers take a long time to get appointed to posts where their skills could have significant impact in the immediate run.
- **Focuses on merit:** While the education threshold for eligibility in the current notification is set at the graduate-degree level, higher qualifications will be an advantage. The call is for outstanding individuals with expertise in the relevant fields.
- **Specialists:** The move could be a significant step towards fulfilling the longstanding need for domain specialists in positions crucial to policy-making and implementation of government schemes. Specialists coming from outside are likely to bring fresh ideas and help improve outcomes.

The idea is criticized due to the following reasons:

- Lateral entry system is a disruption as there is a risk that due process might not be followed and ill-qualified, political appointees will land up in senior positions of the government and hurt public interest.
- Lateral entry does open the risk and prospect of powerful corporate groups placing their men in key positions of government.
- Also people who are recruited in this way might lack ground experience and also have little idea about the administrative leviathan.

**(Q)** Lateral entry in government at Joint Secretary level comes not a day too soon. Critically analyze.

## 4. POLITICS AND THE MILITARY

**Context:** Recently, more than 150 senior military veterans, including several former service chiefs, wrote a letter to the President expressing their anguish over the ‘politicisation’ of the military.

### Concerns:

- Using military achievements for electoral gains is dangerous. The current political atmosphere is already vitiated by the use of communally polarising tactics. Exploiting India’s military, so far a remarkably politically neutral force, for partisan ends adds to the already morally degraded political environment in which the elections are taking place.
- It sends the signal to the top brass that there is nothing wrong in intermixing politics with the military. The eventual lesson they will learn is that they can interfere in the political process with impunity since the civilian leadership has already legitimised the military’s use in the political realm.
- In recent years, many senior serving officers have commented on important domestic and international issues, such as immigration and India-Pakistan relations, that until recently had been off limits for the military brass.

### Need of the hour:

- Political parties must forthwith desist from using the military, military uniforms or symbols, and any actions by military formations or personnel, for political purposes or to further their political agendas.

- Political leaders should not take credit for military operations such as cross-border strikes.

#### **Conclusion:**

- The use of the military for short-term political gains and the propensity of serving officers to make politically charged statements — augment each other. This nexus does not bode well for Indian democracy. This is an unprecedented development that needs to be reversed in order to preserve civilian supremacy over the armed forces and keep the political and military arenas distinct.

## **5. WORLD PRESS FREEDOM INDEX 2019**

#### **What to study?**

- For Prelims and Mains: About the index and its indicators, performance of India and other countries and measures to ensure freedom of press.

**Context:** The Reporters Without Borders (RSF) has released the **World Press Freedom Index 2019**, reflecting growing animosity towards journalists.

#### **Performance of various countries:**

- The index has been **topped by Norway again for the third year, followed by Finland and Sweden at second and third positions, respectively.**
- Only 24 percent of the 180 countries and territories were classified as “**good**” or “**fairly good**”, as opposed to 26 percent last year.
- Of all the world’s regions, Americas (North and South) suffered the **greatest deterioration**, falling by 3.6 percent, in its regional score.
- **The Middle East and North Africa region continues to be the most difficult and dangerous for journalists.**
- Syria (174th) continues to be **extremely dangerous for media personnel** and as does Yemen (168th).
- **The Asia-Pacific region continues to rank third last.** The number of murdered journalists was extremely high in Afghanistan, India and Pakistan. Disinformation is becoming a big problem in the region.

#### **Observations on India:**

- India’s rank dropped down to **140<sup>th</sup>** from **138<sup>th</sup>** in 2018, two points below the previous year.
- As per the Index, one of the most striking features of the current state of press freedom in India is **violence against journalists including police violence, attacks by Maoist fighters, criminal groups and corrupt politicians.**
- **The media coverage in the sensitive regions like Kashmir continues to be very difficult.** Even the entry of foreign reporters is prohibited in Kashmir and the Internet is often disconnected there.

#### **About World Press Freedom Index:**

- Published annually by **Reporters Without Borders since 2002**, the World Press Freedom Index measures the level of media freedom in 180 countries.
- It is **based on an evaluation of media freedom that measures pluralism, media independence, the quality of the legal framework and the safety of journalists.**
- It also **includes indicators of the level of media freedom violations in each region.**
- It is compiled by means of a questionnaire in 20 languages that is completed by experts all over the world. This qualitative analysis is combined with quantitative data on abuses and acts of violence against journalists during the period evaluated.

Sources: the hindu.

## **2019 Press Freedom Index**

Position	Country	vs. 2018
1	Norway	1 (0)
2	Finland	4 (+2)
3	Sweden	2 (-1)
...		
13	Germany	15 (+2)
...		
179	Eritrea	179 (+1)
179	North Korea	180 (+1)
180	Turkmenistan	178 (-2)

Source: Reporters Without Borders

*Topics: India and its neighbourhood- relations.*

## 1. SUSPENSION OF LOC TRADE

### What to study?

- For Prelims: What is LoC and how is it established, geographical extent and significance?
- For Mains: How is trade across LoC being misused, need for trade across LoC and what needs to be done?

**Context:** MHA has issued orders to suspend the LoC trade in Jammu & Kashmir. This action has been taken as the Government of India has been receiving reports that the Cross LoC trade routes are being misused by the Pakistan based elements for funnelling illegal weapons, narcotics and fake currency etc.

### Trade across LoC:

- LoC trade is meant to facilitate exchange of goods of common use between local populations across the LoC in Jammu & Kashmir.
- The trade is allowed through two Trade Facilitation Centres located at Salamabad, Uri, District Baramulla and Chakkan-da-Bagh, District Poonch.
- The trade takes place four days a week.
- The Trade is based on Barter system and zero duty basis.

### Why is it being suspended?

- **Large scale Misuse of LoC trade:** misused to push drugs, weapons and counterfeit currency into the Valley from across the border, as well as for trade in goods excluded from the list meant for cross-LoC trade. It has been revealed that the trade has changed its character to mostly third party trade and products from other regions, including foreign countries, are finding their way through this route.
- **Hawala:** Hawala, despite a severe crackdown, continues to exist as a channel through which Indians continue to send and receive money from abroad. In the case of Kashmir, the absence of banking channels must have exacerbated the situation. Unscrupulous and anti national elements are using the route as a conduit for Hawala money, drugs and weapons, under the garb of this trade.
- **Significant number of trading concerns engaged in LoC trade are being operated by persons closely associated with banned terrorist organizations** involved in fuelling terrorism/separatism.
- Some individuals have crossed over to Pakistan, and joined militant organizations. **Trading firms established by them are under the control of militant organizations and are engaged in LoC trade.**

**Suspension of LoC trade is a poorly-thought move that shrinks the space for manoeuvre in Kashmir and with Pakistan. Why trade across LoC is important?**

- **Confidence building In Kashmir**– Kashmir needs special specific confidence-building measures, and these need to be kept separate from the India-Pakistan relationship.
- **Symbolic Value**– Cross LoC interaction carried huge symbolic value in Kashmir, even though the trade itself has been far below its actual potential, and wasted up with red tape and the absence of banking facilities and telephone connections.
- **High Monetary Value**– its annual value grew from Rs 1 crore in 2008-09 to over Rs 3,000 crore at the present time.

### What can be done?

- **Monitoring of trade routes**- monitor the crossing points at Uri and Chakkan da Bagh through which it was taking place four times a week.

### Why trade should not be cancelled altogether?

- Signals loss of control –Calling off an entire trade route because it is being misused by some sends out the message that the government has lost control, as with the highway closure.
- Push to alienation –Plus, drawing increasingly tighter red lines in Kashmir, India only makes it more difficult for itself to get out of the corners it has painted itself into when the time for dialogue comes, as it will eventually.

### What is LoC?

- Originally known as the **Cease-fire Line**, it was redesignated as the “**Line of Control**” following the **Simla Agreement**, which was signed on 3 July 1972.
- The part of Jammu that is under Indian control is known as the **state of Jammu and Kashmir**. The Pakistani-controlled part is divided into **Azad Jammu and Kashmir** and **Gilgit–Baltistan**. The **northernmost point of the Line of Control is known as NJ9842**.
- Another ceasefire line separates the Indian-controlled state of Jammu and Kashmir from the Chinese-controlled area known as **Aksai Chin**.
- The **Line of Control divided Kashmir into two parts and closed the Jehlum valley route**.

## 2. INDIA'S RESPONSE TO CHINA'S BRI LINKED TO ITS TERRITORIAL CONCERNS:

**Context:** India has, once again, decided to not participate in **China's second Belt and Road Forum (BRF)** due on April 25, which is likely to be attended by around 40 heads of government.

### BRI:

- BRI consisting of the land-based belt, ‘**Silk Road Economic Belt**’, and ‘**Maritime Silk Road**’, aims to **connect the East Asian economic region with the European economic circle and runs across the continents of Asia, Europe and Africa**.
- BRI is China’s ambitious project announced in 2013. It **covers about 65% of the world population, 60% of the world GDP and over 70 countries in six economic corridors**.
- China is spending almost \$1 trillion to revive and renew the **overland and maritime trade links between China, Europe, West Asia, and East Africa through construction of modern ports linked to high-speed road and rail corridors**.

### India's concerns with BRI:

- India argues that the **BRI and China-Pakistan Economic Corridor project violates its sovereignty because it passes through the part of the Pakistan-occupied Kashmir** that belongs to India.
- **Debt trap:** BRI projects are pushing recipient countries into indebtedness, do not transfer skills or technology and are environmentally unsustainable.
- **China is planning to extend the CPEC to Afghanistan.** Meanwhile, Maldives, Nepal, Myanmar and Sri Lanka are eagerly pursuing potential BRI projects.
- Through OBOR, **China is countering the strategies of India in North East region and is promoting its greater presence in North East India**, part of which China claims as its own territory. This may have a security impact on India.
- **Tense bilateral relations with China**, deep mistrusts and India’s growing concerns over Chinese hegemonic intentions in South Asia and Indo-Pacific region make it practically unlikely that India will ever consider joining this project.
- **Military deployment:** The fact that the Chinese have begun to deploy 30,000 security personnel to protect the projects along the CPEC route makes it an active player in the politics of the Indian sub-continent. Clearly, this is a case of double standards.

### Way ahead for India:

- India now needs to **match ambition with commensurate augmentation of its capacities that allows it to be a net security provider in the Indian Ocean region**. This will require the government to not only overcome its chronic inability to take speedy decisions with respect to defence partnerships and procurement, but will also necessitate a sustained period of predictable economic growth; BRI can assist in the latter.
- **Chinese railways, highways, ports and other capacities can serve as catalysts and platforms for sustained Indian double-digit growth.** Simultaneously, India can focus on developing last-mile connectivity in its own backyard linking to the BRI—the slip roads to the highways, the sidetracks to the Iron Silk Roads.
- Currently, India has neither the resources nor the political and economic weight to put in place competitive and alternative connectivity networks on a global scale. Therefore, for the time being, it may be worthwhile to carefully evaluate those components of the BRI which may, in fact, **improve India's own connectivity to major markets and resource supplies and become participants in them just as we have chosen to do with the AIIB and the NDB**.

*Topics: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.*

## 1. INDIA GAINS ACCESS TO BOLIVIAN LITHIUM RESERVES

### What to study?

- For Prelims: Uses and significance of Lithium.
- For Mains: India's energy needs and significance of this bilateral agreement.

**Context:** India and Bolivia have signed an agreement for the development and industrial **use of lithium**, a prime component used to power electric vehicles and cell phones.

### Key facts:

- India and Bolivia agreed to forge a mutually beneficial partnership to facilitate Bolivian supplies of lithium Carbonate to India and foster joint ventures for lithium battery/cell production plants in India.
- This agreement will make **Bolivia**, which is known to **have one-fourth of the world's lithium reserves**, one of the **major provider of metal for India's e-mobility and e-storage needs**.
- The agreement **facilitates** mechanisms for the **commercialization of Lithium Carbonate and Potassium Chloride produced in Bolivia by Yacimientos de Litio Bolivianos Corporación (YLB – Corporación)**.

### Significance of the agreement:

- Bolivia is estimated to hold over **60% of the world's reserves for lithium** but has not yet started producing it commercially.
- **India is the second largest manufacturer of mobile phones in the world and has the ambitious goal of 30 per cent electric vehicles by 2030.** But **India imports all its lithium-ion batteries since India has no known sources of lithium**, and zero lithium-ion battery manufacturing capabilities currently.
- As a result, **India is heavily dependent on China, Taiwan and Japan for import**, especially of batteries required for portable electronics.
- With this agreement, **number of Indian companies setting up production capabilities in Bolivia goes up, as well as the import of lithium to India**.
- **Domestic production is also set to see a boost, from the automotive perspective.** Further, the arrival of hybrids and electric vehicles from as early as 2020 onwards, will **force manufacturers to look at local production**.
- This agreement could also turn out to be **the backbone for the recently launched FAME India policy (Faster Adoption and Manufacture of (Hybrid and) Electric Vehicles)** and will also give a substantial push to India's ambition to have at least 30 per cent of its vehicles run on electric batteries by 2030.

## 2. INDIA TO SET UP AGRICULTURE INSTITUTE IN MALAWI

### What to study?

- For Prelims and Mains: Need, objectives and significance of IAIARD, location of Malawi.

**Context:** India has signed an agreement with the National Bank for Agriculture and Rural Development Consultancy Service (NABCONS) for setting up the **India-Africa Institute of Agriculture and Rural Development (IAIARD) in Malawi**, a landlocked country in southeastern Africa.

- The agreement is a part of India's efforts to enhance capacity in the areas of agro-financing and entrepreneurship development for African countries.

### About India-Africa Institute of Agriculture and Rural Development (IAIARD):

- IAIARD will be a **Pan-African Institute** wherein trainees from Malawi and other African countries will be trained to develop their human resources and build their capacity.
- The entire expenditure on India faculty, their travel, logistics and training course expenses for students from other African countries will be borne by the Indian Government for an initial period of three years.
- IAIARD will develop training programmes in the areas of micro-financing and agro-financing, among others.

## Significance:

- This will be the first of its kind institute developed in an African country by India. This will further strengthen the bilateral relations between India and Malawi and that of India's relations with the African Union.

### 3. BANGLADESH-BHUTAN-INDIA-NEPAL (BBIN) INITIATIVE

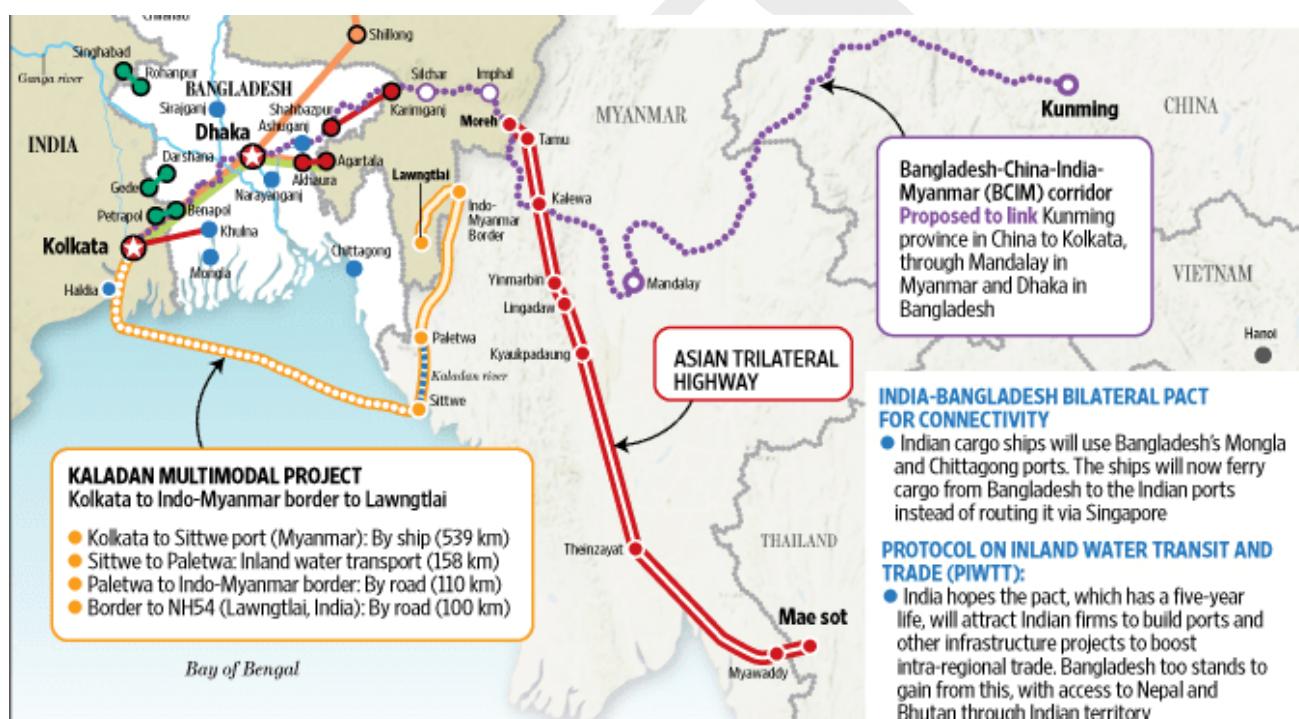
#### What to study?

- For Prelims and Mains: BBIN- features, need and significance.

**Context:** The Bhutan government has decided to send the bill for ratification of the **Bangladesh-Bhutan-India-Nepal (BBIN)** initiative for road and rail connectivity to its upper senate.

#### Background:

- **Bangladesh, Bhutan, India and Nepal (BBIN)** had signed a **framework MVA in June 2015** to enable movement of passenger and cargo vehicles across borders among the four countries. Bhutan has not yet ratified the pact for its entry to come into force.
- However, Bhutan had given its consent for the BBIN MVA to enter into force amongst the other 3 countries i.e. Bangladesh, India and Nepal, who have already ratified it.



#### About BBIN MVA:

- **What is it?** The landmark MVA was signed by Transport Ministers of the BBIN countries in Thimphu, Bhutan on 15 June 2015. As per the agreement, member countries would allow vehicles registered in the other countries to enter their territory under certain terms and conditions. Customs and tariffs will be decided by the respective countries and these would be finalised at bilateral and trilateral forums.
- **Objective:** The main objective of the agreement is to provide seamless people-to-people contact and enhance economic interaction by facilitating cross border movement of people and goods.
- **Benefits:** It would permit unhindered movement of passenger and cargo vehicles among the four countries. Cargo vehicles do not have to be changed at the border, a practice that has prevailed until now. The BBIN agreement will promote safe, economical efficient and environmentally sound road transport in the sub-region and will further help each country in creating an institutional mechanism for regional integration.

- **Assistance from ADB:** The Asian Development Bank (ADB) has been providing technical, advisory, and financial support to the BBIN MVA initiative as part of its assistance to the South Asia Sub regional Economic Cooperation (SASEC) program, a projects-based economic cooperation initiative that brings together the BBIN countries, Maldives, Sri Lanka and more recently, Myanmar. ADB is the secretariat of SASEC.

Sources: the hindu.

## 4. INDO-PACIFIC DIVISION

### What to study?

- For Prelims: About Indo- Pacific division and key facts related, Shangri- La dialogue.
- For Mains: Need, significance and potential of regional blocks, challenges posed by them.

**Context:** India has set up an **Indo-Pacific division** in the foreign office.

- The division will integrate the Indian Ocean Rim Association (IORA), ASEAN region and the Quad to the Indo-Pacific table.

### Significance:

- MEA's territorial divisions are crucial for policy making, so the creation of an Indo-Pacific division is a big step by the government. The new division is intended to give a coherent architecture to the policy, which was articulated by PM Narendra Modi at the **Shangri-La Dialogue in 2018**.

### Why is Indo- Pacific region significant for India?

- India is planning to put greater energy to the IORA because the heart of its Indo-Pacific policy is rooted in the Indian Ocean. **This integrates the blue economy part of the Indian policy with the security part.**
- In its Indo-Pacific diplomacy, India has repeatedly placed Asean at the centre of its policy. Asean by itself does not actually speak as a united entity, particularly when confronted by China's overwhelming presence, **for, while Asean is wary of China, it is equally wary of the US and its allies, preferring to keep the Asean region outside great power politics. It is this that India wants to address and engage with. Singapore, Vietnam and now Indonesia are key partners in the region for India. This will also involve the Quad and taking this new grouping to the region.**

**What constitutes Indo- Pacific region and why a cooperation among countries is necessary?**



- **Countries falling in the direct hinterland of the vast Indian and Pacific oceanic expanse are termed 'Indo-Pacific countries'.** It is a multipolar region, contributing more than half of the world's GDP and population. The motivation for a larger bloc always comes from the sheer size, resources it owns, and, the scope and size of the economies of scale that it can generate. This is, in fact, a region in which several Asian powers are once again rising, especially in geo-economic terms.
- An encouraging attribute of the Indo-Pacific construct is that it is driven by a host of developing countries and LDCs (least developed countries) and some important developed countries such as Japan, US and Australia. It is, thus, a near-perfect case of a multipolarity, which not only motivates greater South-South cooperation but also promotes North-South cooperation.
- It has several important regional trading blocs, many of which have implemented free trade agreements (FTAs) in goods and services and some of which have even been elevated to the Customs Union.
- The attributes of the Indo-Pacific are also highly appealing. The region comprises at least 38 countries that share **44 percent of world surface area and 65 per cent of world population**, and account for **62 per cent of world-GDP** and 46 per cent of the world's merchandise trade.

### Challenges:

- Indo-Pacific has all ingredients to generate regional trade and investment opportunities, thereby benefitting the people of the region.

- However, the region is highly heterogeneous in terms of economic size and level of development, with significant differences in security establishments and resources. It also faces complex challenges in terms of economy, security and the environment.

#### **Need of the hour:**

- The maintenance of peace, stability and security in, upon and over the seas; unimpeded lawful commerce; freedom of navigation and overflight and other internationally lawful uses of the oceanic and air space; and the protection and preservation of marine resources, as well as a sustainable and responsible fishery-framework, are all critical towards building a regional consensus on maritime security and cooperation in Indo-Pacific.

#### **What is the Shangri-La Dialogue?**

- The dialogue also called as **IISS Asia Security Summit was launched in 2002 by British think tank the International Institute for Strategic Studies and the Singaporean government.**
- This annual dialogue brings together defence ministers and military chiefs from 28 Asia-Pacific countries to talk about security in the region. **It gets its name from the location of the meeting, the Shangri-La hotel in Singapore.**

**(Q)** To fulfil ambitions in Indo-Pacific and beyond, India must work for a cohesive South Asia. Comment.

## **5. BANGLADESH- CHINA- INDIA- MYANMAR (BCIM) ECONOMIC CORRIDOR**

#### **What to study?**

- For prelims: About BCIM corridor and BRI, their geographical stretch.
- For mains: significance of these initiatives and concerns associated.

**Why in News?** India's decision to skip the **Belt and Road Forum (BRF)** may have led to the exclusion of the **Bangladesh- China- India- Myanmar (BCIM) Economic corridor** from the list of projects covered by the China-led Belt and Road Initiative (BRI) umbrella.

#### **Details of the issue?**

- Citing "sovereignty" concerns, India, for the second time, has not officially participated in the BRF, as CPEC—a flagship of the BRI—passes through Pakistan occupied Kashmir (PoK).
- In an annex tagged with the **Joint Communiqué of the Leaders' Roundtable of the BRF**, which concluded in Beijing recently, the Chinese foreign ministry website has not listed the BCIM as a project covered by the BRI—the giant connectivity initiative spearheaded by China to revive the ancient Silk Road across Eurasia and Africa.
- Instead, **South Asia is covered by three major undertakings—the China-Myanmar Economic Corridor (CMEC), the Nepal-China Trans-Himalayan Multi-dimensional Connectivity Network, including Nepal-China cross-border railway, as well as the China Pakistan Economic Corridor (CPEC).**

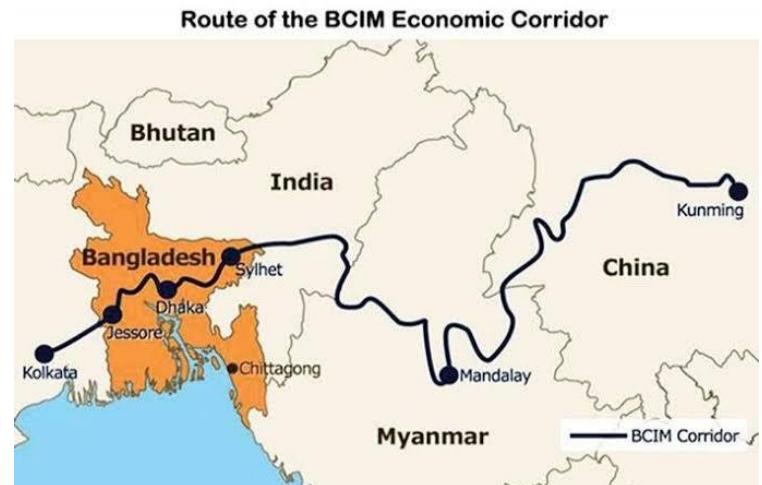
#### **About BCIM Economic Corridor:**

- The BCIM economic corridor aims to connect **Kolkata with Kunming, capital of the Yunnan province.**
- It envisages formation of a **thriving economic belt, focusing on cross-border transport, energy and telecommunication networks.**
- Starting from Kunming, the route passes through nodal points, such as **Spread**: Mandalay and Lashio in Myanmar. It heads towards Kolkata after passing through Manipur and Silchar, before crossing Bangladesh via Sylhet and Dhaka, with branches extending to the ports of Cox Bazar and Chittagong.

#### **Importance of BCIM:**

- India will benefit in terms of the development of the Kolkata port and the opening up of the economic potential of the **northeast states.**
- BCIM offers India an opportunity to create its own **win-win relationship with China.**
- India's gain from the BCIM includes the ability to connect to the One Belt, One Road project thus **opening up markets to the east.**
- It can also use the economic corridor for **negotiating downstream industries to be located within India.**

- With natural gas reserves of about 200 trillion cubic feet, the largest in the Asia-Pacific, **Bangladesh could become one of the major energy exporting countries.**
- Tourism** too will get a boost.
- BCIM can not only be a game-changer for this region in Asia, but is also **pivotal for India's 'Act East' Policy.**
- Economic Benefits include access to several booming markets in Southeast Asia, improvement of transport infrastructure and setting up of industrial zones.
- The regional connectivity would facilitate **cross-border movement of people and goods, reduce overland trade bottlenecks, ensure access and increase volume of trade.**
- Substantially **reduce transaction costs**, enhance trade and investment and poverty alleviation in the region.



#### Concerns:

- Indian critics of BCIM state that **China cannot be trusted**, and cite the divergent positions of the two countries on Arunachal Pradesh and PoK.
- Security is a very important aspect of BCIM that **ethnic insurgencies, terrorism, drug trafficking and the accompanying spread of HIV infections, smuggling, as well as cross-border human trafficking, threatened to derail the project.**

#### Need of hour:

- The immediate priority for India is to **build and upgrade infrastructure**, including roads, railway network, waterways and air connectivity within north-eastern states.
- Work on the **India-Myanmar-Thailand Trilateral Highway** joining India's Northeast with Thailand and other ASEAN members through Myanmar needs to be expedited. This network will provide connectivity between the isolated Northeast and the expanding economies of South East Asia.
- Similarly, the **Kaladan Multimodal Transit Transport Project** will help connect the Northeast with Myanmar as well as with West Bengal.
- Bangladesh, Bhutan, India, Nepal (BBIN)** needs to be accorded the highest priority as it has great potential to deliver rich dividends quickly.
- Emphasis on the implementation of Act East Policy.

#### Way ahead:

- In BCIM, a **step-by-step approach is desirable** in the form of people-centric projects in education, healthcare, skill development, tourism and cottage industries should be undertaken. Local talent, material and products should be utilised in this endeavour.
- China and India need to work together to bring about a fundamental change in their bilateral relations.

Sources: The Hindu.

(Q) How does the development Bangladesh, China, India and Myanmar (BCIM) project offer India an opportunity to create its own win-win relationship with China? Examine

*Topics: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.*

## 1. GENERALISED SYSTEM OF PREFERENCES (GSP)

#### What to study?

- For Prelims: Key features of GSP.
- For Mains: How US withdrawal affects India and how should India be prepared for this?

**Context:** The move by the United States (U.S.) to terminate India's designation as beneficiary developing country under the Generalized System of Preferences (GSP) programme because it no longer complied with the statutory eligibility criteria, is likely to affect plastic exports from India.

- Some of the product segments which may face a decline in exports to U.S. due to withdrawal of GSP concessions include plastics raw materials, consumer and houseware items and polyester films.

#### **Recent developments:**

Recently, U.S. President Donald Trump decided to rescind the benefits Indian exports enjoy under the Generalised System of Preferences (GSP) programme.

- The trigger for the latest downturn in trade ties was **India's new rules on e-commerce** that restrict the way Amazon.com Inc. and Walmart-backed Flipkart do business in a rapidly growing online market set to touch \$200 billion by 2027.
- That, coming on top of a drive to force **global card payments companies such as Mastercard and Visa to move their data to India** and the **imposition of higher tariffs on electronic products and smartphones**, left a broader trade package the two sides were working on through last year in tatters.

#### **Implications:**

- With this, India could lose a vital U.S. trade concession, under which it enjoys zero tariffs on \$5.6 billion of exports to the United States.

#### **Generalised System of Preferences (GSP):**

- The Generalized System of Preferences (GSP) is a U.S. trade program designed to promote economic growth in the developing world by providing preferential duty-free entry for up to 4,800 products from 129 designated beneficiary countries and territories.

#### **What is the objective of GSP?**

- The objective of GSP was to give development support to poor countries by promoting exports from them into the developed countries. GSP promotes sustainable development in beneficiary countries by helping these countries to increase and diversify their trade with the United States.

#### **Benefits of GSP:**

- Indian exporters benefit indirectly** – through the benefit that accrues to the importer by way of reduced tariff or duty free entry of eligible Indian products
- Reduction or removal of import duty on an Indian product makes it **more competitive to the importer** – other things (e.g. quality) being equal.
- This tariff preference helps new exporters to penetrate a market and established exporters to increase their market share** and to improve upon the profit margins, in the donor country.

#### **What is the difference between GSP and the usual trade arrangement under WTO?**

- Under the normal trade laws, the WTO members must give equal preferences to trade partners. There should not be any discrimination between countries. This trade rule under the WTO is called the Most Favored Nation (MFN) clause.
- The MFN instructs non-discrimination that any favorable treatment to a particular country.** At the same time, the WTO allows members to give special and differential treatment to developing countries (like zero tariff imports). This is an exemption for MFN. The MSP given by developed countries including the US is an exception to MFN.

#### **What is the impact of GSP withdrawal on India?**

- India exports nearly 50 products of the 94 products on which GSP benefits are stopped. The GSP removal will leave a reasonable impact on India as the country enjoyed preferential tariff on exports worth of nearly \$ 5.6 billion under the GSP route out of the total exports of \$48 bn in 2017-18.
- Removal of GSP indicate a tough trade position by the US; especially for countries like India who benefited much from the scheme.** India is the 11th largest trade surplus country for the US and India enjoyed an annual trade surplus of \$ 21 bn in 2017-18.

Sources: the hindu.

(Q) Write a note on the generalised system of preferences (GSP) system and its impact on India.

## 2. US TO DESIGNATE IRAN REVOLUTIONARY GUARD A TERRORIST GROUP

### What to study?

- For Prelims and Mains: About the move, intentions behind, significance and implications on other countries.

**Context:** President Donald Trump has announced the United States is designating **Iran's elite military force**, the Islamic Revolutionary Guard Corps (**IRGC**), a terrorist organisation.

- The move could have widespread implications for U.S. personnel and policy in the Middle East and elsewhere. **This will mark the first such designation by any American administration of an entire foreign government entity.**

### Implications:

- The designation comes with sanctions**, including freezes on some assets and a ban on Americans doing business with the group.
- The “unprecedented” move “**recognises the reality that Iran is not only a state sponsor of terrorism, but that the IRGC actively participates in, finances, and promotes terrorism as a tool of statecraft.**”
- Businesses and banks around the world now have a clear duty to ensure that companies with which they conduct financial transactions are **not conducted with the IRGC in any material way.**
- The measure would **criminalise contact with the Guards and enable the prosecutors to bring charges to those that bring material support to the IRGC.**
- Russia and China may start designating U.S. agencies for punitive actions.**
- Iraq could be caught in a double bind**, as it purchases electricity from Iran, including from entities tied to the IRGC.
- The designation is likely to complicate U.S. actions in Iraq**, where U.S. troops work to prevent the resurgence of the Islamic State and where Shiite militias tied to the IRGC operate close by. The IRGC is also tied to Hezbollah in Lebanon, where the political wing of the terrorist group is part of the government.
- The designation puts further distance between Trump’s policies toward Iran and those of European allies** who remain a part of the nuclear deal.

### Background:

- The move continues the administration’s aggressive posture toward Iran, which includes U.S. withdrawal from the 2015 nuclear deal with Tehran.
- The administration had previously named the IRGC as a supporter of terrorism conducted by militias it supports, but stopped short of listing it as a foreign terrorist organization in 2017. In 2018, Trump withdrew the United States from the international nuclear deal with Iran.

### About Islamic Revolutionary Guard Corps:

- The Islamic Revolutionary Guard Corps was formed after the 1979 Islamic revolution with a mission to defend the clerical regime. **It is a military unit originally set up as security for Iran's clerical rulers.**
- It has grown to be the country’s most powerful security organization, with nearly unchecked political influence and interests in business, real estate and other areas of the economy.

Sources: the hindu.

## 3. CHINA'S BRI

### What to study?

- For Prelims: Key features of BRI.
- For Mains: India’s concerns, ways to address them and global implications of the project.

**Context:** Malaysia will resume work on the multi-billion dollar **East Coast Rail Link (ECRL)** after months of negotiations with the China Communications Construction Company (CCCC) and the Chinese government brought

the cost down by a third. **China** is building a **deep-sea port** on **Malaysia's east coast** and the railway is a key link in its Belt and Road Initiative.

#### India's concerns with BRI:

- India argues that the BRI and China-Pakistan Economic Corridor (CPEC) project violates its sovereignty because **it passes through the part of the Pakistan-occupied Kashmir (pok) that belongs to India**.
- **Debt trap:** BRI projects are pushing recipient countries into indebtedness, do not transfer skills or technology and are environmentally unsustainable.
- **China is planning to extend the CPEC to Afghanistan.** Meanwhile, Maldives, Nepal, Myanmar and Sri Lanka are eagerly pursuing potential BRI projects.
- **Through OBOR, China is countering the strategies of India in North East region** and is promoting its greater presence in North East India, part of which China claims as its own territory. This may have a security impact on India.
- **Tense bilateral relations with China, deep mistrusts and India's growing concerns** over Chinese hegemonic intentions in South Asia and Indo-Pacific region make it practically unlikely that India will ever consider joining this project.
- **Military deployment:** The fact that the Chinese have begun to deploy 30,000 security personnel to protect the projects along the CPEC route makes it an active player in the politics of the Indian sub-continent. Clearly, this is a case of double standards.

Sources: the hindu.

#### What is BRI?

- **BRI consisting of the land-based belt, 'Silk Road Economic Belt', and 'Maritime Silk Road'**, aims to connect the East Asian economic region with the European economic circle and runs across the continents of Asia, Europe and Africa.
- **BRI is China's ambitious project announced in 2013.** It covers about 65% of the world population, 60% of the world GDP and over 70 countries in six economic corridors.
- China is spending almost \$1 trillion to revive and renew the overland and maritime trade links between China, Europe, West Asia, and East Africa through construction of modern ports linked to high-speed road and rail corridors.

#### China's Belt & Road Initiative



**(Q)** Why is India not part of the Belt and Road Initiative (BRI)? Does India's absence matter to China? Critically examine.

## 4. LEGISLATION TO STRENGTHEN US-INDIA STRATEGIC PARTNERSHIP

### What to study?

- For Prelims and Mains: Key features and significance of the bill, implications if enacted, overview of NATO.
- Context:** US lawmakers introduce new legislation to strengthen US-India strategic partnership- **The bill H R 2123.**

### Implications:

- If enacted, the new bill would ensure that the US State Department **treats India as a NATO ally** for the purposes of the Arms Export Control Act.
- The law would send a powerful signal that **defence sales to India** should be prioritised according to **US-India Strategic Partnership Forum**, which had worked on this important legislation.
- The legislation bolsters national security and helps ensure full alignment between the Department of Defence and the Department of State.

### Need:

- India is the world's largest democracy, a pillar of stability in the region and has shown strong commitments to export control policies.
- This adjustment to US law will further allow the US-India partnership to flourish in line with the US's security commitment to the Indo-Pacific region.

### Background:

- The **National Defense Authorization Act (NDAA) for fiscal 2017** included special language recognising the unique US-India defence relationship that designated India as a "Major Defence Partner" of the United States. The language seeks unique consideration for trade and technology sharing with India and increased attention and support to advance this relationship in the areas of defence trade and technology sharing.
- To fulfil the spirit and intent of the NDAA 2017, the US-India Enhanced Cooperation Act would amend the Arms Export Control Act** to put India on par with NATO allies and Israel, South Korea, New Zealand, Australia and Japan.

Sources: bs.

**(Q)** In the light of designation of India as "Major Defence Partner" by the US, do you think India's recent behaviour with Pakistan and Afghanistan is upholding regional peace in South Asia? Critically comment.

## 5. US SANCTIONS ON IRAN

**Context:** The U.S. has decided that it will not renew exemptions from its sanctions for importing oil from Iran. The US will not issue any additional Significant Reduction Exceptions [SREs] to existing importers of Iranian oil.

- US has continued to apply maximum pressure on the Iranian regime until its leaders change their destructive behaviour, respect the rights of the Iranian people, and return to the negotiating table.

### Impact on countries:

- India, China and U.S. allies Japan, South Korea and Turkey** will be the most impacted by the non-renewal of waivers. The other three currently exempted countries — **Italy, Greece and Taiwan** — have already reduced their **imports to zero**.

### Implications:

- High Costs on oil imports.**
- The threat to oil shipments** –Iran has threatened to shut down the **Strait of Hormuz**, a key channel for global oil shipments, which would further lead to inflationary trends, not just for oil but other commodities too.
- Any direct backlash from Iran for its decision will also jeopardise India's other interests in the country**, including its considerable investment in the Chabahar port, which India is building as an alternative route for trade to Central Asia.
- Current account deficit:** Higher crude oil prices will widen the trade deficit and current account deficit, given that the value of imports goes up with crude oil, and that the quantity imported tends to be sticky in general.

- **Rupee:** The currency could be impacted if the trade and current account deficits were to widen. An increase in the import bill will tend to put pressure on the rupee. The coefficient of correlation between the absolute value of exchange rate and Brent between April 1, 2019 and April 22, 2019 was high at 0.62, the data show.
- **Inflation:** There could be significant impact on inflation, given how crude oil prices move and the extent to which the government allows the pass-through to the consumer. Analysts do not expect a full pass-through until the elections are over. The crude oil price could be an important consideration when the Monetary Policy Committee meets for its bi-monthly meeting in June.
- **Fiscal impact:** There could be a two pronged impact on government finances — both on the revenue side and on the expenditure side. On the revenue side, higher oil prices mean more revenue for the states as tax is ad valorem; for the Centre, though, it may not materially impact the fiscal math as the duty rates are fixed.

#### **What happens if India continues to import oil from Iran?**

- The U.S. has made it clear that Indian companies that continue to import oil from Iran would face severe **secondary sanctions**, including being taken out of the SWIFT international banking system and a freeze on dollar transactions and U.S. assets.

#### **Background:**

- India had received six-month reprieve, from November 2018 to May 2019, from the U.S. in the form of sanctions waivers to import Iranian oil. India had also received the exemption to continue developing the Chabahar port.

#### **What would this mean?**

- **Caving under pressure-** India's position is not very convincing. India has now decided to cave in to U.S. pressure on the issue less than a year after External Affairs Minister Sushma Swaraj said that **India would recognise only UN sanctions, not "unilateral" ones.**

#### **Way ahead for India:**

- **Alternative Energy Sources** – The government's focus is now on finding alternative sources of energy, and minimising the impact on the Indian market.

#### **About India's Oil Import:**

- India is the **world's third-largest** consumer of oil.
- With 85 per cent of its crude oil and 34 per cent of its natural gas requirements being fulfilled by imports.
- In 2016, India imported 215 million tonnes of crude oil and at 13 per cent, Iran stood third among India's biggest oil suppliers, after Saudi Arabia and Iraq at 18 per cent each.

## **6. EXIT VISA SYSTEM AND KAFALA**

#### **What to study?**

- For prelims: what is exit visa system and what is Kafala, countries implementing these laws.
- For mains: why it's time to end these archaic laws?

**Context:** Qatar is set to abolish its controversial **exit visa system** for all foreign workers by the end of 2019. The new law allows most workers to leave the country without exit permits from their employers.

#### **Background:**

- Qatar has introduced a series of labour reforms since its selection as the **2022 World Cup host**, with the event setting in motion a huge construction programme employing foreign workers.
- In September 2018, Qatar approved legislation to scrap the "**kafala**", or sponsorship, system which required that foreign workers obtain permission from their employers to leave the country.
- As part of its pledge to reform the labour section, Qatar has also introduced a **monthly minimum wage of 750 riyals (\$206) and agreed to work closely with the ILO, which now has an office in the capital.**

#### **What is kafala?**

- The 'kafala' system is a **system that lays down obligations in the treatment and protection of foreign 'guests'**. Kafala means 'to guarantee' or 'to take care of' in Arabic.

- Under the system, a migrant worker's immigration status is legally bound to an individual employer or sponsor ('kafeel') during the contract period. The migrant worker cannot enter the country, transfer employment nor leave the country for any reason without first obtaining explicit written permission from the kafeel.

#### **When did the kafala system start?**

- The kafala system began in the 1950s when several Middle East countries started hiring foreign workers to accelerate development following the discovery of oil.

#### **Why it should be abolished?**

- Human rights groups say the migration management system **enables exploitation and forced labor**—labor extracted by under the threat of penalty, and not offered voluntarily by the worker.
- The media have likened employment conditions under kafala to "**modern-day slavery**".
- Some migrant workers end up **absconding from their employers to seek refuge elsewhere**. In the Gulf states, **absconding is considered a crime and that leads to indefinite detention and deportation**.
- Complaining puts them in conflict with their sponsor**, who has the power to cancel their residence visa and have them deported.
- The kafala directly **contradicts the labour law**. The employer can dictate the recruitment process and working conditions.
- It restricts labour mobility**. It prohibits any mobility on part of the worker unless approved by the kafeel. If the kafeels are unwilling to let them go, workers cannot leave them for better employment.

Sources: The Hindu.

(Q) What is 'kafala' labour system? Qatar is set to abolish this system. Discuss its significance.

#### **Where is the kafala system practiced?**

- It is being practiced in the **Gulf Cooperation Council (GCC) member countries** of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates, and also in the Arab states of **Jordan and Lebanon**.

## **7. US PLACES INDIA ON 'PRIORITY WATCH LIST'**

#### **What to study?**

- For prelims: special 301 report, what is priority watch list?
- For mains: why is India placed under this list, concerns, implications and what needs to be done?

**Context:** The United States has **again** placed **India** on its '**Priority Watch List**'.

- India has been on the priority watch list reportedly for over **25 years**, for "lack of sufficient measurable improvements to its IP framework that have negatively affected US right holders".
- The office of the US Trade Representative identified 11 countries, including India, in its '**Priority Watch List**'. The list topped by China also includes Indonesia, Russia, Saudi Arabia and Venezuela. Besides this, the US Trade body has placed 25 countries, including Pakistan, Turkey and the UAE, on the watchlist.

#### **What is priority watch list?**

- "**Priority Watch List**" and "**Watch List**" countries are identified by the annual Special 301 Report. "**Priority Watchlist countries**" are judged by the USTR as having "serious intellectual property rights deficiencies" that require increased USTR attention.
- "**Watch List**" countries have been identified by the USTR as having "serious intellectual property rights deficiencies" but are not yet placed on the "**Priority Watchlist**". The USTR can move countries from one list to the other, or remove them from the lists, throughout the year.

#### **Why India is placed under this?**

- Lack of sufficient measurable improvements to its Intellectual Property (IP) framework** on long-standing and new challenges, which has negatively affected American right holders over the past year. India remains one of the world's most challenging major economies with respect to protection and enforcement of IP.
- Long-standing IP challenges facing US businesses in India include** those which make it difficult for innovators to receive and maintain patents in that country, particularly for pharmaceuticals, insufficient enforcement actions, copyright policies that do not properly incentivise the creation and commercialisation of content, and an outdated and insufficient trade secrets legal framework.

- India also further restricted the transparency of information provided on state-issued pharmaceutical manufacturing licenses, and expanded the application of patentability exceptions to reject pharmaceutical patents.
- India also missed an opportunity to establish an effective system for protecting against the unfair commercial use, as well as the unauthorised disclosure, of undisclosed test or other data generated to obtain marketing approval for certain agricultural chemical products.
- Last year it engaged with India to secure meaningful IP reforms on long-standing issues, including patentability criteria, criteria for compulsory licensing and protection against unfair commercial use, as well as unauthorised disclosure, or test of other data generated to obtain marketing approval for pharmaceutical products.

#### **Implications:**

1. Countries under priority watch list will be the subject of increased bilateral engagement with the USTR to address Intellectual Property (IP) concerns.
2. USTR would be reviewing the developments against the benchmarks established in the **Special 301 action plans** for countries that have been on the 'Priority Watch List' for multiple years.
3. For countries that fail to address US' concerns, the **USTR will take appropriate actions, such as enforcement actions under Section 301 of the Trade Act or pursuant to World Trade Organisation or other trade agreement dispute settlement procedures**, necessary to combat unfair trade practices and to ensure that trading partners follow through with their international commitments.

#### **What needs to be done- demands by USTR?**

- To maintain the integrity and predictability of IP systems, governments should use **compulsory licenses** only in extremely limited circumstances and after making every effort to obtain authorisation from the patent owner on reasonable commercial terms and conditions.
- Such licenses should **not be used as a tool to implement industrial policy**, including providing advantages to domestic companies, or as undue leverage in pricing negotiations between governments and right holders.
- It is also critical that **foreign governments ensure transparency and due process in any actions related to compulsory licenses**.
- India has yet to take steps to address long-standing patent issues that affect innovative industries.

Sources: The Hindu.

*Topics: Important International institutions, agencies and fora, their structure, mandate.*

## **1. COMPREHENSIVE CONVENTION ON INTERNATIONAL TERRORISM (CCIT)**

#### **What to study?**

- For Prelims: CCIT- key facts.
- For Mains: Significance and the need for convention, terrorism- threats, concerns and need for international cooperation in curbing.

**Context:** In the wake of growing threats and acts of terrorism across the world, India and Bolivia have called for an early finalisation of **Comprehensive Convention on International Terrorism (CCIT)**.

#### **Concerns expressed by various countries:**

- **US + allies:** concerns over definition of terrorism, including acts by US soldiers in international interventions without UN mandate.
- **Latin American countries:** concerns over international humanitarian laws being ignored.
- There are also concerns that convention will be used to target Pakistan and restrict rights of self-determination groups in Palestine, Kashmir etc.

#### **CCIT:**

- The Comprehensive Convention on International Terrorism is a proposed treaty which intends to criminalize all forms of international terrorism and deny terrorists, their financiers and supporters access to funds, arms, and safe havens.
- It is a **draft proposed by India in 1996** that is **yet to be adopted by the UNGA**.

#### **What does it call for?**

- Universal definition of terrorism: no good terrorist or bad terrorist.
- Ban on all groups regardless of country of operation, cut off access to funds and safe havens.
- Prosecution of all groups including cross border groups.
- Amending domestic laws to make cross-border terror an extraditable offence.
- It also addresses, among other things, the issue of Pakistan's alleged support for cross-border terrorism in south Asia.

## 2. INTERNATIONAL SOLAR ALLIANCE

### What to study?

- For Prelims and Mains: ISA- key facts, significance and India's solar power potential.

**Context:** Bolivia has joined the International Solar Alliance by signing the framework agreement on International Solar Alliance.



### Background:

- The agreement of the International Solar Alliance was open for signature during the **COP22 at Marrakech on November 15, 2016**. The signatories of the agreement include India, France, Australia, UAE, UK, Japan amongst others.

### About ISA:

- The **International Solar Alliance (ISA)** is an alliance of more than 122 countries initiated by India, most of them being **sunshine countries**, which lie either completely or partly between the Tropic of Cancer and the Tropic of Capricorn, now extended to all members of UN.
- The **Paris Declaration** establishes ISA as an alliance dedicated to the promotion of solar energy among its member countries.
- Objectives:** The ISA's major objectives include global deployment of over 1,000GW of solar generation capacity and mobilisation of investment of over US\$ 1000 billion into solar energy by 2030.
- What it does?** As an action-oriented organisation, the ISA brings together countries with rich solar potential to aggregate global demand, thereby reducing prices through bulk purchase, facilitating the deployment of existing solar technologies at scale, and promoting collaborative solar R&D and capacity building.
- When it entered into force?** When the ISA Framework Agreement entered into force on December 6th, 2017, ISA formally became a de-jure treaty based International Intergovernmental Organization, headquartered at Gurugram, India.

### ISA Programmes

- Scaling Solar Applications for Agricultural Use
- Affordable Finance at Scale
- Scaling Solar Mini Grids
- Scaling Rooftop Solar
- Scaling Solar E-Mobility & Storage

**(Q)** Examine the key objectives of the International Solar Alliance (ISA) and the challenges it faces today.

## 3. PRESIDENT OF WORLD BANK

### What to study?

- For Prelims and Mains: Procedure and criteria for the post of President of World Bank, functions.

**Context:** **David Malpass** has been appointed as the President of World Bank. He was nominated by the US president Donald Trump.

### Appointment of the President of World Bank:

As per the guidelines of the World Bank, the World Bank president must have:

- A proven track record of leadership.
- Experience managing large organizations with international exposure, and a familiarity with the public sector.
- Ability to articulate a clear vision of the Bank's development mission.
- A firm commitment to and appreciation for multilateral cooperation.
- Effective and diplomatic communication skills, impartiality, and objectivity.

### Who can nominate?

- Executive directors of the World Bank can nominate candidates for the post and the candidate must be citizens of one of the bank's member countries and cannot be a bank governor, executive director or alternate.

- If there are more than three candidates, there would be a shortlisting process to narrow the field through an informal straw poll. Then the shortlisted candidates will be interviewed by the board. The board will then make a final selection through a majority vote.

#### **Number of votes needed to win:**

- To win the presidency of the World Bank, a candidate must win approval from the institution's executive board, which has 25 members. The US holds a 16% share of board voting power hence more often it is the US-backed candidate gets elected for the post of the president.

Sources: the hindu.

## **4. INTERNATIONAL MARITIME ORGANISATION (IMO)**

#### **What to study?**

- For Prelims and Mains: Overview of new rules and their significance, IMO- composition, objectives and functions, FAL convention.

**Context:** International Maritime Organisation (**IMO**) has launched new rules to introduce electronic information exchange between ships and ports for national governments.

- Its objective is **to make cross border trade easy and hassle free**. It was important measure because 10 billion tonnes of goods are traded by sea annually across the globe.

#### **Background:**

- The requirement, mandatory under IMO's Convention on Facilitation of International Maritime Traffic (FAL Convention), is part of amendments under the revised Annex to the FAL Convention, adopted in 2016.

#### **What is Facilitation of International Maritime Traffic (FAL Convention)?**

- Adopted in 1965, the main objective of the convention is **to achieve the most efficient maritime transport as possible, looking for smooth transit in ports of ships, cargo, and passengers**.
- The Convention encourages the use of a "single window" for data, to enable all the information required by public authorities in connection with the arrival, stay and departure of ships, persons and cargo, to be submitted via a single portal, without duplication.
- Under the requirement for electronic data exchange, all national authorities should now have provision for electronic exchange of this information.

#### **About IMO:**

- The **International Maritime Organization** – is the **United Nations specialized agency** with responsibility for the **safety and security of shipping** and the **prevention of marine pollution** by ships.
- The IMO's primary purpose is **to develop and maintain a comprehensive regulatory framework for shipping and its remit today includes safety, environmental concerns, legal matters, technical co-operation, maritime security and the efficiency of shipping**.
- IMO is **governed by an assembly of members and is financially administered by a council of members elected from the assembly**.
- The IMO's structure comprises the Assembly, the Council, the Maritime Safety Committee, the Marine Environment Protection Committee, the Legal Committee, the Technical Cooperation Committee, and the secretariat, headed by a Secretary-General.

Sources: toi.

## **5. INTERNATIONAL FINANCE CORPORATION (IFC)**

#### **What to study?**

- For Prelims and Mains: IFC- composition, objectives, functions and significance,

**Context:** US Supreme Court has ruled in favour of a group of fishermen and a Gujarat village panchayat in a suit against the US-headquartered **International Finance Corporation (IFC)**. The case, which now goes back to a US district court, relates to alleged pollution caused by a Gujarat-based power plant partly funded by IFC.

### What's the issue?

- Indian fishermen and villagers had recently taken the International Finance Corporation (IFC) before US Courts alleging severe ecological destruction due to working of a coal-based power plant in Gujarat which was financed by IFC.
- The Supreme Court of the United States in **Budha Ismail Jam, et al. v. International Finance Corporation** has now held that the international organisations are not immune from suits and hence the suit against the IFC can proceed.

### Why international institutions should not be immune?

- International organisations have been provided with privileges and immunities under International Law similar to the immunities provided to foreign states.
- The grant of immunities to international organisations generally rests on functional grounds and it is without any doubt a requirement for them to effectively and independently carry out their functions.
- But **absolute immunity may bring with it some undesirable consequences leading to violations of International Law. Complete lack of accountability can also lead to many undesirable consequences.**

### About the International Finance Corporation (IFC):

- The International Finance Corporation (IFC) is an international financial institution that offers investment, advisory, and asset management services to encourage private sector development in developing countries.
- It is a member of the World Bank Group and is headquartered in Washington, D.C., United States.
- It was established in 1956 as the private sector arm of the World Bank Group to advance economic development by investing in strictly for-profit and commercial projects that purport to reduce poverty and promote development.
- The IFC is owned and governed by its member countries, but has its own executive leadership and staff that conduct its normal business operations.
- It is a corporation whose shareholders are member governments that provide paid-in capital and which have the right to vote on its matters.

### Functions:

- It offers an array of debt and equity financing services and helps companies face their risk exposures, while refraining from participating in a management capacity.
- The corporation also offers advice to companies on making decisions, evaluating their impact on the environment and society, and being responsible.
- It advises governments on building infrastructure and partnerships to further support private sector development.

Sources: toi.

## 6. WORLD HERITAGE DAY

### What to study?

- For Prelims: UNESCO WHS- important sites.
- For Mains: Significance and the need for conservation of WHS.

**Context:** Every year, **18th April is celebrated Worldwide as World Heritage Day to create awareness about Heritage among communities.**

- **Theme:** The theme for this year's celebrations is 'Rural Landscapes', which is related to the theme of the 2019 ICOMOS Scientific Symposium on Rural heritage that will take place in Marrakesh, Morocco in October.
- **There are 37 World Heritage Sites located in India.** These include 29 cultural sites, seven natural sites and one mixed site. India has the sixth largest number of sites in the world.

### What is a World Heritage site?

- A World Heritage site is classified as **a natural or man-made area or a structure that is of international importance, and a space which requires special protection.**

- These sites are officially recognised by the UN and the United Nations Educational Scientific and Cultural Organisation, also known as UNESCO. UNESCO believes that the sites classified as World Heritage are important for humanity, and they hold cultural and physical significance.

#### **Background:**

- In 1982, the International Council on Monuments and Sites (ICOMOS) announced, 18 April as the “World Heritage Day”, approved by the General Assembly of UNESCO in 1983, with the aim of enhancing awareness of the importance of the cultural heritage of humankind, and redouble efforts to protect and conserve the human heritage.

#### **What are rural landscapes and why are they significant?**

- In the ICOMOS “Principles concerning rural landscapes as heritage”, adopted by the ICOMOS General Assembly in 2017, rural landscapes are defined as “terrestrial and aquatic areas co-produced by human-nature interaction used for the production of food and other renewable natural resources, via agriculture, animal husbandry and pastoralism, fishing and aquaculture, forestry, wild food gathering, hunting, and extraction of other resources, such as salt. Rural landscapes are multifunctional resources. At the same time, all rural areas have cultural meanings attributed to them by people and communities: all rural areas are landscapes.”
- Rural landscapes encompass an increasing accumulation of tangible and intangible heritage which is in constant adaptation to environmental, cultural, social, political and economic conditions. They are the most common type of continuing cultural landscape.

Sources: the hindu.

## **7. UNITED NATIONS MISSION IN SOUTH SUDAN (UNMISS)**

#### **What to study?**

- For Prelims and Mains: UNMISS- mandate, about UN Peacekeeping- need, significance, challenges and operations in place.

**Context:** A total of 150 Indian peacekeepers serving with the UN Mission in South Sudan (UNMISS) have received medals of honour for their dedicated service and sacrifice.

#### **The stated UNMISS Mandate includes:**

- Support for peace consolidation and thereby fostering longer-term state building and economic development.
- Support the Government of the Republic of South Sudan in exercising its responsibilities for conflict prevention, mitigation and resolution and protect civilians.
- Support the Government of the Republic of South Sudan in developing its capacity to provide security, to establish rule of law, and to strengthen the security and justice sectors.

#### **What is peacekeeping?**

- United Nations Peacekeeping helps countries torn by conflict create conditions for lasting peace. Peacekeeping has proven to be one of the most effective tools available to the UN to assist host countries navigate the difficult path from conflict to peace.
- Peacekeeping has unique strengths, including legitimacy, burden sharing, and an ability to deploy and sustain troops and police from around the globe, integrating them with civilian peacekeepers to advance multidimensional mandates.
- UN peacekeepers provide security and the political and peacebuilding support to help countries make the difficult, early transition from conflict to peace.

#### **About United Nations Mission in South Sudan:**

- On 9 July 2011 South Sudan became the newest country in the world. The birth of the Republic of South Sudan is the culmination of a six-year peace process which began with the signing of the Comprehensive Peace Agreement (CPA) in 2005.
- However, the Security Council determined that the situation faced by South Sudan continued to constitute a threat to international peace and security in the region and established the United Nations Mission in the Republic of South Sudan (UNMISS) to consolidate peace and security and to help establish conditions for development.
- Following the crisis which broke out in South Sudan in December 2013, the Security Council reinforced UNMISS and reprioritized its mandate towards the protection of civilians, human rights monitoring, and support for the delivery of humanitarian assistance and for the implementation of the Cessation of Hostilities Agreement.

- There are currently 14 UN peacekeeping operations deployed on four continents.

**UN Peacekeeping is guided by three basic principles:**

- (i) Consent of the parties.
- (ii) Impartiality
- (iii) Non-use of force except in self-defence and defence of the mandate.

**Global partnership:**

- UN peacekeeping is a unique global partnership. It brings together the **General Assembly**, the **Security Council**, the **Secretariat**, **troop and police contributors** and the **host governments** in a combined effort to maintain international peace and security.
- Its strength lies in the legitimacy of the UN Charter and in the wide range of contributing countries that participate and provide precious resources.

Sources: *toi*.

## 8. ARAB LEAGUE

**What to study?**

- For Prelims and Mains: Arab league- composition, objectives and functions.

**Why in News?** The Arab League this week pledged US\$100 million per month to Palestinian authorities in bid to alleviate political and financial pressures from Israel.

**What's the issue?**

- In February 2019, Israel decided to **freeze funds transferred to the Palestinian Authority**. Israel had accused Palestine of **transferring the money provided by Israel to terrorists who were detained in Israel as well as to their families and to released prisoners**.
- But **Palestine sees the transfer as a kind of welfare system** for families who have lost a breadwinner. Israel which collects taxes on behalf of the Palestine Authority says that the terror salaries are encouraging further violence.

**What is Arab League?**

- It is a **regional organization of Arab countries in and around North Africa, the Horn of Africa and Arabia**.
- **Formed in Cairo on 22 March 1945 with six members**: Kingdom of Egypt, Kingdom of Iraq, Jordan, Lebanon, Saudi Arabia, and Syria. Currently, the League has 22 members, but Syria's participation has been suspended since November 2011, as a consequence of government repression during the Syrian Civil War.
- **Main goal is to** “draw closer the relations between member States and co-ordinate collaboration between them, to safeguard their independence and sovereignty, and to consider in a general way the affairs and interests of the Arab countries”.

Sources: *the hindu*.

## 9. UN ARMS TRADE TREATY

**What to study?**

- For prelims: key features of the treaty.
- For mains: significance of the treaty, implications of withdrawal by the US.

**Context:** US President Donald Trump has rejected the **United Nations' 2013 Arms Trade Treaty aimed at regulating the global arms trade**.

- Trump described the UN arms trade treaty as **misguided and an intrusion on US sovereignty**.
- By pulling out of the ATT, **the US joins India, which has not signed the treaty**.

**Why is India against this treaty?**

- One of the arguments made by India in 2013 against the treaty was that New Delhi had “strong and effective national export controls” on military hardware to ensure they don't fall into the wrong hands.

### **What does the Arms Trade Treaty seek to do?**

The **UN Arms Trade Treaty (ATT)** has the ambitious aim of responding to international concern that the \$70 billion a year trade in conventional weapons leaves a trail of atrocities in its wake.

1. The treaty calls for the **international sale of weapons to be linked to the human rights records of buyers**.
2. It requires countries to establish **regulations for selling conventional weapons**.
3. It calls for **potential arms deals to be evaluated** in order to determine whether they might enable buyers to carry out genocide, crimes against humanity, or war crimes.
4. The treaty also seeks to **prevent conventional military weapons** from falling into the hands of terrorists or organized criminal groups, and to stop deals that would violate UN arms embargos.

### **What types of conventional weapons deals does the Arms Trade Treaty seek to regulate?**

- Conventional weapons covered by the UN Arms Trade Treaty **include tanks and other armored combat vehicles, artillery, attack helicopters, naval warships, missiles and missile launchers, and small arms**.
- It also establishes **common international standards** for the regulation of the international trade in ammunition, weapons parts, and arms components.
- The **treaty does not regulate the domestic sale or use of weapons in any country. It also recognizes the legitimacy of the arms trade to enable states to provide for their own security**.

Sources: The Hindu.

## **10. ASIA PACIFIC BROADCASTING UNION (ABU)**

### **What to study?**

- For prelims and mains: ABU- objectives, composition and significance, about the summit and its theme.

**Context:** 5<sup>th</sup> Asia Pacific Broadcasting Union (ABU) Media Summit on Climate Action and Disaster Preparedness was held recently in Kathmandu, Nepal.

- **Kathmandu Media Action Plan for Media Integration in Climate Action and Disaster Risk Reduction (DRR)** was adopted at summit.
- **Theme:** “Media Solutions for Sustainable Future: Saving Lives, Building Resilient Communities”.

### **About Asia-Pacific Broadcasting Union (ABU):**

- It is a **non-profit, non-governmental, non-political, professional association** of broadcasting organisations, which assist development of broadcasting in region.
- It was established in 1964, and has Secretariat in Kuala Lumpur, Malaysia. With over 272 member in 76 countries on four continents, **ABU is biggest broadcasting union in the world**.
- ABU is also **member of the World Broadcasters' Union**.

Sources: The Hindu.

# GENERAL STUDIES - III

*Topics: Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.*

## 1. WAYS AND MEANS ADVANCES (WMA)

### What to study?

- For Prelims and Mains: WMA- meaning, features and significance.

**Context:** The Reserve Bank of India (RBI) in consultation with the government of India has set the limits for Ways and Means Advances (WMA) for the first half of the financial year 2019-20 (April 2019 to September 2019) at Rs 75000 crore.

### What is WMA?

- The Reserve Bank of India gives temporary loan facilities to the centre and state governments as a banker to government. This temporary loan facility is called Ways and Means Advances (WMA).

### The WMA for the Central Government:

- The WMA scheme for the Central Government was introduced on April 1, 1997, after putting an end to the four-decade old system of adhoc (temporary) Treasury Bills to finance the Central Government deficit.
- The WMA scheme was designed to meet temporary mismatches in the receipts and payments of the government.** This facility can be availed by the government if it needs immediate cash from the RBI. The WMA is to be vacated after 90 days. **Interest rate for WMA is currently charged at the repo rate.** The limits for WMA are mutually decided by the RBI and the Government of India.

### Overdraft:

- When the WMA limit is crossed the government takes recourse to overdrafts, which are not allowed beyond 10 consecutive working days. The interest rate on overdrafts would be 2 percent more than the repo rate.
- The minimum balance required to be maintained by the Government of India with the Reserve Bank of India will not be less than Rs.100 crore on Fridays, on the date of closure of Government of India's financial year and on June 30, the date of closure of the annual accounts of the RBI, and not less than Rs.10 crore on other days.
- The cash management of GoI has considerably deteriorated in the recent past, with situations of large surplus and large deficit. This has put tremendous pressure of RBI with respect to liquidity management and conduct of monetary policy.

### WMA Scheme for State Governments:

- Under the WMA scheme for the State Governments, there are two types of WMA – Special and Normal WMA.**
- Special WMA** is extended against the collateral (mortgaging) of the government securities held by the State Government.
- After the exhaustion of the special WMA limit, the State Government is provided a **normal WMA**. The normal WMA limits are based on three-year average of actual revenue and capital expenditure of the state. The withdrawal above the WMA limit is considered an overdraft.
- A State Government account can be in overdraft for a maximum 14 consecutive working days with a limit of 36 days in a quarter. The rate of interest on WMA is linked to the Repo Rate. Surplus balances of State Governments are invested in Government of India 14-day Intermediate Treasury bills in accordance with the instructions of the State Governments.

Sources: the hindu.

## 2. PURCHASING MANAGERS INDEX (PMI)

### What to study?

- Prelims: What PMI and how is it derived?
- Mains: Economic growth indicators and significance.

### What is a PMI?

- PMI or a Purchasing Managers' Index (PMI) is **an indicator of business activity — both in the manufacturing and services sectors**.
- It is a survey-based measure that asks the respondents about changes in their perception of some key business variables from the month before.
- It is calculated separately for the manufacturing and services sectors and then a composite index is constructed.

### How is the PMI derived?

- The PMI is derived from a series of qualitative questions. Executives from a reasonably big sample, running into hundreds of firms, are asked whether key indicators such as output, new orders, business expectations and employment were stronger than the month before and are asked to rate them.

### How does one read the PMI?

- A figure above 50 denotes expansion in business activity. Anything below 50 denotes contraction. Higher the difference from this mid-point greater the expansion or contraction. The rate of expansion can also be judged by comparing the PMI with that of the previous month data.
- If the figure is higher than the previous month's then the economy is expanding at a faster rate. If it is lower than the previous month then it is growing at a lower rate.

### What are its implications for the economy?

- The PMI is usually released at the start of the month, much before most of the official data on industrial output, manufacturing and GDP growth becomes available.
- It is, therefore, considered a good leading indicator of economic activity. Economists consider the manufacturing growth measured by the PMI as a good indicator of industrial output, for which official statistics are released later.
- Central banks of many countries also use the index to help make decisions on interest rates.

### What does it mean for financial markets?

- The PMI also gives an indication of corporate earnings and is closely watched by investors as well as the bond markets. A good reading enhances the attractiveness of an economy vis-a-vis another competing economy.
- Sources: the hindu.

## 3. ADVANCE PRICING AGREEMENTS (APAs)

### What to study?

- For Prelims and Mains: APAs- meaning, features and significance.

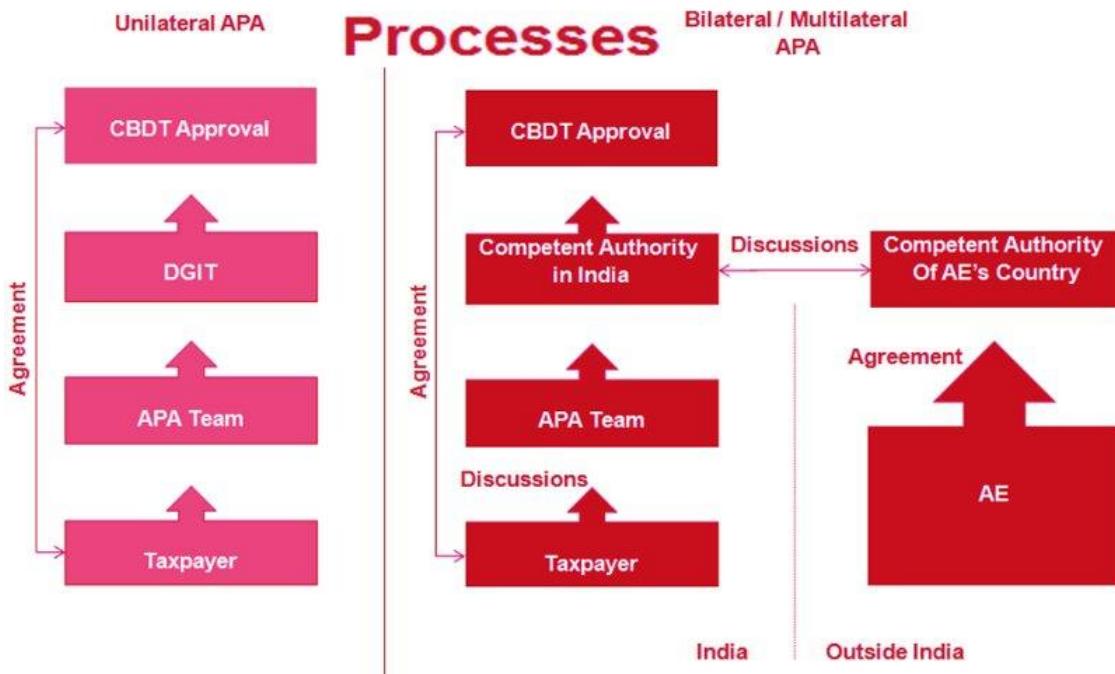
**Context:** The Central Board of Direct Taxes (CBDT) has entered into 18 **Advance Pricing Agreements (APAs)** in March this year, including three bilateral APAs.

- With the signing of these APAs, the total number of APAs entered into by the CBDT in the year 2018-19 stands at 52, which includes 11 bilateral APAs. The total number of APAs entered into by the CBDT as of now stands at 271, which inter alia includes 31 bilateral APAs.

### What are APAs?

- An APA is **an agreement between a taxpayer and the tax authority determining the Transfer Pricing methodology for pricing the tax payer's international transactions for future years**. An APA provides certainty with respect to the tax outcome of the tax payer's international transactions.

# Advance Pricing Agreement



An APA can be one of the three types – unilateral, bilateral and multilateral.

1. **A Unilateral APA** is an APA that involves only the taxpayer and the tax authority of the country where the taxpayer is located.
2. **Bilateral APA (BAPA)** is an APA that involves the tax payer, associated enterprise (AE) of the taxpayer in the foreign country, tax authority of the country where the taxpayer is located and the foreign tax authority.
3. **Multilateral APA (MAPA)** is an APA that involves the taxpayer, two or more AEs of the tax payer in different foreign countries, tax authority of the country where the taxpayer is located and the tax authorities of AEs.

#### Significance:

- The progress of the APA scheme strengthens the government's resolve of fostering a non-adversarial tax regime. The Indian APA programme has been appreciated nationally and internationally for being able to address complex transfer pricing issues in a fair and transparent manner.

## 4. SUPREME COURT STRIKES DOWN RBI CIRCULAR ON DEBT RESOLUTION

**Context:** The Supreme Court of India on April 2, 2019 struck down the Reserve Bank of India's February 2018 order on **non-performing assets**, as a result of which all cases referred to or admitted under the **Insolvency and Bankruptcy Code (IBC)** due to the RBI order would now be cancelled.

#### Background:

- The apex court struck down the controversial RBI circular mandating resolution of loans of Rs 2,000 crore and above even for a single day as ultra vires.
- The judgement was pronounced on a batch of petitions filed by various industries including power, fertiliser and sugar, challenging the February order.

#### What did the court rule?

- The Supreme Court held the February 12 circular "**ultra vires as a whole**" — essentially meaning the RBI had gone beyond its powers — and thus "**of no effect in law**".

#### Impacts of the order:

- Following the Supreme Court order, all the companies either referred or admitted for the resolution process, whichever stage of the proceedings they are, would be treated as they were never referred for insolvency.

- The decision would benefit various sectors that are facing stress including power, sugar and shipping and those companies, which were facing difficulties in honouring their loan commitments.
- However, power companies, including 34 stressed projects with a capacity of about 40,000 MW would be the biggest beneficiaries as it now provides both banks and power generators with more time to resolve their debt.

#### **What necessitated this?**

- The decision comes after several power companies had moved the top court in August, challenging the constitutional validity of the February 12 RBI circular.
- The power sector had contended that they were not willful defaulters and were facing sectoral and market issues, including non-availability of fuel and power purchase agreement (PPAs) and non-payment by state utilities issues.
- They had stated that this hampered their ability to generate revenue and maintain their loan repayment schedule with banks.

#### **What was the circular all about?**

1. The February 12, 2018 RBI circular had asked banks and other lenders to either execute a resolution plan for big stressed accounts or file insolvency petitions against them in the National Company Law Tribunal (NCLT).
2. As per the circular, 34 power companies were declared stressed by the standing committee on energy and some of them were referred for insolvency under the new bankruptcy code.
3. The RBI had allowed 180 days for debt resolution, failing which the asset would have to be taken to NCLT for initiation of insolvency against them. The deadline for the same had been fixed for August 31, 2018.

#### **Need for the circular:**

- **Recognising defaults by Banks:** The circular had forced banks to recognise defaults by large borrowers with dues of over ₹2,000 crore within a day after an instalment fell due. And if not resolved within six months after that, they had no choice but to refer these accounts for resolution under the Insolvency and Bankruptcy Code.
- **Increasing share of Bad loans:** Mounting bad loans, which crossed 10% of all advances at that point. The failure of existing schemes such as corporate debt restructuring, stressed asset resolution and the Scheme for Sustainable Structuring of Stressed Assets (S4A) to make a dent in resolving them formed the backdrop to this directive.
- **Breaking nexus:** The circular was aimed at breaking the nexus between banks and defaulters, both of whom were content to evergreen loans under available schemes.
- **Introducing Credit Discipline:** It introduced a certain credit discipline — banks had to recognise defaults immediately and attempt resolution within a six-month timeframe, while borrowers risked being dragged into the insolvency process and losing control of their enterprises if they did not regularise their accounts.

#### **Way forward:**

- It is now important for the central bank to ensure that the discipline in the system does not slacken.
- The bond market does not allow any leeway to borrowers in repayment, and there is no reason why bank loans should be any different.
- The RBI should study the judgment closely, and quickly reframe its guidelines so that they are within the framework of the powers available to it under the law.
- Else, the good work done in debt resolution in the last one year will be undone.

## **5. ASIAN DEVELOPMENT OUTLOOK 2019**

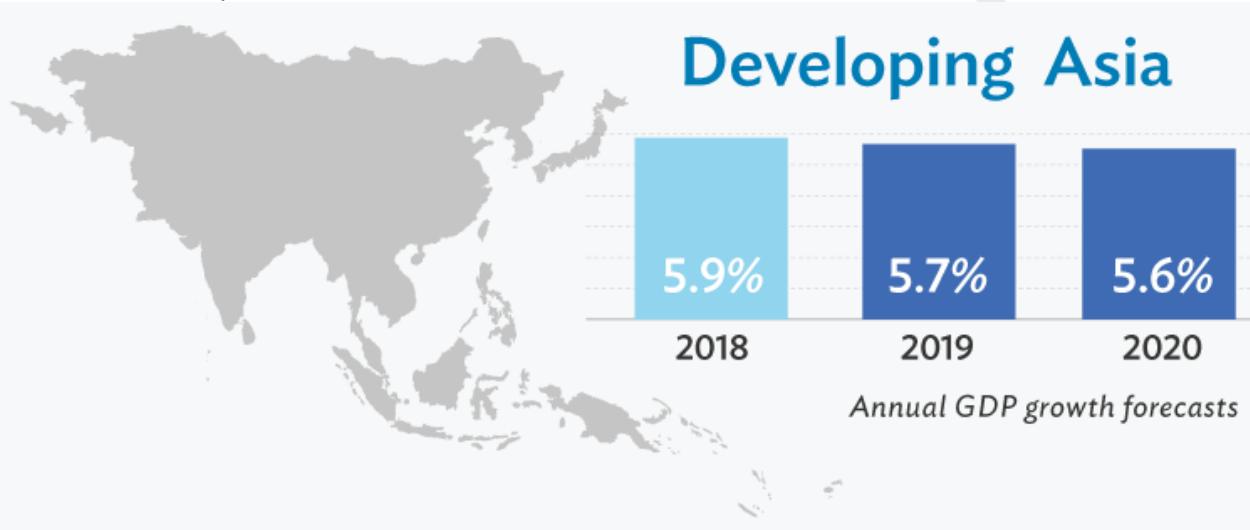
#### **What to study?**

- For Prelims: About ADB and key findings in the report.
- For Mains: India's position- concerns, reasons and reforms needed.

**Context:** ADB publishes Asian Development Outlook 2019.

### Key findings:

- Growth in developing Asia is projected to soften to 5.7% in 2019 and 5.6% in 2020. Excluding Asia's high-income newly industrialized economies, growth is expected to slip from 6.4% in 2018 to 6.2% in 2019 and 6.1% in 2020.
- Since oil prices rose and Asian currencies depreciated, inflation edged up last year but remained low by historical standards. In light of stable commodity prices, inflation is anticipated to remain subdued at 2.5% in both 2019 and 2020.
- Only 20 of 45 individual economies are projected to see growth accelerate in 2019.
- By sub-region, aggregate growth rates in Central Asia, East Asia, and Southeast Asia are expected to decelerate, while South Asia and the Pacific will bounce back from slowdown in 2018.
- In East Asian economy growth in East Asia decelerated by 0.2% to 6.0% in 2018, weighed down by weakening external trade and moderating investment in the People's Republic of China (PRC) but sustained by resilient domestic consumption.



### India's position:

- **Growth rate:** India's growth forecast is cut to 7.2% for 2019-20 because of a slower-than-expected pickup in investment demand. The growth rate in Financial Year 2020-21 is likely to be 7.3%.
- **Recovery may be due to—** agriculture and stronger domestic demand, improved health of banks and corporations and implementation of a value-added tax.
- **The inflation** is expected to average around 4% in the first half of FY2019, and therefore the Reserve Bank would have some room for lowering policy rates further increasing credit.

### About ADB:

- The Asian Development Bank was conceived in the early 1960s as a financial institution that would be Asian in character and foster economic growth and cooperation in one of the poorest regions in the world.
- **It assists** its members, and partners, by providing loans, technical assistance, grants, and equity investments to promote social and economic development.
- Established on 19 December 1966.
- Headquartered — **Manila**, Philippines.
- Official **United Nations Observer**.

### Voting rights:

- It is modelled closely on the World Bank, and has a similar weighted voting system where votes are distributed in proportion with members' capital subscriptions.
- **Japan > United States > China > India > Australia**

Sources: the hindu.

## 6. SMALL FINANCE BANKS

### What to study?

- For Prelims: Small Finance Banks- management, functions and features.
- For Mains: Financial inclusion- need, challenges and efforts by the government.

**Context:** Data from the Reserve Bank of India (RBI) show that the **small finance banks**, in total, saw their deposits grow 31.6% in the third quarter (ended December) of this financial year, compared with the second quarter. **The phenomenal growth of small finance banks has come on a very small base which is why bigger banks and NBFCs don't see them as competition yet.**

### What are small finance banks?

- The small finance bank will primarily undertake **basic banking activities** of acceptance of deposits and lending to unserved and underserved sections including small business units, small and marginal farmers, micro and small industries and unorganised sector entities.

### What they can do?

- Take small deposits and disburse loans.
- Distribute mutual funds, insurance products and other simple third-party financial products.
- Lend 75% of their total adjusted net bank credit to priority sector.
- Maximum loan size would be 10% of capital funds to single borrower, 15% to a group.
- Minimum 50% of loans should be up to 25 lakhs.

### What they cannot do?

- Lend to big corporates and groups.
- Cannot open branches with prior RBI approval for first five years.
- Other financial activities of the promoter must not mingle with the bank.
- It cannot set up subsidiaries to undertake non-banking financial services activities.
- Cannot be a business correspondent of any bank.

### SMALL FINANCE BANKS IN A NUTSHELL



No. of applicants  
**72**



No. of individual applicants  
**12**



No. of institutional applicants  
**50**



No. of non-financial applicants  
**13**

No of awardees  
**10**

#### The process

RBI releases discussion paper on banking structures in India	Aug 2013
RBI releases report of committee on comprehensive financial services for small business and households	Jan 2014
Union Budget highlights need for small finance banks, payments banks	July 20114
RBI releases draft guidelines on small finance banks	July 2014
Final guidelines releases after receiving comments from stakeholders	Nov 2014

#### What they can do

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- Cannot be a business correspondent of any bank

#### BROAD GUIDELINES

- Promoter must contribute minimum 40% equity capital and should be brought down to 30% in 10 years
- Minimum paid-up capital would be ₹100 cr
- Capital adequacy ratio should be 15% of risk weighted assets, Tier-I should be 7.5%
- Foreign shareholding capped at 74% of paid-up capital, FPIs cannot hold more than 24%
- Priority sector lending requirement of 75% of total adjusted net bank credit
- 50% of loans must be up to ₹25 lakh

### The guidelines they need to follow:

- Promoter must contribute minimum 40% equity capital and should be brought down to 30% in 10 years.
- Minimum paid-up capital would be Rs 100 cr.
- Capital adequacy ratio should be 15% of risk weighted assets, Tier-I should be 7.5%.
- Foreign shareholding capped at 74% of paid capital, FPIs cannot hold more than 24%.

- Priority sector lending requirement of 75% of total adjusted net bank credit.
- 50% of loans must be up to Rs 25 lakh.

Sources: the hindu.

## 7. CURRENCY CHEST

### What to study?

- For Prelims: Currency chest- features.
- For Mains: Need and significance.

**Context:** The Reserve Bank of India (RBI) has issued guidelines for banks to set up new currency chests.

### The guidelines:

1. **Area of the strong room/ vault** of at least 1,500 sq ft. For those situated in hilly/ inaccessible places, the strong room/ vault area of at least 600 sq ft.
2. The new chests should have a **processing capacity** of 6.6 lakh pieces of banknotes per day. Those situated in the hilly/ inaccessible places, a capacity of 2.1 lakh pieces of banknotes per day.
3. The currency chests should have **Chest Balance Limit (CBL)** of Rs 1,000 crore, subject to ground realities and reasonable restrictions, at the discretion of the Reserve Bank.

### What are Currency chests?

- Currency chests are **branches of selected banks authorised by the RBI to stock rupee notes and coins**.

### Who determines the number of notes and coins to be printed?

The responsibility for managing the currency in circulation is vested in the **RBI**.

- **The central bank advises the Centre on the number of notes to be printed, the currency denominations, security features and so on.** The number of notes that need to be printed is determined using a statistical model that takes the pace of economic growth, rate of inflation and the replacement rate of soiled notes.
- **The Government has, however, reserved the right to determine the amount of coins that have to be minted.**

### Role of currency chests:

- The RBI offices in various cities receive the notes from note presses and coins from the mints. These are sent to the currency chests and small coin depots from where they are distributed to bank branches.
- The RBI has set up over 4,075 currency chests all over the country. Besides these, there are around 3,746 bank branches that act as small coin depots to stock small coins.

Sources: the hindu.

## 8. WORLD BANK REPORT ON REMITTANCES

### What to study?

- For Prelims: Remittances- inward and outward- country- wise.
- For Mains: Significance of remittances and challenges therein.

**Context:** World Bank has released its **Migration and Development Brief**.

### Key findings- India specific:

- **India is positioned as the world's top recipient of remittances** with its diaspora sending USD 79 billion back home in 2018. The **remittances in 2018 grew by over 14 percent in India**.
- India managed to retain its top spot in remittances by registering a significant flow of remittances from USD 62.7 billion in 2016 to USD 65.3 billion 2017 and to USD 79 billion in 2018, a significant growth over the last three years.
- **Natural disasters like Kerala floods likely boosted the financial help that migrants sent to their families.**



**Received in**  
Top 20, by total amount  
US\$ billion, 2018



India	78.6
China	67.4
Mexico	35.7
Philippines	33.8
Egypt	28.9
France	26.4
Nigeria	24.3
Pakistan	21.0
Germany	17.4
Vietnam	15.9
Bangladesh	15.5
Ukraine	14.4
Spain	12.3
Belgium	11.5
Indonesia	11.2
Italy	9.6
Guatemala	9.6
Russia	8.6
Nepal	8.1
Sri Lanka	7.5

**Received in**  
Top 20, by percent of GDP  
2018



Tonga	35.2%
Kyrgyzstan	33.6
Tajikistan	31.0
Haiti	30.7
Nepal	28.0
El Salvador	21.1
Honduras	19.9
Comoros	19.1
West Bank and Gaza	17.7
Moldova	16.1
Samoa	15.9
Jamaica	15.8
Kosovo	15.3
Gambia	14.7
Lesotho	13.0
Marshall Islands	12.7
Lebanon	12.3
Cape Verde	12.2
Georgia	12.1
Guatemala	

**Sent from**  
Top 20, by total amount  
US\$ billion, 2017



United States	68.0
UAE	44.4
Saudi Arabia	36.1
Switzerland	26.6
Germany	22.1
Russia	20.6
China	16.7
Kuwait	13.8
France	13.5
South Korea	12.9
Qatar	12.8
Luxembourg	12.7
Netherlands	11.4
Oman	9.8
UK	9.7
Malaysia	9.4
Italy	9.3
India	7.0
Australia	6.8
Israel	6.0

Source: World Bank

© AFP

### Global findings:

- The remittances to low-and middle-income countries reached a record high of USD 529 billion in 2018, an increase of 9.6 percent from USD 483 billion in 2017.
- Global remittances, including flows to high-income countries, reached USD 689 billion in 2018, up from USD 633 billion in 2017. The overall increase in remittances regionally was driven by a stronger economy and employment situation in the United States and outward flows from few Gulf Cooperation Council (GCC) countries and the Russian Federation.

Sources: the hindu.

## 9. UNIFIED PAYMENTS INTERFACE (UPI)

### What to study?

- For Prelims and Mains: UPI- features, objectives and significance.

**Context:** An analysis of data from the Reserve Bank of India (RBI), the National Payments Corporation of India (NPCI) and some industry players from April 2018 to March 2019 shows that not only is the UPI platform outperforming e-wallets in terms of the value of transactions done, but it is also eating away at e-wallets' market share in specific areas such as person-to-merchant (P2M) transactions.

- Payments made on the UPI platform saw a remarkable growth of over 400% in the April to March period, from a little more than ₹27,000 crore in April 2018 to ₹35 lakh crore in March 2019.

### Why UPI is outperforming e-wallets?

- People are changing the way they transact, choosing bank-to-bank methods such as the Unified Payments Interface (UPI) over other instruments such as e-wallets. **This is because UPI is completely interoperable and as such, it is unique in the world, where you have an interoperable system on the 'send' and 'receive' side.**
- The rapid growth of UPI is accompanied by a reasonably strong growth in the value of transactions done using e-wallets, but the latter's growth has not taken off much following the fillip it received in the aftermath of demonetisation in November 2016.

### How is it unique?

- Immediate money transfer through mobile device round the clock **24x7** and **365** days.
- Single mobile application for accessing different bank accounts.
- Single Click 2 Factor Authentication** – Aligned with the Regulatory guidelines, yet provides for a very strong feature of seamless single click payment.
- Virtual address** of the customer for Pull & Push provides for incremental security with the customer not required to enter the details such as Card no, Account number; IFSC etc.
- Bill Sharing** with friends.
- Best answer to Cash on Delivery hassle, running to an ATM or rendering exact amount.
- Merchant Payment with Single Application or In-App Payments.
- Utility Bill Payments, Over the Counter Payments, Barcode (**Scan and Pay**) based payments.
- Donations, Collections, Disbursements Scalable.
- Raising Complaint from Mobile App directly.

### UPI – Benefits to the Ecosystem participants:

Benefits for banks:	Benefits for end Customers:	Benefits for Merchants:
<ul style="list-style-type: none"> <li>Single click Two Factor authentication.</li> <li>Universal Application for transaction.</li> <li>Leveraging existing infrastructure.</li> <li>Safer, Secured and Innovative.</li> <li>Payment basis Single/ Unique Identifier.</li> <li>Enable seamless merchant transactions.</li> </ul>	<ul style="list-style-type: none"> <li>Round the clock availability.</li> <li>Single Application for accessing different bank accounts.</li> <li>Use of Virtual ID is more secure, no credential sharing.</li> <li>Single click authentication.</li> <li>Raise Complaint from Mobile App directly.</li> </ul>	<ul style="list-style-type: none"> <li>Seamless fund collection from customers – single identifiers.</li> <li>No risk of storing customer's virtual address like in Cards.</li> <li>Tap customers not having credit/debit cards.</li> <li>Suitable for e-Com &amp; m-Com transaction.</li> <li>Resolves the COD collection problem.</li> <li>Single click 2FA facility to the customer – seamless Pull.</li> <li>In-App Payments (IAP).</li> </ul>

Sources: the hindu.

### What is Unified Payments Interface (UPI)?

- Unified Payments Interface (UPI) is a system that powers **multiple bank accounts** into a **single mobile application** (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood.
- It also caters to the "**Peer to Peer**" collect request which can be scheduled and paid as per requirement and convenience.
- It is **safe** as the customers **only** share a **virtual address** and provide no other sensitive information.

### Participants in UPI:

- Payer PSP.
- Payee PSP.
- Remitter Bank.
- Beneficiary Bank.
- NPCI
- Bank Account holders.
- Merchants

## 10. PROFIT ATTRIBUTION TO PERMANENT ESTABLISHMENT (PE) IN INDIA

### What to study?

- For Prelims and Mains: What is PE and how are they taxed, issues and challenges present, need for measures?

**Context:** CBDT invites stakeholder comments on report pertaining to **Profit Attribution to Permanent Establishment (PE) in India.**

### Background:

- Recognizing the significance of issues relating to attribution of profits to a permanent establishment as well as the need to bring greater clarity and predictability in the applicable tax regime, a Committee was formed to examine the existing scheme of **profit attribution to PE under Article 7 of DTAAs and recommend changes in Rule 10 of the Income-tax Rules, 1962.** The Committee has submitted its report and it has been decided to seek suggestions/comments of the stakeholders and the general public.

### Relevance of PEs:

- Usually, foreign companies get tax concession under Double Taxation Avoidance Treaties and they pay taxes in their home countries.
- But if they have PEs in India, they should pay taxes for the income they have created in India. **Thus, PE makes a foreign companies' Indian income taxable in India.**

### What is a Permanent Establishment?

- A Permanent Establishment in India is a **fixed place of business**, wholly or partly carried out by a **foreign enterprise** operating in India.
- Such fixed place of business can be a branch office, a place of management, a factory, a warehouse, a workshop etc. However the definition of permanent establishment differs in each tax treaty.

### Governing provisions:

- Taxation of non-residents in India is governed by the provisions of the Income-tax Act, 1961 ("the Act") and the provisions of the Double Taxation Avoidance Agreement(s) [DTAA(s)] concluded or adopted by the Central Government under the powers conferred under Section 90 or 90A of the Act, respectively.**
- The business income of a non-resident can be taxed in India if it satisfies the requisite thresholds provided under the Act as well as the threshold provided in the applicable tax treaty, by a concept of Permanent Establishment (PE).

## 11. IMPACT OF CRUDE OIL PRICE RISE ON THE INDIAN RUPEE

**Context:** Brent crude price is on rise.

### Concerns:

- A rise in the price of crude oil hurts the economy because crude accounts for a significant portion of India's overall imports.
- If crude rises further, it will not only impact the stability of the rupee and the rise in stock markets, but may also produce an inflationary effect.

### What is leading to the rise in the price of Brent crude?

- The recent spike in prices followed reports that the **United States will stop granting sanction waivers to any country importing Iranian crude or condensate beginning May 2, 2019.**
- Besides, **crude oil prices have been rising steadily since March, 2019 on concerns over supply from OPEC, and the US sanctions on Venezuela.**

### What is the impact on the rupee? Could it weaken further?

- Inflow of funds from foreign portfolio investors led to a strong recovery in the rupee between January and March 2019. However, the rupee has been rising against the dollar since the reversal in the trend of crude prices.**

- If Brent continues to rise, the rupee is likely to face additional pressure. **Crude has traditionally been a big determinant of the way the rupee moves.**

#### **How it affects economy's?**

- A weak rupee hurts the country on account of the **higher import bill and current account deficit, and also tends to be inflationary.**

#### **Does the US decision on Iran hurt India's imports?**

- The US decision to end waivers for countries importing crude from **Iran** beginning May 2, 2019 **may hurt India's interests, as it will have to look for alternative sources of oil.**
- **It is important to note that the US sanctions on Venezuela are already restrictive for India.**
- **From April 2018 to January 2019, India imported almost 6.4% of its requirement from Venezuela.**
- Also, if the total supplies from these two big oil exporters is kept out of the market, **it will lead to a supply crunch, and likely increase in overall crude oil prices.**

#### **What are the other sources of crude oil for India?**

- While Iraq is the biggest exporter, Saudi Arabia is a close second, and both of them account for 38% of India's total petroleum imports.
- UAE and Nigeria together account for 16.7%.
- However, the biggest change has been the entry of the US as a major player.
- While it did not figure in the list of top 10 petroleum exporters for India in 2017-18, in the 10 months of FY'19, the US stood at number 9 with an over 3% share of India's petroleum imports.

## **12. NATIONAL HOUSING BANK**

#### **What to study?**

- For Prelims: Role, objectives and significance of NHB, Nabard- role and objectives.
- For mains: divestment- meaning, need and significance.

**Context:** The Reserve Bank of India (RBI) has sold its entire stakes in the **National Bank for Agriculture & Rural Development (NABARD) and National Housing Bank**. The decision to divest its entire stake was taken based on the recommendations of the **second Narasimham Committee**.

- The government now holds a **100 per cent stake in both NHB and NABARD.**

#### **About NHB:**

- NHB is an All India Financial Institution (AIFI), set up in **1988**, under the **National Housing Bank Act, 1987**.
- It is an apex agency established to operate as a principal agency to promote housing finance institutions both at local and regional levels and to provide financial and other support incidental to such institutions and for matters connected therewith.

#### **NABARD:**

- It is an **apex development and specialized bank established on 12 July 1982 by an act by the parliament of India.**
- Its **main focus** is to uplift rural India by increasing the credit flow for elevation of agriculture & rural non farm sector.
- It was established based on the **recommendations of the Committee set up by the Reserve Bank of India (RBI) under the chairmanship of Shri B. Shivaraman.**
- It replaced the Agricultural Credit Department (ACD) and Rural Planning and Credit Cell (RPCC) of Reserve Bank of India, and Agricultural Refinance and Development Corporation (ARDC).
- It has been accredited with “**matters concerning policy, planning and operations in the field of credit for agriculture and other economic activities in rural areas in India**”.

## 13. OMBUDSMAN SCHEME FOR NON-BANKING FINANCIAL COMPANIES (NBFCs)

### What to study?

- For prelims and mains: key features, need and significance of the scheme.

**Context:** The Reserve Bank of India (RBI) has extended the coverage of **Ombudsman Scheme for Non-Banking Financial Companies (NBFCs), 2018** to eligible Non Deposit Taking Non Banking Financial Companies (NBFC-NDs).

- The coverage will be extended to Non Deposit Taking Non Banking Financial Companies having asset size of Rs 100 crore or above with customer interface.
- However, Non Banking Financial Company-Infrastructure Finance Company (NBFC-IFC), Core Investment Company (CIC), Infrastructure Debt Fund-Non-banking Financial Company (IDF-NBFC) and NBFCs under liquidation are excluded from the ambit of the Scheme.

### Background:

- The Reserve Bank of India (RBI), in February 2018, issued an **ombudsman scheme for non-banking finance companies (NBFCs)**, offering a grievance redressal mechanism for their customers.

### Who will be the ombudsman?

- An **officer at the RBI not below the rank of general manager** will be appointed by the regulator as the ombudsman with territorial jurisdiction being specified by the central bank. **The tenure of each ombudsman cannot exceed three years and can be reduced by the regulator if needed.**

### Who can file the complaint?

- Any customer or person can file a complaint with the ombudsman on various grounds like non-payment or inordinate delay in payment of interest, non-repayment of deposits, lack of transparency in loan agreement, non-compliance with RBI directives on fair practices code for NBFCs, levying of charges without sufficient notice to the customers and failure or delay in returning the securities documents despite repayment of dues among others. Only written complaints or those in electronic format will be accepted.

### Appeal:

- If a complaint is not settled by agreement within a specified period as the ombudsman may allow the parties, he may, after affording the parties a “reasonable opportunity to present their case, either in writing or in a meeting, pass an award either allowing or rejecting the complaint”.
- The scheme also allows a person to appeal in case of dissatisfaction with any award by the ombudsman.

### Compensation:

- The ombudsman may also award compensation not exceeding one hundred thousand rupees to the complainant, taking into account the loss of time, expenses incurred, harassment and mental anguish suffered by the complainant.

### Report:

- The ombudsman will be required to send a report to the RBI governor annually on 30 June containing general review of the activities of his office during the preceding financial year and other information required by the central bank.

Sources: The Hindu.

**Topics:** Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.

## SEBI MULLS SRO FOR INVESTMENT ADVISERS

### What to study?

- For Prelims: SRO- objectives, composition and functions.
- For Mains: Need, significance of SRO and challenges ahead.

**Context:** The Securities and Exchange Board of India (**SEBI**) has proposed a self-regulatory organisation (**SRO**) for the growing number of investment advisers to address issues related to the quality of advice given to investors by such entities.

**Key facts:**

- SRO is the first-level regulator that performs the crucial task of regulating intermediaries representing a particular segment of securities market on behalf of the regulator. It would be seen as an extension of the regulatory authority of the SEBI and would perform the tasks delegated to it by the SEBI.
- The role of SRO is developmental, regulatory, related to grievance redressal and dispute resolution as well as taking disciplinary actions.
- The regulator has proposed a governing board with at least 50% public interest directors along with 25% representation each of shareholder directors and elected representatives.
- Further, the governing board can appoint a managing director or chief executive officer to manage the daily affairs of the SRO.

**Need:**

- SEBI was in receipt of a large number of complaints alleging charging of exorbitant fees, assurance of returns, misconduct etc. by investment advisers. Given the growth in this segment of the market, it was felt that the time is appropriate to initiate the formation of an SRO.

Sources: the hindu.

*Topics: Inclusive growth and issues arising from it.*

## 1. STARTUPBLINK'S STARTUP ECOSYSTEM RANKING

**What to study?**

- For prelims and mains: rankings- performance of countries, cities, challenges present and need for measures.

**Context:** StartupBlink's Startup Ecosystem Ranking has been released.

**Significance of the report:**

- aim of this report is to feature and rank hundreds of startup hubs instead of highlighting a few globally recognized winners.
- This report considers not just startups, but also other critical players of the startup ecosystem like coworking spaces, accelerators, investors, leaders, and more.
- It used data from startups, accelerators and coworking spaces registered on its platforms as well as data received from global partners such as Crunchbase and SimilarWeb.
- The report has taken the startup ecosystems of 1,000 cities and 100 countries into consideration.

**Key findings:**

- India ranked 17 among 100 countries, based on the strength of its startup ecosystem.
- The top three spots remained unchanged with the United States, United Kingdom and Canada.
- Bangalore, New Delhi and Mumbai were the top cities in the Indian startup ecosystem.

**Indian startup ecosystem:**

- 3800 new startups were launched in India during the last year. Overall, Indian startups received \$11 Bn of funding through 743 deals in 2018. The sectors which received the most funding were: ecommerce; consumer services (hyperlocal) and fintech.
- the major challenge "will be improving the overall quality of startups, and increasing the number of unicorns than currently exist."

Sources: ie.

## 2. JAN DHAN

### What to study?

- For prelims: key features and benefits of the scheme.
- For mains: significance and benefits of the scheme.

**Why in News?** Five years after its launch, the **Pradhan Mantri Jan Dhan Yojana (PMJDY) scheme** has almost achieved a total balance of ₹1-lakh crore.

### Key facts:

- According to the latest data, the total balance in these basic bank accounts stood at ₹99,752 crore with 35.50 crore beneficiaries.
- **Public sector banks have the lion's share in total balance** at ₹79,177 crore, followed by regional rural banks and private sector banks maintaining ₹17,648 crore and ₹2,926 crore, respectively.
- The scheme focusses on rural areas with primacy given to women. Of the 35.50-crore account holders, **those from rural and semi-urban regions were 21 crore. Female beneficiaries were 18.88 crore.**
- Total balance under the scheme, launched on August 15, 2014, **grew faster in the last three years**, which was boosted by demonetisation in November 2016. It gathered momentum last year and gained rapid pace in the last six months, leading to scepticism on the possible link between elections and spurt in balances.
- The **average balance in PMJDY accounts has also been going up.**

### About PMJDY:

- The primary aim of this scheme is **to provide poor people access to bank accounts.**
- The scheme **covers both urban and rural areas of India.**
- **All bank accounts will be linked to a debit card which would be issued under the Ru-Pay scheme.** Rupay is India's own unique domestic card network owned by National Payments Corporation of India and has been created as an alternative to Visa and Mastercard.
- Under the first phase of this scheme, every individual who opens a bank account becomes **eligible to receive an accident insurance cover of up-to Rs 1 Lakh for his entire family.**
- **Life Insurance coverage** is also available under PMJDY. **Only one person in the family will be covered and in case of the person having multiple cards/accounts, the benefit will be allowed only under one card** e. one person per family will get a single cover of Rs 30,000.
- The scheme also **provides incentives to business and banking correspondents** who serve as link for the last mile between savings account holders and the bank by fixing a minimum monthly remuneration of Rs 5000.

Sources: the Hindu.

## 3. GLOBAL REPORT ON FOOD CRISES 2019

### What to study?

- For Prelims: Key findings of the report, about FAO.
- For Mains: Food crises- concerns, causes and measures needed.

**What is it?** It is a report released jointly by the Food and Agriculture Organization (**FAO**), World Food Programme (**WFP**) and **EU**.

### Key findings in the latest report:

- Approximately 113 million people in 53 countries experienced high levels of food insecurity last year. These crises are primarily driven by conflict and climate-related disasters.
- The number going chronically-hungry has remained well over 100 million over the past three years, with the number of countries affected, rising.
- **According to the report, nearly two-thirds of those facing acute hunger come from just eight countries:** Afghanistan, the Democratic Republic of the Congo, Ethiopia, Nigeria, South Sudan, Sudan, Syria and Yemen.
- Climate and natural disasters pushed another 29 million people into acute food insecurity in 2018 and that number excludes 13 countries – including North Korea and Venezuela – because of data gaps.

#### **Concerns:**

- Despite a slight drop in 2018 in the number of people experiencing acute food insecurity – the most extreme form of hunger – the figure is still far too high.

#### **Need of the hour:**

- We must act at scale across the humanitarian-development-peace nexus to build the resilience of affected and vulnerable populations. To save lives, we also have to save livelihoods.

#### **About FAO:**

The Food and Agriculture Organization (FAO) is a specialized **agency of the United Nations** that leads international efforts to defeat hunger.

- **Headquarters:** Rome, Italy
- **Founded:** 16 October 1945
- **Goal of FAO:** Their 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.

#### **FAO Council:**

- **Origin:** Established by the Conference at its Third Session (1947) to replace the original “Executive Committee of FAO” in accordance with a recommendation of the Preparatory Commission on World Food Proposals.
- **Purpose:** The Council, within the limits of the powers, acts as the Conference’s executive organ between sessions. It exercises functions dealing with the world food and agriculture situation and related matters, current and prospective activities of the Organization, including its Programme of Work and Budget, administrative matters and financial management of the Organization and constitutional matters.

Sources: the hindu.

## **4. GLOBAL FOOD POLICY REPORT-2019**

#### **What to study?**

- For prelims and mains: key findings, concerns and measures proposed by the report.

**Context:** International Food Policy Research Institute (**IFPRI**) has recently released Global Food Policy Report-2019.

- The report reviews the major food policy issues, developments, and decisions of 2018, and considers challenges and opportunities for 2019.
- This year's Report highlights the urgency of rural revitalization to address a growing crisis in rural areas.

#### **Key observations:**

- Rural population account for 45.3% of the world's total population and at least **70% of the world's population remains extremely poor**.
- The rural population suffers from **rapid population growth rates, inadequate job and enterprise creation, poor infrastructure, scarce financial services**.
- They also bear the brunt of climate change impacts.
- Nearly **50% of rural youth all over the world do not have any formal job** they are either unemployed or under-employed.
- **The world is not yet on track to achieve the Sustainable Development Goals (SDGs) by 2030**. Poverty and malnutrition rates are falling in many places, but not fast enough.
- **An estimated three quarters of the world's poor live in rural areas**, and most are among the 2.5 billion people who work in small-scale agriculture in developing countries.
- Almost one billion people, most living in rural areas of Africa and South Asia, still lack access to electricity.
- **South Asia remained the fastest growing region in the world in 2018, as economic growth continued to strengthen**. However, growth rates varied greatly across the region.
- **Rice and wheat are the region's major staple crops**, accounting for about two-thirds of total dietary energy. But food consumption patterns have changed in the region over the past few decades.

### Need of the hour:

- **Rural revitalization** is important to end hunger and malnutrition.
- The **Changing consumption patterns** driven largely by urbanization, demographic transitions, increasing income, and growing integration of food supply chains and food systems in India offer new opportunities for entrepreneurship and employment in rural areas.
- **Energy is crucial to achieving the Sustainable Development Goals and ensuring durable rural growth and development.**

### Way ahead:

- Policies, institutions, and investments that take advantage of new opportunities and technologies, increase access to basic services, create more and better rural jobs, foster gender equality, and restore the environment can make rural areas vibrant and healthy places to live and work.
- Implementing a “**decent employment agenda**” will require improving rural livelihoods.

Sources: toi.

*Topics: Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions.*

## BT BRINJAL

### What to study?

- For prelims and mains: bt crops- need, concerns, challenges in preventing their cultivation and measures needed.

**Context:** Farmer groups have alleged that Bt brinjal, a genetically modified variety, is being cultivated illegally in Haryana.

### Background:

- **India banned Bt brinjal in 2010.** The debate around BT brinjal started in 2000 when Mahyco (Maharashtra Hybrid Seeds Co) came up with a GM brinjal. Seeds were exported to Bangladesh and Philippines in 2006, as the civil society resisted field trials in India.
- **In 2013, the cultivation of Br brinjal was taken up by the Bangladesh government with initially successful results.** A few years down the line, however, the crops lost their resistance to pests.

## WHAT IS Bt-Brinjal?

- Bt Brinjal is a transgenic brinjal created by inserting a gene cry1Ac from the soil bacterium *Bacillus thuringiensis* into brinjal.
- This is said to give the brinjal plant resistance against lepidopteran insects like the brinjal fruit and shoot borer *Leucinodes orbonalis* and fruit borer *Helicoverpa armigera*.

### What is a GM crop?

- A GM or transgenic crop is a plant that has a **novel combination of genetic material obtained through the use of modern biotechnology**.
- For example, a GM crop can contain a gene(s) that has been artificially inserted instead of the plant acquiring it through pollination. The resulting plant is said to be “genetically modified” although in reality all crops have been “genetically modified” from their original wild state by domestication, selection, and controlled breeding over long periods of time.

### Need of the hour- the GEAC should:

- Visit the farms and conduct tests
- Identify the source of seeds
- Destroy GM crops
- Compensate losses incurred by farmers
- Penalise distributing companies
- Form a mechanism to avoid such incidents in the future

## **Do we need GM crops?**

Yes and why?

- Higher crop yields.
- Reduced farm costs.
- Increased farm profit.
- Improvement in health and the environment.

No and why?

- **Lack of clarity:** It is clear that the technology of genetic engineering is an evolving one and there is much, especially on its impact on human health and environment that is yet to be understood properly. The scientific community itself seems uncertain about this.
- While there are many in this community who feel that the benefits outweigh the risks, others point to the irreversibility of this technology and uncontrollability of the Genetically Modified Organisms (**GMOs**) once introduced in the ecosystem. Hence, they advocate a precautionary approach towards any open release of GMOs.
- **Threat to domestic crops:** One of the concerns raised strongly by those opposing GM crops in India is that many important crops like rice, brinjal, and mustard, among others, originated here, and introducing genetically modified versions of these crops could be a major threat to the vast number of domestic and wild varieties of these crops.
- In fact, globally, there is a clear view that GM crops must not be introduced in centres of origin and diversity. India also has mega biodiversity hotspots like the Eastern Himalayas and the Western Ghats which are rich in biodiversity yet ecologically very sensitive. Hence it will only be prudent for us to be careful before we jump on to the bandwagon of any technology.
- **There is also a potential for pests to evolve resistance** to the toxins produced by GM crops and the risk of these toxins affecting nontarget organisms. There is also the danger of unintentionally introducing allergens and other anti-nutrition factors in foods.

Sources: down to earth.

*Topics: Infrastructure related issues, Investment models.*

## **1. 24x7 POWER FOR ALL**

**Context:** The household electrification scheme, **Pradhan Mantri Sahaj Bijli Har Ghar Yojana**, or Saubhagya, has been implemented at an unprecedented pace. More than 45,000 households were electrified every day over the last 18 months.

**Reasons behind the success of Saubhagya:**

- The enactment of the Electricity Act, in 2003.
- The introduction of the Rajiv Gandhi Grameen Vidyutikaran Yojana, in 2005.
- Discom engineers have evolved in their attitude from one of scepticism to that of determination.

**Challenges Remaining:**

1. The erection of electricity poles and an extension of wires do not necessarily mean uninterrupted power flow to households.
2. No 24\*7 power supply-While the median hours of supply increased from 12 hours in 2015 to 16 hours a day in 2018, it is still far from the goal of 24x7.
3. Low voltage Issues-Similarly, while instances of low voltage and voltage surges have reduced in the last three years, about a quarter of rural households still report low voltage issues for at least five days in a month.

**In order to achieve 24x7 power for all, there is need to focus on three frontiers:**

1. Monitoring of Supply.
2. Quality and maintenance services.
3. Customer Service.

## 2. NIIF

### What to study?

- For Prelims: Particulars of NIIF and funds under NIIF.
- For Mains: Significance of NIIF and the need for Infrastructure funding.

**Why in News?** Roadis, a private investor and operator of transport infrastructure worldwide and the National Investment and Infrastructure Fund (NIIF) have jointly set up a platform to invest in road projects in India. The platform would invest up to \$2 billion of equity targeting toll-operate-transfer models, acquisitions of existing road concessions and investment opportunities in the road sector with an aim to create a large roads platform in the country.

### About NIIF:

The government had set up the ₹40,000 crore NIIF in 2015 as an investment vehicle for funding commercially viable greenfield, brownfield and stalled infrastructure projects.

- **The Indian government is investing 49% and the rest of the corpus is to be raised from third-party investors such as sovereign wealth funds, insurance and pension funds, endowments, etc.**
- NIIF's mandate includes investing in areas such as energy, transportation, housing, water, waste management and other infrastructure-related sectors in India.
- NIIF currently manages three funds each with its distinctive investment mandate. The funds are registered as Alternative Investment Fund (AIF) with the Securities and Exchange Board of India (SEBI).

### The three funds are:

1. **Master Fund:** The Master Fund is an infrastructure fund with the objective of primarily investing in operating assets in the core infrastructure sectors such as roads, ports, airports, power etc.
2. **Fund of Funds:** Fund of Funds anchor and/or invest in funds managed by fund managers who have good track records in infrastructure and associated sectors in India. Some of the sectors of focus include Green Infrastructure, Mid-Income & Affordable Housing, Infrastructure services and allied sectors.
3. **Strategic Investment Fund:** Strategic Investment Fund is registered as an Alternative Investment Fund II under SEBI in India.

Sources: the hindu.

## 3. NUGEN MOBILITY SUMMIT 2019

### What to study?

- For Prelims and Mains: Objectives and significance of the summit.

**Context:** The NuGen Mobility Summit 2019 will be held during November at Manesar, **National Capital Region**.

- The Summit will be organised by the **International Centre for Automotive Technology (ICAT)** in association with many institutions including NATRIP.
- **Objective:** The objective behind the Summit is to share new ideas, global experiences, innovations and future technology trends for faster adoption, and development of advanced automotive technologies for a smarter and greener future.
- **Significance:** It will help in building a platform for bringing together all stakeholders in the automotive industry to understand global advancements in technologies.

### About ICAT Manesar:

- **International Centre for Automotive Technology (ICAT) Manesar is a division of NATRIP Implementation Society (NATIS)** under the Department of Heavy Industries, India.

### Functions:

- It provides services for testing, validation, design and homologation of all categories of vehicles.
- It assists the automotive industry in adopting cutting edge technologies in vehicle evaluation and component development to ensure reliability, durability and compliance to the current and future regulations.

## 4. FAME II SCHEME

### What to study?

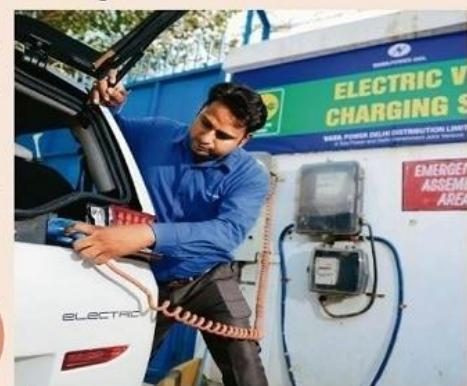
- For Prelims and Mains: FAME-India scheme- features, significance and potential.

**Context:** NITI Aayog & Rocky Mountain Institute (RMI) Release Technical Analysis of **FAME II Scheme**. Report looks at potential saving in areas of energy, oil and carbon emissions.

### Key highlights from the report:

- Effects of FAME II will go beyond the vehicles that are eligible under the FAME II.
- There is considerable energy and CO<sub>2</sub> savings associated with the two, three, and four-wheeled vehicles and buses covered by FAME II over their lifetime, as well as the potential savings associated with greater adoption levels by 2030.
- The electric buses covered under FAME II will account for 3.8 billion vehicle kilometers travelled (e-vkt) over their lifetime.
- In order to capture the potential opportunity in 2030, batteries must remain a key focal point as they will continue to be the key cost driver of EVs.
- Vehicles eligible under FAME II scheme can cumulatively save 5.4 million tonnes of oil equivalent over their lifetime worth Rs 17.2 thousand crores.
- EVs sold through 2030 could cumulatively save 474 million tonnes of oil equivalent (Mtoe) worth INR 15 lakh crore and generate net CO<sub>2</sub> savings of 846 million tonnes over their operational lifetime.

### Incentives on offer under phase II of FAME



Source: Heavy industries ministry

### What are the salient features of FAME 2 scheme?

- Faster Adoption and Manufacturing of Hybrid and Electric Vehicles, or FAME 2 scheme aims **to boost electric mobility and increase the number of electric vehicles in commercial fleets**.
- Target:** The outlay of ₹10,000 crore has been made for three years till 2022 for FAME 2 scheme.
- The government will offer the **incentives for electric buses, three-wheelers and four-wheelers to be used for commercial purposes**.
- Plug-in hybrid vehicles and those with a sizeable lithium-ion battery and electric motor will also be included in the scheme and fiscal support offered depending on the size of the battery.

### How will FAME 2 scheme help improve charging infrastructure?

- The centre will invest in setting up charging stations, with the active participation of public sector units and private players.
- It has also been proposed to provide one slow-charging unit for every electric bus and one fast-charging station for 10 electric buses.
- Projects for charging infrastructure will include those needed to extend electrification for running vehicles such as pantograph charging and flash charging.
- FAME 2 will also encourage interlinking of renewable energy sources with charging infrastructure.

### Outcomes of the recent meeting:

- The Inter-Ministerial Steering Committee of the **National Mission for Transformative Mobility** has decided to incorporate localisation conditions to avail benefits under the FAME-II Scheme.
- The steering committee has mandated that **only companies that meet the 50% localisation threshold will be eligible for the incentives that will be available under the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME-II) scheme** to boost electric mobility as well as the 'Make in India' initiative. The decision has been taken to ensure that the tax payer's money is not used to subsidise imports and encourage local manufacturing.

#### **Background:**

- FAME India is a part of the **National Electric Mobility Mission Plan**. Main thrust of FAME is to encourage electric vehicles by providing subsidies. **FAME focuses on 4 areas i.e.** Technology development, Demand Creation, Pilot Projects and Charging Infrastructure.

#### **Way ahead:**

- India needs auto industry's active participation to ease electric mobility transition. The auto and battery industries could collaborate to enhance customer awareness, promote domestic manufacturing, promote new business models, conduct R&D for EVs and components, consider new business models to promote EVs.
- Government should focus on a phased manufacturing plan to promote EVs, provide fiscal and non-fiscal incentives for phased manufacturing of EVs and batteries. Different government departments can consider a bouquet of potential policies, such as congestion pricing, ZEV credits, low emission/exclusion zones, parking policies, etc. to drive adoption of EVs.

## **5. RENEWABLE ENERGY CERTIFICATES (RECS)**

#### **What to study?**

- For Prelims and Mains: REC\_ what is it, need and significance, why GST on them and what needs to be done?

**Context:** Renewable Energy (RE) companies have moved the Delhi High Court, seeking an exemption for Renewable Energy Certificates (RECs) under the GST.

#### **Significance:**

- It is a **market based mechanism** which will help the states meet their regulatory requirements (such as Renewable Purchase Obligations (RPOs)) by overcoming the geographical constraints on existing renewable potential in different states.
- RECs unbundle the electricity component (commodity) from the green/environmental attributes of the power generated from renewable sources. Both the components can then be traded separately.
- Thus, RECs help in incentivizing the production of renewable energy over and above the RPO state limit as tradable certificates are not constrained by the geographical limitations of commodity electricity.

#### **Need for removal of GST:**

- RECs are being charged GST, while bundled power (RECs plus electricity, irrespective of source) or even just electricity are devoid of the same.
- **Cost of electricity generation from renewable energy sources is classified as cost of electricity generation** (equivalent to conventional energy sources) and the cost of environmental attributes. REC is the environmental attribute of the electricity derived from RE.
- As per regulations, RPO compliance through REC is at par with sourcing electricity directly from RE. Therefore, **GST applicable on the sale of RECs negatively affects its parity with similar electricity sale alternatives, be it conventional or renewable.**
- Moreover discoms, the major buyer of RECs (around 50-60 per cent), do not get GST credit; and the increase in their cost of RPO compliance will translate to increased tariff for the end consumer.

Sources: down to earth.

#### **What are Renewable Energy Certificates (RECs)?**

- Renewable Energy Certificates (RECs), also known as **green energy certificates or tradable renewable certificates** are proof that energy has been generated from renewable sources such as solar or wind power.
- Each REC represents the environmental benefits of 1MWh of renewable energy generation. When you purchase RECs, renewable energy is generated on your behalf.

**Topics: Science and Technology- developments and their applications and effects in everyday life Achievements of Indians in science & technology; indigenization of technology and developing new technology.**

## 1. NEW STATE OF MATTER

### What to study?

- For Prelims and Mains: About the new state and its significance.

**Context:** Scientists have found a **new state of physical matter** recently. The new state is **solid and liquid at the same time**. Atoms can exist as both solid and liquid simultaneously.

- The state is **known as the Chain Melted State**.

### How was it found?

- When applying high pressures and temperatures to potassium, a simple metal; it creates a state in which most of the element's atoms form a solid lattice structure.
- However, some elements can, when subjected to extreme conditions, take on the properties of both solid and liquid states. Researchers have shown that this unusual but stable state is part solid and part liquid.

### What causes this?

- Applying pressure to the atoms leads to the formation of two interlinked solid lattice structures.
- Chemical interactions between atoms in one lattice are strong, meaning they stay in a solid form when the structure is heated, while the other atoms melt into a liquid state.
- Under the right conditions, over half a dozen elements, including sodium and bismuth are thought to be capable of existing in the newly discovered state.

Sources: [toi](#).

## 2. HOW SPACEFLIGHT AFFECTS BODY?

**Context:** In 2015, astronaut Scott Kelly set off for the International Space Station while his twin, Mark Kelly, remained on Earth. Scott returned in 2016, and both brothers are now retired, but over the one year Scott spent in space, 10 teams of researchers in the US carried out a landmark study on the twins' biological profiles (Scott was sending his samples from space). With the twins sharing the same genetic code, the researchers looked for variances in their bio-markers.

### Details of the study:

- The results showed that a long stay in space can cause changes in the human body. These were epigenetic changes — chemical " tweaks" to DNA that can influence gene activity, without affecting the underlying genetic code itself. When epigenetic changes occur at the wrong time or place, the process can turn genes on or off at the wrong time and place. In Scott's case, most of the changes were reversed within months of his return to Earth.

### What changed, what did not?

- Telomeres:** These are special features at the ends of each DNA strand. Telomeres tend to get shorter as one ages; however, certain factors can affect the rate of this shortening. In Scott's case, the study identified a change in telomere length dynamics during spaceflight and within days of landing.
- Gene expression:** Samples taken before, during and after Scott's mission in space revealed some changes in gene expression. These were different from the changes Mark experienced on Earth. Of the changes Scott experienced, most (about 91.3%) reverted to baseline after he returned, while a small subset persisted after six months. Some observed DNA damage is believed to be a result of radiation exposure.
- Gut bacteria:** Scott's microbiome during flight was profoundly different from pre-flight. This could be due to the food he consumed in space, although other space-specific environmental factors may have also contributed. When he landed on Earth, Scott's microbiome returned to pre-flight state.
- Arteries:** The inside of an artery wall can narrow due to plaque buildup. Researchers found indications of inflammation and carotid artery wall thickening in Scott during and immediately after his mission, but no

such changes were observed in Mark. Researchers have not yet established whether this adaptation is reversible.

Some of the findings were encouraging for researchers:

- **Vaccination:** Scott received three flu vaccines — on Earth, in space, and back on Earth — each a year apart. This study found that his body reacted appropriately to the vaccine.
- **Cognition:** With few exceptions, Scott's cognitive performance (such as mental alertness, spatial orientation, recognition of emotions) remained largely unchanged during his time in space, and relative to Mark on the ground.

### 3. NIRBHAY MISSILE

**Context:** India recently successfully test-fired its first Sub-sonic cruise missile, Nirbhay.

- Nirbhay is a long range, all-weather, subsonic cruise missile, with a sharper 'terrain hugging capability'. designed and developed in India by the Defence Research and Development Organisation (DRDO).
- The guidance, control and navigation systems of the missile are configured around the indigenously designed Ring Laser Gyroscope and MEMS based, inertial Navigation System.
- The missile can be launched from multiple platforms and is capable of carrying conventional and nuclear warheads.
- It is a two-stage missile powered by Solid rocket motor booster.
- It is capable of carrying warheads of up to 300kg at a speed of 0.6 to 0.7 Mach (sub-sonic).
- It has an operational range of 1000 km (long range). Of the six test trials, three were failed and three were successful. No other indigenous missile has been tested at such altitude
- It is the sixth development flight trial with objective to prove the repeatability of boost phase, cruise phase using way point navigation at very low altitudes, along with its sea-skimming capability to cruise at very low altitudes.
- The Nirbhay cruise missile is an Indian version of the American Tomahawk.



### 4. TECHNICAL TEXTILES

**What to study?**

- For prelims: What are technical textiles and their significance?
- For mains: Need and significance of these textiles.

**Context:** A Seminar was recently organized by Ministry of Water Resources, River Development and Ganga Rejuvenation on "Use of Technical Textiles in Water Resources Works".

**What are technical textiles?**

- Technical Textiles are defined as **Textile material and products manufactured primarily for their Technical performance and functional properties rather than aesthetic and decorative characteristics.**
- **Technical textiles include** textiles for automotive applications, medical textiles (e.g., implants), geotextiles (reinforcement of embankments), agrotextiles (textiles for crop protection), and protective clothing (e.g., heat and radiation protection for fire fighter clothing, molten metal protection for welders, stab protection and bulletproof vests, and spacesuits).

### **Significance and potential applications:**

- Technical Textiles are being used globally for last several decades. These materials have provided innovative engineering solutions for several applications in civil and geotechnical engineering, for infrastructure water resources projects.
- Even while Technical Textiles have been extensively used in developed as well as many developing countries, India has yet to capitalise the technical, economical and environmental benefits on large scale.
- Various parts of India are subjected to floods and environmental degradation. In some of the terrains, the flood management and control can rely on Technical Textiles tubes, containers and bags. Technical Textiles have been found to perform better than concrete as water protection component because of permeability, flexibility and ease of underwater placement.

*Topics: Awareness in space.*

## **1. HAWKING'S THEORY FOR SOURCE OF DARK MATTER RULED OUT**

### **What to study?**

- For Prelims and Mains: What was Hawking's theory, what are the recent findings and their significance? Gravitational lensing.

**Context:** A group of scientists have ruled out Stephen Hawking's theory for mysterious dark matter.

### **What did Hawking propose?**

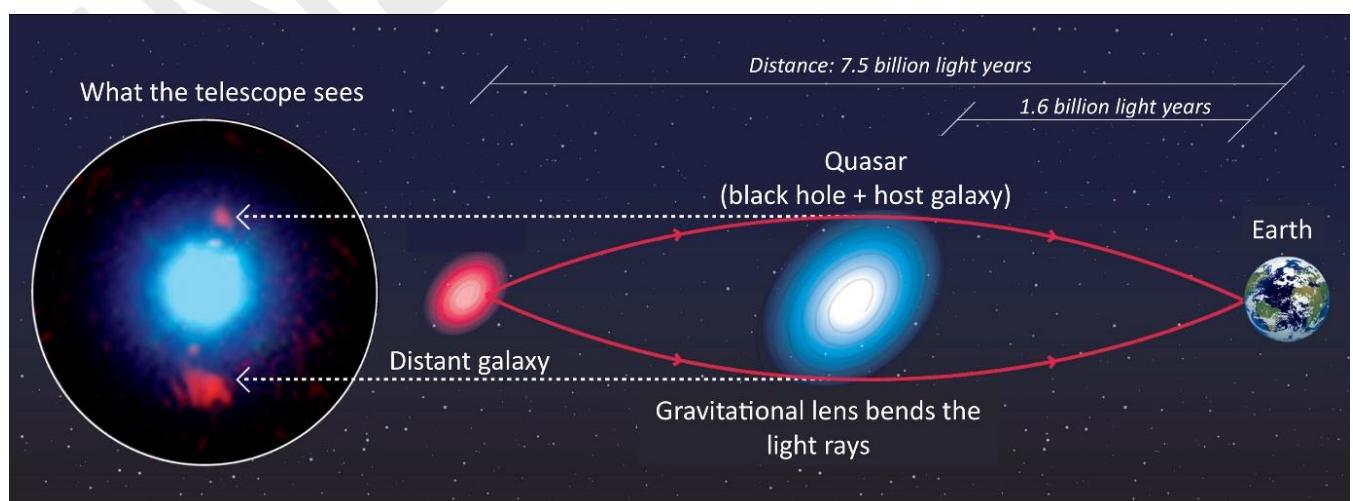
- Stephen Hawking proposed a theory that primordial black holes are a source of dark matter. He computed that the mass of the primordial black holes could range from as low as one-hundredth of a milligram to as high as more than the mass of a thousand Suns.

### **What are primordial black holes?**

- Two Soviet physicists, Yakov Borisovich Zel'dovich and Igor Dmitrievich Novikov, showed that at the initial instant of the big bang, the densities would have been very high at many points, resulting in the formation of small black holes. They were named 'primordial black holes'.

### **Are they visible?**

- **Black holes are not radiant and will not be visible through any telescope.** However, as first suggested by Albert Einstein, if by chance, a tiny primordial black hole eclipses a distant star, light rays of the star will bend around the black hole due to gravitational effect, resulting in the star appearing to be brighter than it originally is for a short while. Called 'gravitational lensing', this rare phenomena can occur only when the star, the black hole and the observer on the Earth are aligned in a straight line.
- When the black hole is in alignment with a distant star, due to gravitational attraction, light rays are bent inwards like a lens, making the star appear brighter.



### Latest findings:

- The research team used the **Hyper Suprime-Cam** on the Japanese Subaru Telescope located in Hawaii to look for any tell-tale evidence of primordial black holes between Earth and Andromeda galaxy using gravitational lensing technique.
- For one whole night, the research team took 190 consecutive images of Andromeda galaxy. If the Universe is filled with invisible teeny weeny primordial black holes, with masses lighter than the moon, as postulated by Stephen Hawking, then the team should have seen at least 1,000 gravitational lensing events. However, they were able to see at most one such candidate event, if not none. This implies Prof Stephen Hawking's theory that such black holes make up all of dark matter is wrong.

What is dark matter?

- In most galaxies, the stars closer to the centre and the stars at the edge of the galaxies take almost same time to make one revolution. This implied that **something invisible and enveloping the galaxies was giving an extra push to the outer stars, speeding them up**. This entity has remained as one of the central unresolved puzzles in cosmology since 1930s. It is named 'Dark Matter'.
- **The material is considered to be a 'matter' since it appears to have gravitational attraction and it is 'dark' because it does not seem to interact with light** (or for that matter any part of the electromagnetic spectrum).
- **Composition:** Almost 85% of the total mass of the Universe is composed of dark matter.

Sources: the hindu.

## 2. EMISAT MISSION

### What to study?

- For Prelims and Mains: Key features and significance of the mission.

**Context:** The Indian Space Research Organisation (ISRO) has launched the **country's first electronic surveillance satellite, EMISAT**.

- It was launched on-board PSLV-C45. As many as 28 small satellites of international customers were also put in space as secondary riders.

### How does EMISAT work?

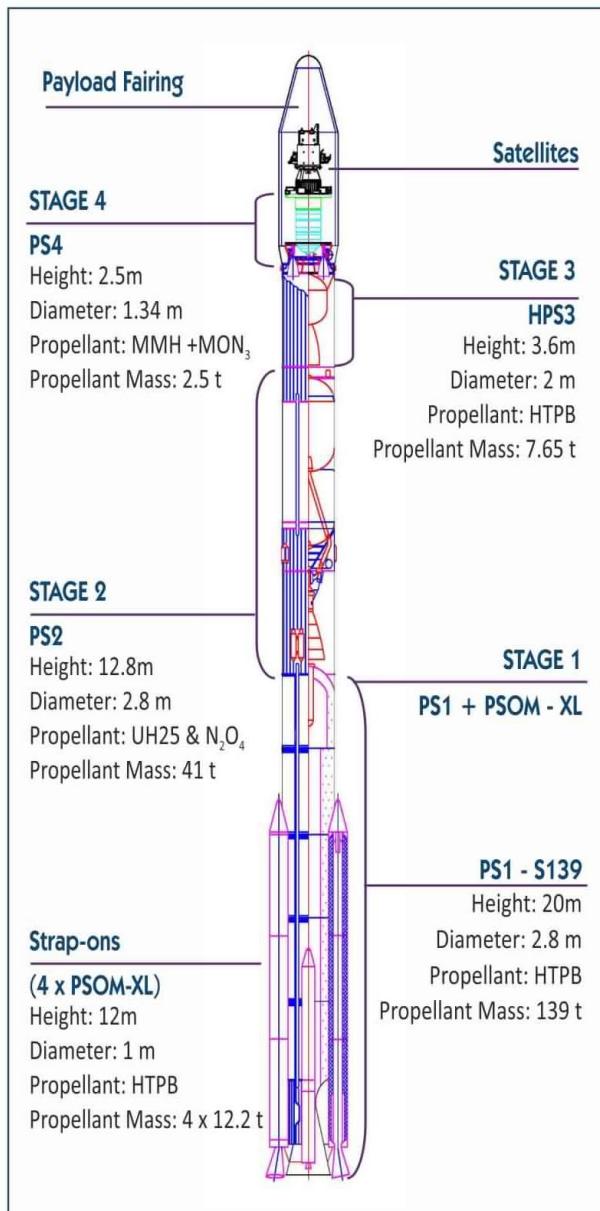
- EMISAT is an advanced electronic intelligence (ELINT) satellite **jointly developed by ISRO-DRDO**. It is meant for electromagnetic spectrum measurements.
- It is **modelled after a famous Israeli spy satellite called SARAL (Satellite with ARgos and ALtika)**. Both these satellites have the SSB-2 bus protocol — the core component for their sharp electronic surveillance capabilities across the length and width of a large country like India.
- EMISAT also has a **special altimeter (a radar altitude measuring device) called 'AltiKa'** that works in the Ka-band microwave region of the spectrum. The electronic surveillance payload of EMISAT was developed under a DRDO's project called KAUTILYA.
- **The main capability of EMISAT is in signal intelligence** — intercepting signals broadcasted by communication systems, radars, and other electronic systems. The Ka-band frequency that EMISAT is sensitive to, allows the 436-kg EMISAT — India's newest spy in the sky — to scan through ice, rain, coastal zones, land masses, forests and wave heights with ease.

### Many Firsts In The Launch:

- **First time ISRO is launching satellites in three different orbits.**
- The PSLV-C45 launch vehicle is also the **first PSLV rocket to use four strap-on motors**. The four strap-on motor rockets are from the PSLV-QL range.
- This is the **first time it has been envisaged to provide a microgravity environment** for research organizations and academic institutes to perform experiments.
- The PSLV-C45 is also the **first launch to use solar panels to make the fourth stage last longer in orbit**. Using the solar panels in the fourth stage, the PSLV can provide power to attached payloads almost indefinitely.
- **PSLV-C45: First Launch Vehicle to Use Solar Propulsion.**

# PSLV-C45 successfully launches EMISAT and 28 customer satellites

- PSLV-C45 is the 47<sup>th</sup> flight of the Polar Satellite Launch Vehicle (PSLV)
- 1<sup>st</sup> flight of its QL variant (with 4 strap-ons)



EMISAT	
• Lift-off weight	: 436 kg
• Altitude	: 748 km
• Inclination	: 98.376 deg
• Power	: 800 W

28 International Customer Satellites		
Country	Satellite Name	No. of Satellites
Lithuania	BlueWalker1	1
	M6P	1
Spain	Aistechsat-3	1
Switzerland	Astrocast-2	1
USA	Flock-4A	20
	LEMUR	4

PS4 as an Orbital Platform	
PS4 hosts three payloads:	
1.	Automatic Identification System from ISRO
2.	Automatic Packet Repeating System from AMSAT India
3.	Advanced Retarding Potential Analyzer for Ionospheric Studies from Indian Institute of Space Science and Technology

Sources: the hindu.

## 3. HAYABUSA2

### What to study?

- For Prelims and Mains: Objectives and significance of the mission, Asteroid Ryugu.

**Context:** Japan's spacecraft Hayabusa-2 recently dropped an explosive on an asteroid to make a crater. Its aim was to make a crater on asteroid. Also, this spacecraft will collect its underground samples to find possible clues to the origin of the solar system.

- Notably, **Hayabusa2** is the second Japanese spacecraft to land on an asteroid, after Hayabusa achieved a similar feat back in 2005.

#### **Hayabusa:**

- In mid-September 2005, Hayabusa landed on the asteroid Itokawa, and managed to collect samples in the form of grains of asteroidal material. It returned to Earth with the samples in June 2010, thereby becoming the first spacecraft to return asteroid samples to Earth for analysis.

#### **Hayabusa2:**

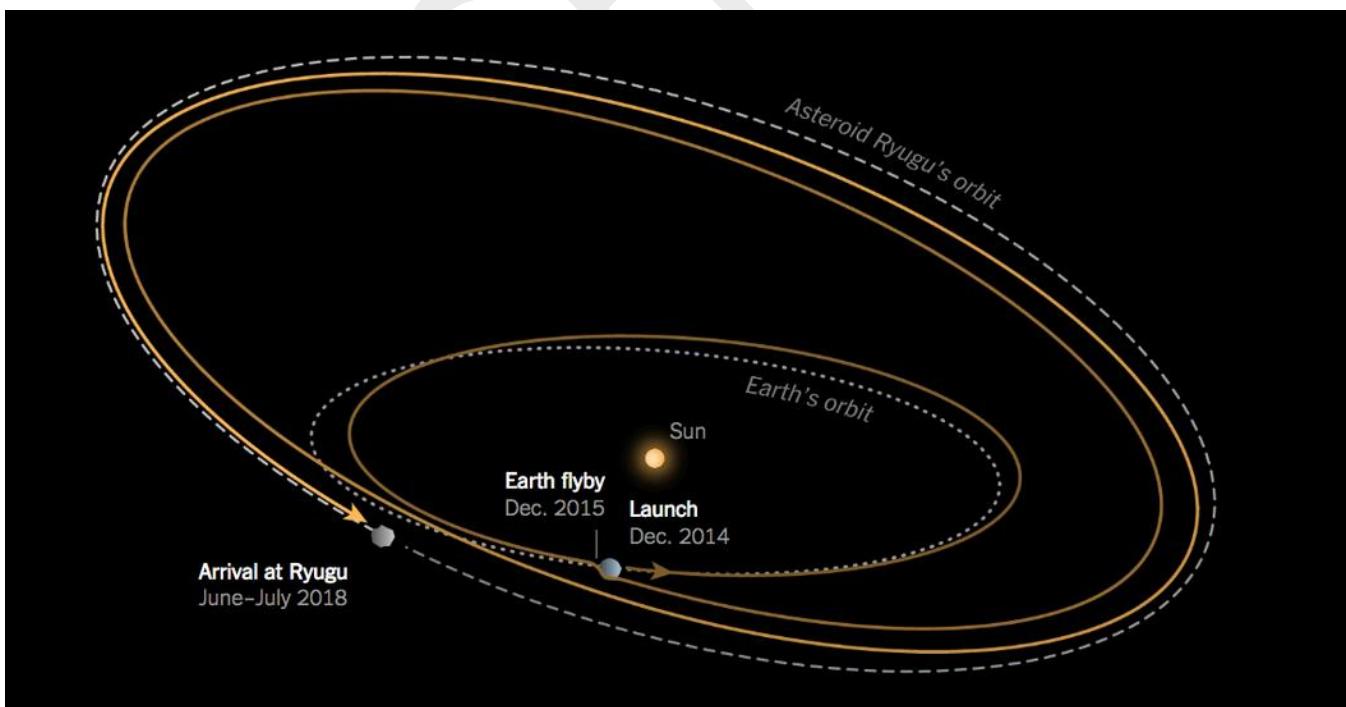
- It is an asteroid sample-return mission operated by the Japanese space agency, JAXA.
- It was launched on 3 December 2014 and rendezvoused with near-Earth asteroid 162173 Ryugu on 27 June 2018.
- It is in the process of surveying the asteroid for a year and a half, departing in December 2019, and returning to Earth in December 2020.
- Hayabusa2 carries multiple science payloads for remote sensing, sampling, and four small rovers that will investigate the asteroid surface to inform the environmental and geological context of the samples collected.
- Since it arrived at Ryugu in June 2018, **Hayabusa 2 has dropped two hopping landers, collectively known as MINERVA-II**, onto the surface of the space rock to take pictures and measure the asteroid's temperature.

#### **The Hayabusa2 payload incorporates multiple scientific instruments:**

- Remote sensing:** Optical Navigation Camera (ONC-T, ONC-W1, ONC-W2), Near-Infrared Camera (NIR3), Thermal-Infrared Camera (TIR), Light Detection And Ranging (LIDAR).
- Sampling:** Sampling device (SMP), Small Carry-on Impactor (SCI), Deployable Camera (DCAM3).
- Four rovers:** Mobile Asteroid Surface Scout (MASCOT), Rover-1A, Rover-1B, Rover-2.

#### **The scientific objectives of Hayabusa2 mission are twofold:**

- To characterize the asteroid from remote sensing observations (with multispectral cameras, near-infrared spectrometer, thermal infrared imager, laser altimeter) on a macroscopic scale.
- To analyse the samples returned from the asteroid on a microscopic scale.



#### **What is the significance of the mission?**

- Ryugu is a C-type asteroid – a relic from the early days of the Solar System. Scientists think that C-type asteroids contain both organic matter, and trapped water, and might have been responsible for bringing both to Earth, thereby providing the planet with the materials necessary for life to originate.

## 4. BLACK HOLES

### What to study?

- For Prelims and Mains: Blackholes- origin, composition, why study them and significance of their study.
- Context:** The first photograph of a black hole was revealed by scientists recently.

### What is a black hole?

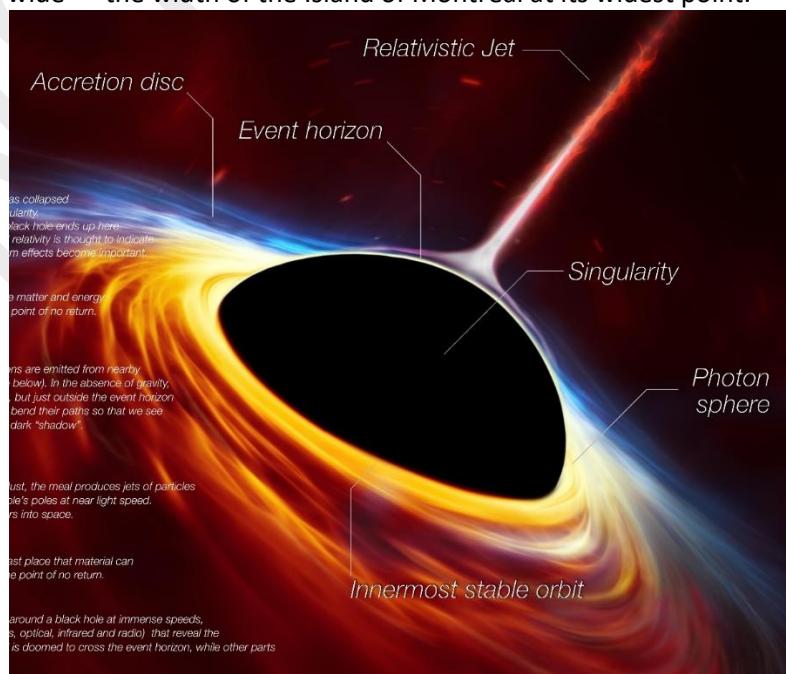
- A black hole is an object in space that is so dense and has such **strong gravity** that **no matter or light can escape** its pull. Because no light can escape, it is black and invisible.
- There's a boundary at the edge of a black hole called the **event horizon**, which is the **point of no return** — any light or matter that crosses that boundary is sucked into the black hole. It would need to travel faster than the speed of light to escape, which is impossible.
- Anything that crosses the event horizon is destined to fall to the very centre of the black hole and be squished into a single point with infinite density, called the **singularity**.

### If black holes are invisible, how can we detect or photograph them?

- By **looking for the effects of their extreme gravity**, which pulls stars and gases toward them.
- Also, while anything past **the event horizon is invisible**, outside that boundary there is sometimes a spiral disk of gas that the black hole has pulled toward — but not yet into — itself.
- The gases in that accretion disk are heated up as they accelerate toward the black hole**, causing them to glow extremely brightly. The colours they glow are invisible to us, but are detectable with an X-ray telescope.
- Scientists have also detected the gravitational waves generated when two black holes collide**. light surrounding the black hole right to the edge of the event horizon, which is the goal of the Event Horizon Telescope.

### How big are black holes?

- Small black holes are called **stellar-mass black holes**. They have masses similar to those of larger stars — about five to 20 times the mass of the sun. The other kind is **supermassive black holes**, which are millions to billions of times more massive than the sun. That's the kind the Event Horizon Telescope has been trying to photograph, as bigger objects ought to be easier to see. There is some evidence that black holes between these two sizes exist, but that has yet to be confirmed.
- While black holes are very massive, that doesn't mean they take up a lot of space. Because they're so dense, they're actually quite small. According to NASA, a black hole 20 times the mass of the sun could fit inside a ball 16 kilometres wide — the width of the Island of Montreal at its widest point.



## Singularity

*At the very centre of a black hole, matter has collapsed into a region of infinite density called a singularity.  
All the matter and energy that fall into the black hole ends up here.  
The prediction of infinite density by general relativity is thought to indicate the breakdown of the theory where quantum effects become important.*

## Event horizon

*This is the radius around a singularity where matter and energy cannot escape the black hole's gravity: the point of no return.  
This is the "black" part of the black hole.*

## Photon sphere

*Although the black hole itself is dark, photons are emitted from nearby hot plasma in jets or an accretion disc (see below). In the absence of gravity, these photons would travel in straight lines, but just outside the event horizon of a black hole, gravity is strong enough to bend their paths so that we see a bright ring surrounding a roughly circular dark "shadow".*

## Relativistic jets

*When a black hole feeds on stars, gas or dust, the meal produces jets of particles and radiation blasting out from the black hole's poles at near light speed.  
They can extend for thousands of light-years into space.*

## Innermost stable orbit

*The inner edge of an accretion disc is the last place that material can orbit safely without the risk of falling past the point of no return.*

## Accretion disc

*A disc of superheated gas and dust whirls around a black hole at immense speeds, producing electromagnetic radiation (X-rays, optical, infrared and radio) that reveal the black hole's location. Some of this material is doomed to cross the event horizon, while other parts may be forced out to create jets.*

### Where are black holes found?

- Supermassive black holes are found at the centre of most galaxies, including our own Milky Way. The one in our galaxy is called **Sagittarius A\*** and is one of those the Event Horizon Telescope has been attempting to photograph.
- **Sagittarius A\*** isn't the only black hole in our galaxy, though. Earlier this year, astronomers discovered another 12 within three light-years of it, suggesting there could be upwards of 10,000 black holes around the galactic centre.

### Where do black holes come from?

- **Supermassive black holes are believed to form at the same time as the galaxy that surrounds them, but astronomers aren't sure exactly how.**
- **Stellar mass black holes** form when a star with a mass greater than three times that of our sun runs out of fuel. It explodes into a supernova and collapses into an extremely dense core that we know as a black hole — something predicted by Albert Einstein's general theory of relativity.
- **Einstein's theory also predicts the size and shape of the black holes** that the Event Horizon Telescope is trying to photograph.

Sources: ie.

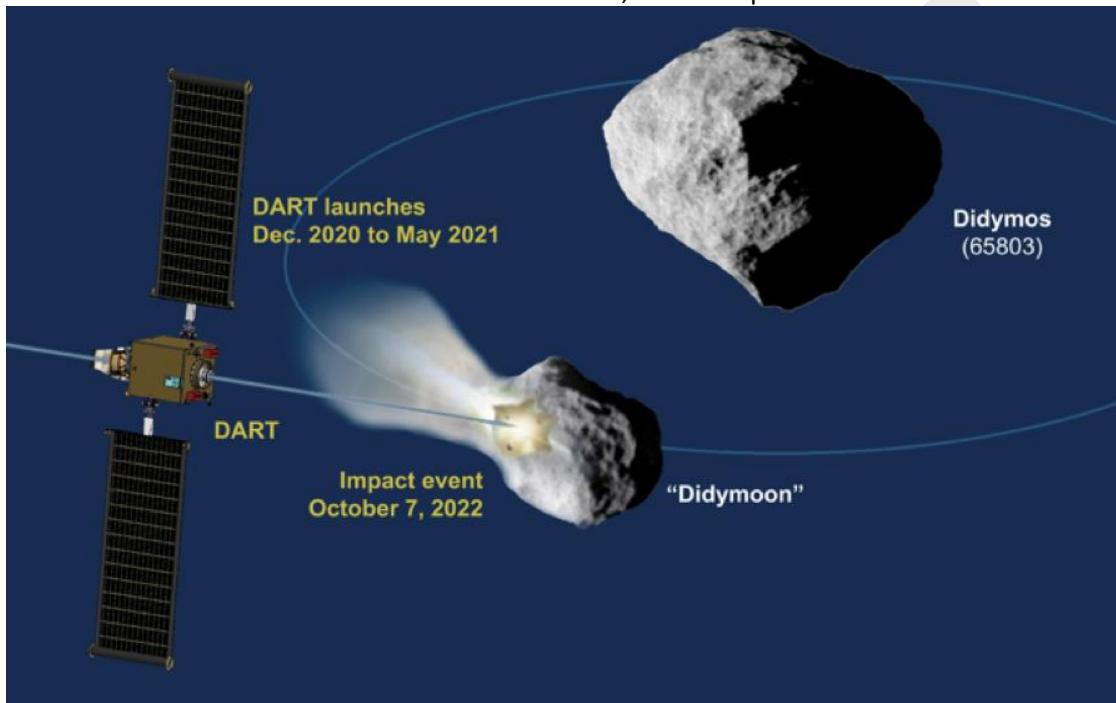
## 5. DOUBLE ASTEROID REDIRECTION TEST (DART)

### What to study?

- For Prelims and Mains: Key features and significance of DART.

**Context:** SPACEX TO LAUNCH NASA'S ASTEROID-SMASHING MISSION. The mission will blast off in June 2021 and will smash into the asteroid's moon around October 2022.

- The **Double Asteroid Redirection Test, or DART**, is a spacecraft designed to determine whether an asteroid can be redirected with a high-speed collision.
- SpaceX will launch the spacecraft toward an asteroid named Didymos** about 4 million miles from Earth. It then will ram into the asteroid's small moon at about 13,000 miles per hour.



### About the DART:

- DART would be NASA's first mission to demonstrate what's known as the kinetic impactor technique** – striking the asteroid to shift its orbit – to defend against a potential future asteroid impact.

### How it impacts?

- The target for DART is an asteroid that will have a distant approach to Earth in October 2022, and then again in 2024. The asteroid is called **Didymos – Greek for “twin”** -because it is an asteroid binary system that consists of two bodies: Didymos A, about 780 metres in size, and a smaller asteroid orbiting it called Didymos B, about 160 metres in size.
- DART would impact only the smaller of the two bodies, Didymos B. The Didymos system has been closely studied since 2003. The primary body is a rocky S-type object, with composition similar to that of many asteroids.
- The composition of its small companion, Didymos B, is unknown, but the size is typical of asteroids that could potentially create regional effects should they impact Earth. After launch, DART would fly to Didymos and use an APL-developed onboard autonomous targeting system to aim itself at Didymos B.
- Then the refrigerator-sized spacecraft would strike the smaller body at a speed about nine times faster than a bullet, about six kilometres per second. Earth-based observatories would be able to see the impact and the resulting change in the orbit of Didymos B around Didymos A, allowing scientists to better determine the capabilities of kinetic impact as an asteroid mitigation strategy.
- The kinetic impact technique works by changing the speed of a threatening asteroid by a small fraction of its total velocity, but by doing it well before the predicted impact so that this small nudge will add up over time to a big shift of the asteroid's path away from Earth.

Sources: the hindu.

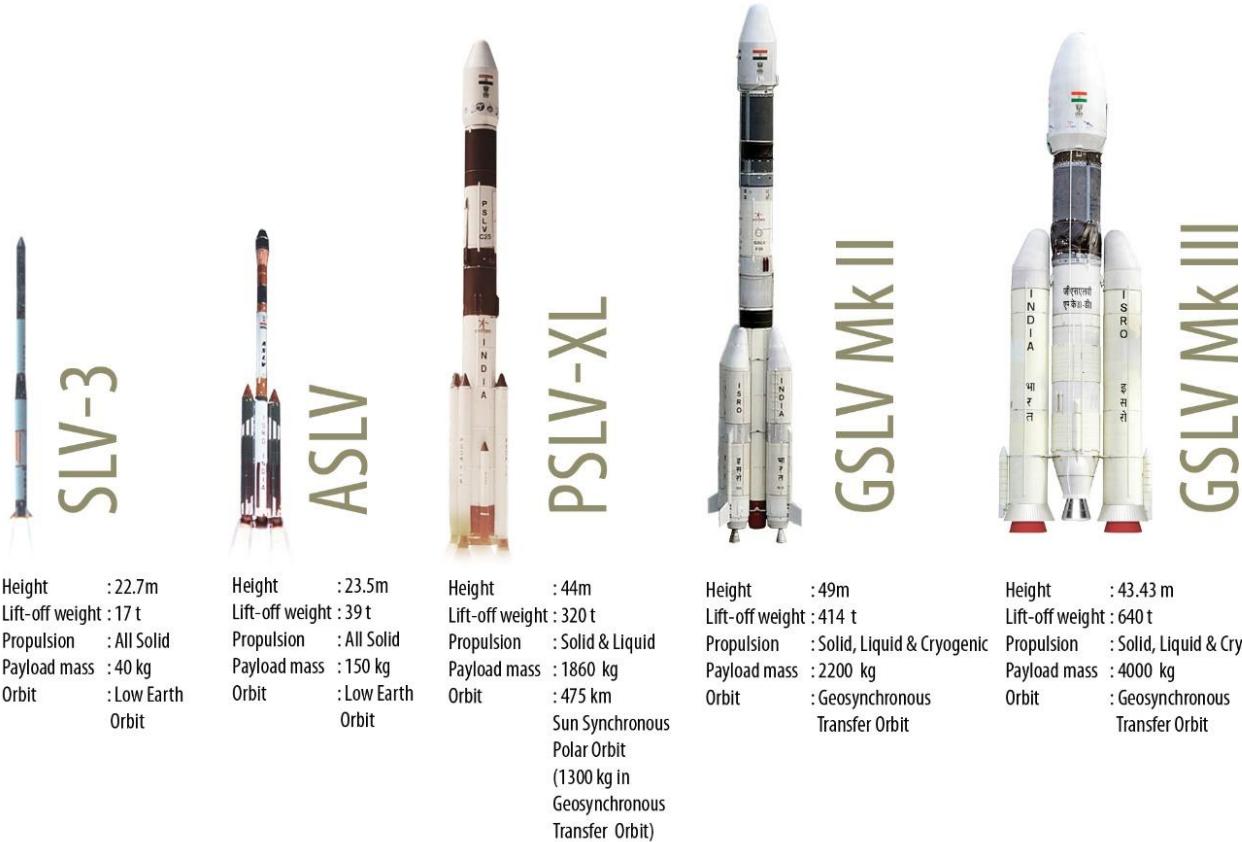
## 6. GSLV PROGRAMME

### What to study?

- For Prelims and Mains: GSLV and GSLV programme- key features and significance.

**Context:** The Union Cabinet has approved the ongoing **Phase 4 of the Geosynchronous Satellite Launch Vehicle (GSLV) programme.**

- The total fund requirement for the GSLV Continuation Programme is Rs 2729.13 crores including the cost of five GSLV vehicles, essential facility augmentation, programme management and launch campaign.



### The programme and its significance:

- The GSLV Programme – Phase 4 will enable the launch of 2 tonne class of satellites for Geo-imaging, Navigation, Data Relay Communication and Space Sciences into the Geosynchronous Transfer Orbit (GTO).**
- Under the GSLV Continuation Programme, five GSLV flights have been planned during the period 2021-2024.**
- The GSLV Continuation Programme – Phase 4 will meet the launch requirement of satellites for providing critical Satellite Navigation Services and Data Relay Communication for supporting the Indian Human spaceflight programme '**Gaganyaan**' and the next interplanetary mission to Mars.

### Overall significance:

- It will help **sustain the self-reliance** in the launching of similar satellites for national requirements including next generation navigation satellites, data relay communication satellites and interplanetary missions.

### What is Geosynchronous Satellite Launch Vehicle (GSLV)?

- GSLV is a 49 m tall **three stage** vehicle with the first stage comprising a **solid booster** with four liquid strap-on motors, each weighing 40 ton. The second stage is a **liquid** engine and the **third stage** is the indigenously built **Cryogenic Upper Stage** (CUS) which uses 15 ton of cryogenic propellants such as Liquid Hydrogen (LH<sub>2</sub>) as fuel and Liquid Oxygen (LOX) as Oxidiser.
- With the recent successful launch of **GSLV-F11** on December 19, 2018, GSLV has successfully placed 10 national satellites.

## 7. NASA'S KEPLER SPACE TELESCOPE & TESS

### What to study?

- For Prelims: About Kepler telescope, TESS.
- For Mains: What are exoplanets, significance of their findings.

**Context:** NASA's **Transiting Exoplanet Survey Satellite, TESS**, has discovered its **first Earth-sized exoplanet**. The planet, named **HD 21749c**, is the smallest world outside our solar system that TESS has identified yet.

- The new planet orbits the star HD 21749 — a very nearby star, just 52 light years from Earth. The star also hosts a second planet — HD 21749b — a warm “sub-Neptune” with a longer, 36-day orbit.

### Background:

- While this is the first Earth-sized planet discovered by TESS, other Earth-sized exoplanets have been discovered in the past, mainly by **NASA's Kepler Space Telescope**, a since-retired telescope that monitored more than 530,000 stars.
- In the end, the Kepler mission detected 2,662 planets, many of which were Earth-sized, and a handful of those were deemed to be within their star's habitable zone — where a balance of conditions could be suitable for hosting life.

### About Kepler Mission:

- **Launched in 2009, the Kepler mission is specifically designed to survey our region of the Milky Way galaxy to discover hundreds of Earth-sized and smaller planets** in or near the habitable zone and determine the fraction of the hundreds of billions of stars in our galaxy that might have such planets.

### About TESS mission:

- The **Transiting Exoplanet Survey Satellite (TESS)** is a NASA mission that will look for planets orbiting the brightest stars in Earth's sky. It was led by the Massachusetts Institute of Technology with seed funding from Google.
- **Mission:** The mission will monitor at least 200,000 stars for signs of exoplanets, ranging from Earth-sized rocky worlds to huge gas giant planets. TESS, however, will focus on stars that are 30 to 100 times brighter than those Kepler examined. This will help astronomers better understand the structure of solar systems outside of our Earth, and provide insights into how our own solar system formed.
- **Orbit:** TESS will occupy a never-before-used orbit high above Earth. The elliptical orbit, called P/2, is exactly half of the moon's orbital period; this means that TESS will orbit Earth every 13.7 days.
- **How it works?** It will use **transit method to detect exoplanets**. It watches distant stars for small dips in brightness, which can indicate that planet has passed in front of them. Repeated dips will indicate planet passing in front of its star. This data has to be validated by repeated observations and verified by scientists.

Sources: the hindu.

## 8. NASA'S CASSINI SPACECRAFT

### What to study?

- For Prelims: About Cassini Mission and its accomplishments.
- For Mains: Significance and key objectives of the mission.

**Context:** Data from **NASA's Cassini-Huygens spacecraft reveal new information about the lakes on Titan, Saturn's largest moon.**

- **The small liquid lakes in Titan's northern hemisphere are more than 100 meters deep, perched atop plateaus and filled with methane.** They also **appear to be seasonal**. And the bodies of liquid on one side of the northern hemisphere are completely different than those on the other side.

### About Cassini Mission:

- Launched in **1997**, the Cassini mission — a cooperation between **NASA**, the **European Space Agency** and the **Italian Space Agency** — has sent back thousands of stunning **images** and made numerous discoveries about the ringed planet and its moons.

- The spacecraft was launched on October 15, 1997. This was the **first landing ever accomplished in the outer Solar System**.
- **Cassini–Huygens** is an unmanned spacecraft sent to the planet **Saturn**.
- Cassini is the fourth space probe to visit Saturn and the first to enter orbit.
- Its design includes a **Saturn orbiter and a lander for the moon Titan**. The lander, called **Huygens**, landed on Titan in **2005**.

#### Objectives of the mission:

- Determine the three-dimensional structure and dynamic behavior of the rings of Saturn.
- Determine the composition of the satellite surfaces and the geological history of each object.
- Determine the nature and origin of the dark material on Iapetus's leading hemisphere.
- Measure the three-dimensional structure and dynamic behavior of the magnetosphere.
- Study the dynamic behavior of Saturn's atmosphere at cloud level.
- Study the time variability of Titan's clouds and hazes.
- Characterize Titan's surface on a regional scale.

Sources: the hindu.

## 9. NASA'S INSIGHT SPACECRAFT

#### What to study?

- For prelims: Key facts on InSight Mission.
- For mains: Why study mars, Objectives of the mission and its significance.

**Context:** NASA's Mars Lander InSight has recorded its first 'Marsquake.' It has recorded a quake of 2 or 2.5 magnitude which is hard to predict on Earth's surface.

#### Significance of the mission:

1. The findings of Mars' formation will help better **understand how other rocky planets, including Earth, were and are created**. But InSight is more than a Mars mission – it is a terrestrial planet explorer that would address one of the most fundamental issues of planetary and solar system science – understanding the processes that shaped the rocky planets of the inner solar system (including Earth) more than four billion years ago.
2. **InSight would delve deep beneath the surface of Mars, detecting the fingerprints of the processes of terrestrial planet formation, as well as measuring the planet's "vital signs":** Its "pulse" (seismology), "temperature" (heat flow probe), and "reflexes" (precision tracking).
3. InSight seeks to answer one of science's most fundamental questions: How did the terrestrial planets form?

#### About InSight Mission:

- InSight is part of NASA's **Discovery Program**, managed by the agency's Marshall Space Flight Center in Huntsville, Alabama.
- It will be the **first mission to peer deep beneath the Martian surface**, studying the planet's interior by measuring its heat output and listening for **marsquakes**, which are seismic events similar to earthquakes on Earth.
- It will use the seismic waves generated by marsquakes to develop a map of the planet's deep interior.

#### Why Mars?

- Previous missions to Mars have investigated the surface history of the Red Planet by examining features like canyons, volcanoes, rocks and soil. However, signatures of the planet's formation can only be found by sensing and studying its "vital signs" far below the surface.
- In comparison to the other terrestrial planets, Mars is neither too big nor too small. This means that it preserves the record of its formation and can give us insight into how the terrestrial planets formed. It is the perfect laboratory from which to study the formation and evolution of rocky planets. Scientists know that Mars has low levels of geological activity. But a lander like InSight can also reveal just how active Mars really is.

Sources: toi.

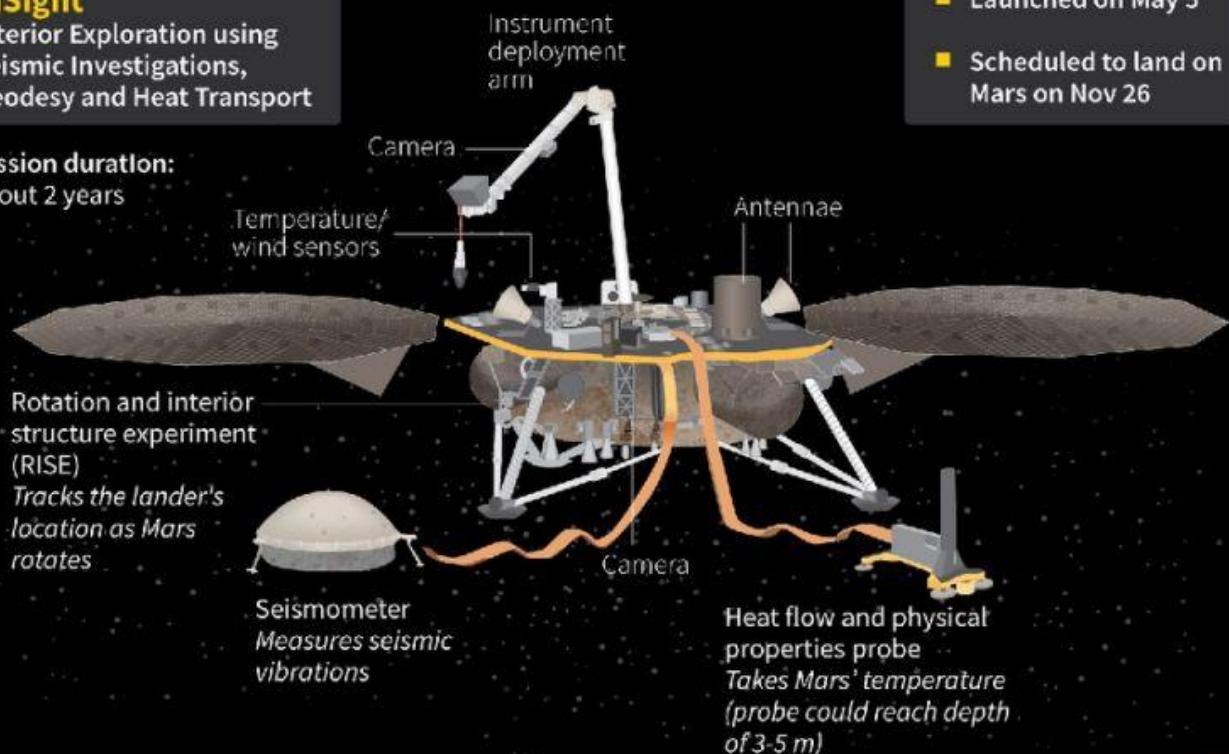
## Mars InSight lander

NASA's newest unmanned Mars lander aims to detect "marsquakes" and unravel the mystery of how rocky planets like Earth form

### InSight

Interior Exploration using Seismic Investigations, Geodesy and Heat Transport

Mission duration:  
About 2 years



- Launched on May 5
- Scheduled to land on Mars on Nov 26

Sources: NASA, ESA

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## 10 ANTARES ROCKET

### What to study?

- For prelims and mains: Antares rocket, Cygnus cargo spacecraft- mission objectives, cubesat.

**Context:** Antares rocket built by Northrop Grumman recently lifted off from NASA's Wallops Flight Facility on Virginia's Eastern Shore carrying the Cygnus Cargo Spacecraft to the International Space Station.

- The mission is called **NG-11**. It is the eleventh cargo flight for NASA by Northrop Grumman and will be the company's longest one to date.
- The NG-11 mission is also the final cargo mission for NASA by Northrop Grumman under the agency's Commercial Resupply Services 1 program. To mark the occasion, Northrop Grumman named the NG-11 Cygnus the S.S. Roger Chaffee in honor of NASA astronaut Roger Chaffee, who was killed in the Apollo 1 fire alongside crewmates Gus Grissom and Ed White, Jr.

### Mice aboard:

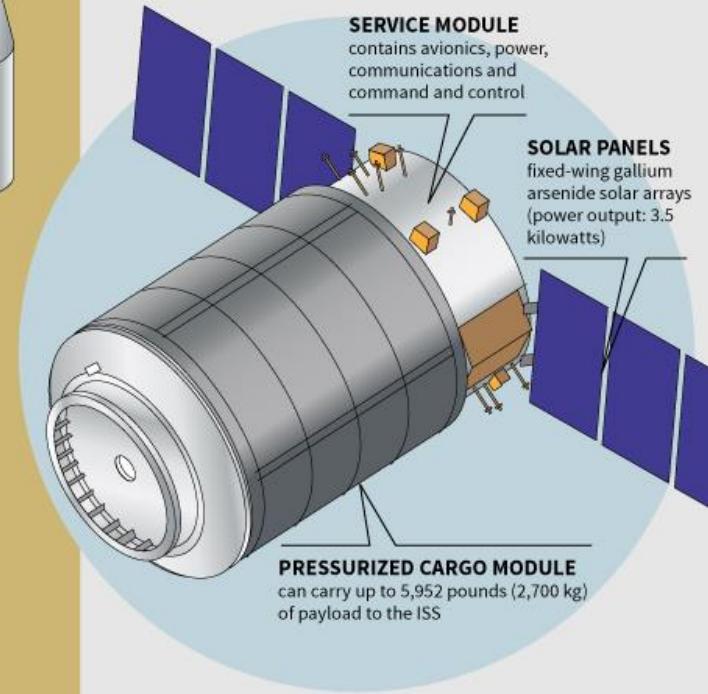
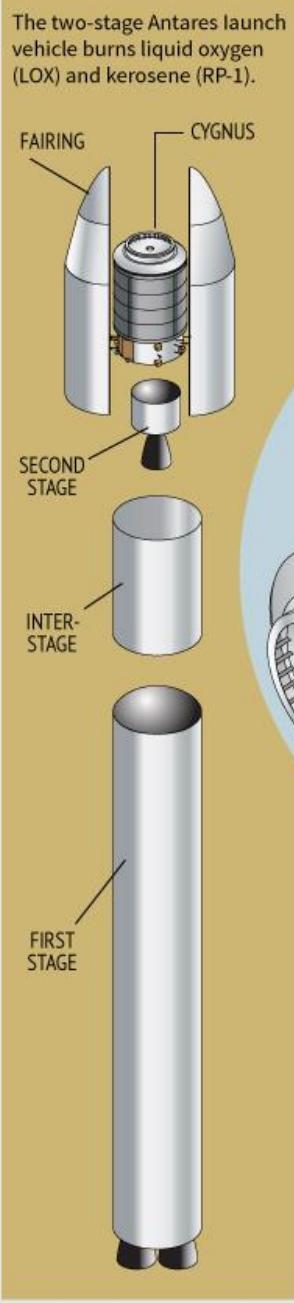
- The mice aboard Cygnus are at the core of one such study, which aims to test the effectiveness of an anti-tetanus vaccine.
- The rodents are split into two groups of 20; half will receive the vaccine in space and the other 20 will not receive the vaccine. Scientists will study the mice to see how the animals responded to the vaccine once they are back on Earth.

### Other experiments:

- Other wild science experiments on Cygnus include testing out two robotic systems; Seeker, which is designed to hunt for air leaks on the Space Station, and Astrobee, which aims to help the station's staff with tasks such as inventory and maintenance.

# Antares Rocket and Cygnus Spacecraft

Virginia-based Orbital Sciences holds a \$1.9 billion NASA contract to make eight unmanned supply runs to the International Space Station with its Antares rocket and Cygnus cargo ferry.



## ROCKETS COMPARED

	Orbital Sciences Antares	SpaceX Falcon 9	Space Shuttle
Height overall	133 ft (40 m)	154 ft (47 m)	184 ft (56 m)
Liftoff weight	530,000 lb (240,000 kg)	735,000 lb (333,400 kg)	4,470,000 lb (2,027,600 kg)
Payload to Low Earth Orbit	11,023 lb (5,000 kg)	23,040 lb (10,450 kg)	53,600 lb (24,400 kg)

SOURCE: ORBITAL SCIENCES

KARL TATE / © SPACE.com

- There's gear to build pristine ZBLAN fiber-optic cables in space, and a prototype for a novel air scrubber that removes carbon dioxide from the station's atmosphere.
- On the exterior of the Cygnus are small **CubeSats** that will be deployed after the spacecraft leaves the space station this summer.
- The Antares rocket's upper stage also carried 60 so-called **ThinSats (tiny satellites)** were built by elementary and high school students; one NASA CubeSat (called SASSI2) was built by students at both universities in Indiana and Illinois.

Sources: [toi](#).

## 11. MOST ANCIENT TYPE OF MOLECULE IN OUR UNIVERSE

### What to study?

- For Prelims and Mains: Helium hydride ion- discovery and significance.

**Context:** Scientists have detected **the most ancient type of molecule in our universe**- Helium hydride ion- in space for the first time ever.

- It was discovered with the help of the **GREAT spectrometer aboard SOFIA** in the envelope of the planetary nebula NGC 7027.
- Despite its importance in the history of the early Universe, HeH<sup>+</sup> has so far escaped detection in astrophysical nebulae — cloud of gas and dust in outer space.

### Key findings:

- **Helium hydride ion (HeH<sup>+</sup>) was the first molecule that formed** when, almost 14 billion years ago, falling temperatures in the young universe allowed recombination of the light elements produced in the Big Bang. At that time, **ionized hydrogen and neutral helium atoms reacted to form HeH<sup>+</sup>**.

### How and when was it formed?

- During the dawn of chemistry when the temperature in the young universe had fallen below 4000 Kelvin, the ions of the light elements (hydrogen, helium, deuterium and traces of lithium) produced in Big Bang nucleosynthesis recombined in reverse order of their ionization potential.
- **Helium combined first with free electrons to form the first ever neutral atom.** At that time hydrogen was still ionized or present in form of bare protons. **Helium atoms combined with these protons into the helium hydride ion HeH<sup>+</sup>**, the universe's first molecular bond.
- As recombination progressed, **HeH<sup>+</sup> reacted with then neutral hydrogen and created a first path to the formation of molecular hydrogen — marking the beginning of the modern universe.**

### Background:

- The lack of definitive evidence of its very existence in interstellar space has been a dilemma for astronomy for a long time.
- The discovery of HeH<sup>+</sup> is a dramatic and beautiful demonstration of nature's tendency to form molecules.

Sources: [the hindu](#).

## 12. BEPICOLOMBO

### What to study?

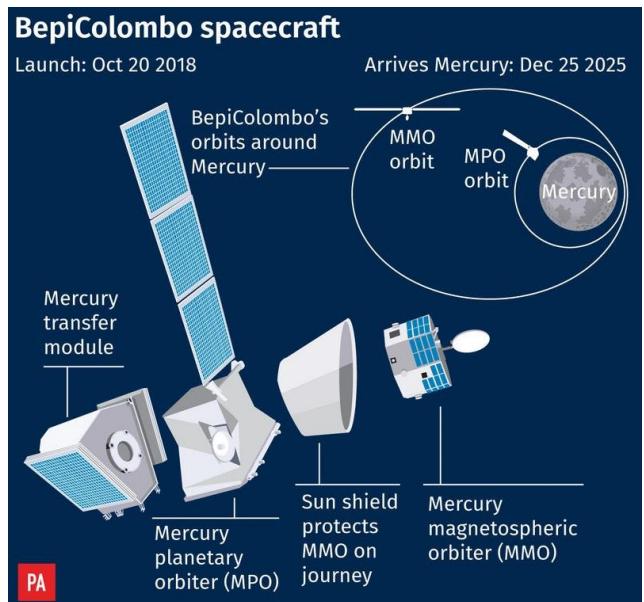
- For Prelims and Mains: The mission- objectives, significance and working.

**Context:** Following a series of tests conducted in space over the past five months, **the ESA-JAXA BepiColombo mission** has successfully completed its near-Earth commissioning phase and is now ready for the operations that will take place during the cruise and, eventually, for its scientific investigations at Mercury.

### About BepiColombo:

- BepiColombo is a joint mission between ESA and the Japan Aerospace Exploration Agency (JAXA), executed under ESA leadership.

- The mission comprises two spacecraft: the **Mercury Planetary Orbiter (MPO)** and the **Mercury Magnetospheric Orbiter (MMO)**. The MPO will study the surface and internal composition of the planet, and the MMO will study Mercury's magnetosphere, that is, the region of space around the planet that is influenced by its magnetic field.
- Need:** The scientific interest in going to Mercury lies in the valuable information that such a mission can provide to enhance our understanding of the planet itself as well as the formation of our Solar System; information which cannot be obtained with observations made from Earth.
- Challenges:** Europe's space scientists have identified the mission as one of the most challenging long-term planetary projects, because Mercury's proximity to the Sun makes it difficult for a spacecraft to reach the planet and to survive in the harsh environment found there.
- Significance:** Mercury is a poorly explored planet. So far, only two spacecraft have visited the planet: NASA's Mariner 10, which flew past three times in 1974–5 and returned the first close-up images of the planet, and NASA's MESSENGER spacecraft, which performed three flybys (two in 2008 and one in 2009) before entering orbit around the planet in March 2011. The information obtained when BepiColombo arrives will throw light not only on the composition and history of Mercury, but also on the history and formation of the inner planets in general, including Earth.



Sources: [toi](#).

## 13. EMIRATES MARS MISSION - HOPE PROBE

### What to study?

- For Prelims and Mains: Highlights, objectives and significance of the scheme.

**Context:** UAE has started its preparations for the upcoming **Mars Mission named- HOPE**.

### Background:

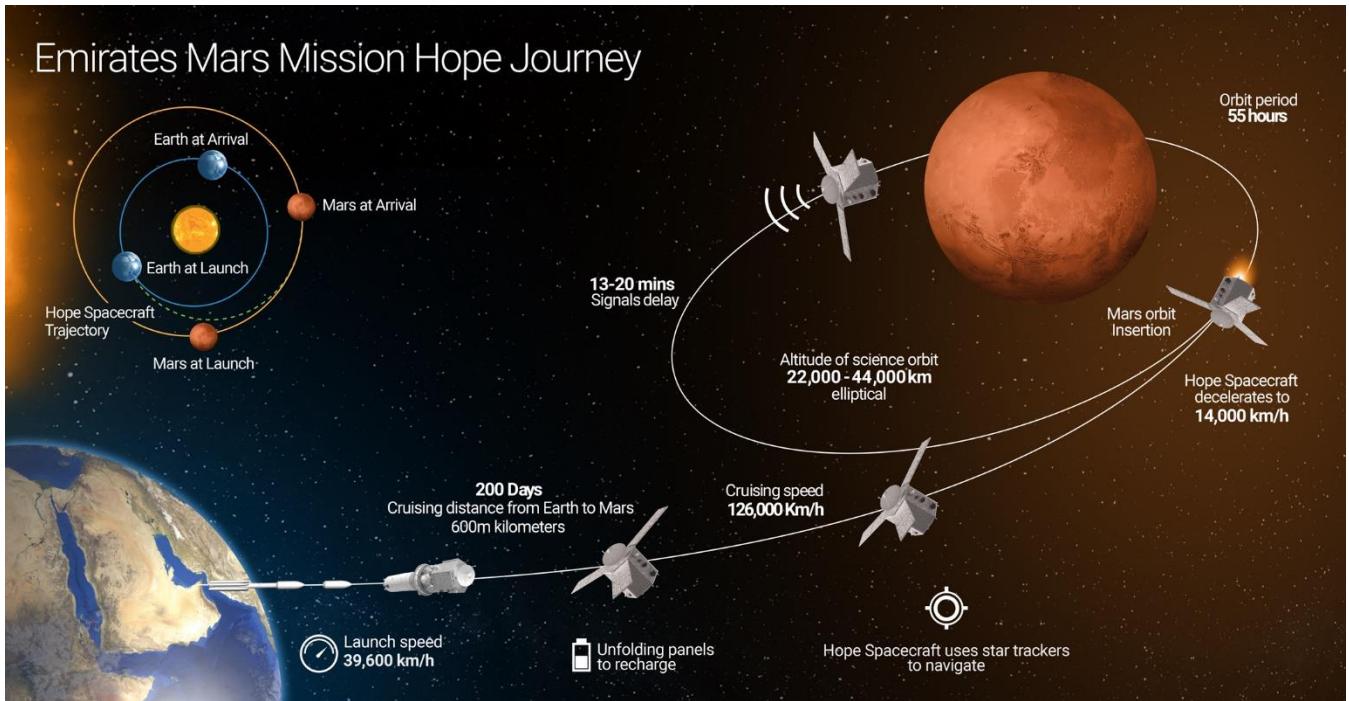
- In July 2014, the UAE leadership announced the launch of the Emirates Mars Mission project by the President of the UAE. Subsequently, the President issued a decree establishing the UAE Space Agency.

### HOPE Probe:

- The probe will be **built by an Emirati team of engineers and experts and will be sent on a scientific voyage of discovery to the Red Planet**.
- This will mark the **Arab world's entry into the era of space exploration and place the UAE among the major scientific countries that have begun programmes to explore Mars**.
- The probe will be sent to explore the Red Planet by 2020. Following a journey of several months, the probe is expected to enter the Red Planet's orbit in 2021, coinciding with the **50<sup>th</sup> anniversary of the formation of the UAE**.

### Scientific Objectives of the Probe Voyage:

- The Emirates Mars Mission project will answer scientific questions that have long puzzled scientists. These are questions about the Red Planet, which scientists have not been able to explain before because of the lack of data and information.
- The project will cover all aspects that have not been previously covered, whether scientific or knowledge-based, and it will work on drawing a clear and comprehensive picture of the Martian climate and the causes of the corrosion of its surface that has made it impossible for water to exist on the planet.
- The project will also provide insights about the weather on the Red Planet. It will observe weather phenomena such as dust storms and changes in temperature and how the atmosphere interacts with topography, from the highest volcano peaks to ice sheets to the vast deserts and the deepest canyons.



Sources: the hindu.

**Topics:** Awareness in the fields of IT, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

## 1. CRISPR TECHNOLOGY

### What to study?

- Static Part: All about CRISPR technology and how it works?
- Dynamic and Current: Recent developments, significance of the technology, concerns associated and ethical concerns associated.

**Context:** For the first time, four lizards have been genetically modified using the CRISPR-Cas9 gene editing tool.

### Key facts:

- Researchers from the University of Georgia (UGA) were able to target the pigmentation genes of **Anolis sagrei lizards** to create four albino offspring.
- The team specifically targeted the **tyrosinase gene** and successfully injected the gene editing solution into 146 oocytes.
- **Albinism** is a trait inherited from both parents and in this study, the researchers found that the CRISPR protein targeted the tyrosinase protein from both the mother and father of the offspring which means that the CRISPR solution was active long after fertilization.

### What are Genes and what is gene- editing?

- Genes contain the bio-information that defines any individual. Physical attributes like height, skin or hair colour, more subtle features and even behavioural traits can be attributed to information encoded in the genetic material.
- An ability to alter this information gives scientists the power to control some of these features. Gene “editing” — sometimes expressed in related, but not always equivalent, terms like genetic modification, genetic manipulation or genetic engineering — is not new.

### What is CRISPR-Cas9?

- The clustered, regularly interspaced, short palindromic repeats, or CRISPR/CRISPR-associated protein 9 (Cas9) (CRISPR-Cas9) system has revolutionised genetic manipulations and made gene editing simpler, faster and easily accessible to most laboratories.
- CRISPR technology is basically a gene-editing technology that can be used for the purpose of altering genetic expression or changing the genome of an organism. The technology can be used for targeting specific stretches of an entire genetic code or editing the DNA at particular locations.

### **Significance:**

- CRISPR technology is a simple yet powerful tool for editing genomes. It allows researchers to easily alter DNA sequences and modify gene function.
- Its many potential applications include correcting genetic defects, treating and preventing the spread of diseases and improving crops. However, its promise also raises ethical concerns.

### **How it works?**

- CRISPR-Cas9 technology behaves like a cut-and-paste mechanism on DNA strands that contain genetic information.
- The specific location of the genetic codes that need to be changed, or “edited”, is identified on the DNA strand, and then, using the Cas9 protein, which acts like a pair of scissors, that location is cut off from the strand. A DNA strand, when broken, has a natural tendency to repair itself.
- Scientists intervene during this auto-repair process, supplying the desired sequence of genetic codes that binds itself with the broken DNA strand.

### **Concerns:**

- Tampering with the genetic code in human beings is more contentious. Leading scientists in the field have for long been calling for a “global pause” on clinical applications of the technology in human beings, until internationally accepted protocols are developed.

### **Issues:**

- Study by Stanford University, U.S., found that the CRISPR-Cas9 system introduces **unexpected off-target (outside of the intended editing sites) effects in mice**. The fear that the CRISPR system is being prematurely rushed for clinical use lingers. Three recent reports have exacerbated this fear even further.
- Studies highlighted that CRISPR-Cas9-edited cells **might trigger cancer**.
- **May increase the risk of mutations** elsewhere in the genome in those cells.
- Although, CRISPR-Cas9 technology has been successfully used to cure several diseases however, **it remains many things are not clear like how we should determine which disease or traits** are appropriate for gene editing.
- **Ethical concerns:** In addition, there are concerns with manipulating human embryos for own interest.

### **Way ahead:**

- This CRISPR technology is indeed a path-breaking technology, to alter genes in order to tackle a number of conventional and unconventional problems, especially in the health sector.
- However, experiments and tests to validate its use must be subjected to appropriate scrutiny by the regulators, and their use must be controlled to prevent commercial misuse.

Sources: [toi](#).

## **2. ‘THREE-PERSON’ BABY BOY BORN IN GREECE**

### **What to study?**

- For prelims and Mains: Maternal spindle transfer (MST)- features, significance, ethical and other issues involved.

**Context:** Fertility doctors in Greece and Spain say they have produced a baby from three people in order to overcome a woman’s infertility. Some experts in the UK say the **procedure raises ethical questions** and should not have taken place.

### **Background:**

- **The experimental form of IVF uses an egg from the mother, sperm from the father, and another egg from a donor woman.** It was developed to help families affected by deadly mitochondrial diseases which are passed down from mother to baby.
- **The technique was used in Mexico in 2016 to produce a baby for a family with mitochondrial disease complications.** It was also used in Ukraine in 2017 to produce a baby for a 34-year-old Ukrainian mother suffering from “unexplained infertility.”

### How was it done?

- The team used a technique called **maternal spindle transfer (MST)**.
- All cells have **mitochondria**, which are like power packs for the cells and create the energy that keeps cells alive. While a child's DNA is a mixture from both the mother and father, **mitochondria are separate "packages of genetics" that come solely from the mother**.
- **Some people have a mitochondrial disease** — a problem with the genetics in their mitochondria — which can lead to severe, life-threatening conditions, although this is rare.
- **One treatment for a woman who might have one of these diseases is to replace the mitochondria in her eggs via IVF.** This can be done via a process like the one used in Greece where the DNA is taken out of the woman's egg and put into a donor woman's egg once the DNA has been stripped from it, which is then fertilised with sperm to create an embryo.

### Is it ethical?

- With this, a woman's inalienable right to become a mother with her own genetic material became a reality.
- However, some experts say the technique raises ethical questions and should be banned in cases not involving disease.
- The risks of the technique aren't entirely known, though may be considered acceptable if being used to treat mitochondrial disease.

Sources: the hindu.

## 3. E-CIGARETTES

### What to study?

- For Prelims and Mains: e-cigarettes- concerns, effects on health, need for regulation, challenges associated and measures needed.

**Context:** The Commerce Ministry has asked the Health Ministry to frame a law banning manufacture and sale of e-cigarettes in the country as in the absence of a domestic legislation, it would not be possible to put a blanket ban on its imports.

**What are e-cigarettes?** An electronic cigarette (or e-cig) is a battery-powered vaporizer that mimics tobacco smoking. It works by heating up a nicotine liquid, called "juice."

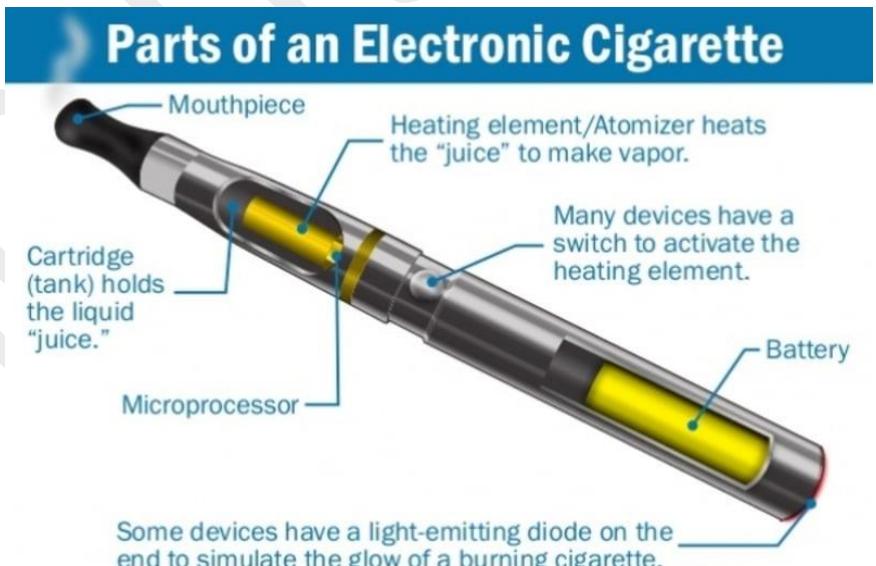
- Nicotine juice (or e-juice) comes in various flavors and nicotine levels. e-liquid is composed of five ingredients: vegetable glycerin (a material used in all types of food and personal care products, like toothpaste) and propylene glycol (a solvent most commonly used in fog machines.) propylene glycol is the ingredient that produces thicker clouds of vapor.
- Proponents of e-cigs argue that the practice is healthier than traditional cigarettes because users are only inhaling water vapor and nicotine.

### Regulation:

- **Why its hard to regulate them?** As e-cigarettes contain nicotine and not tobacco, they do not fall within the ambit of the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade

### The structure of a cell:

1. **Nucleus:** Where the majority of our DNA is held – this determines how we look and our personality.
2. **Mitochondria:** Often described as the cell's factories, these create the energy to make the cell function.
3. **Cytoplasm:** The jelly like substance that contains the nucleus and mitochondria.



and Commerce, Production, Supply and Distribution) Act, 2003 (**COTPA**), which mandates stringent health warnings on the packaging and advertisements of tobacco products.

- **Need for regulation:** The current unregulated sale of e-cigarettes is dangerous for a country like India where the number of smokers is on the decline (WHO Global Report, 2015) as it increases the possibility of e-cigarettes becoming a gateway for smoking by inducing nicotine addiction and perpetuating smoking by making it more attractive, thereby encouraging persons to become users of tobacco as well as e-cigarettes.

#### **WHO report on e-cigarettes and effects:**

- As per the report, Electronic Nicotine Delivery Systems (ENDS) (also known as e-cigarettes) emits nicotine, the addictive component of tobacco products. In addition to dependence, nicotine can have adverse effects on the development of the foetus during pregnancy and may contribute to cardiovascular disease.
- The WHO report further says that although nicotine itself is not a carcinogen, it may function as a “tumour promoter” and seems to be involved in the biology of malignant disease, as well as of neurodegeneration.
- Foetal and adolescent nicotine exposure may have long-term consequences for brain development, potentially leading to learning and anxiety disorders.
- The evidence is sufficient to warn children and adolescents, pregnant women, and women of reproductive age against ENDS use and nicotine.

**Why ban them?** Studies say ENDS have cancer-causing properties, are highly addictive and do not offer a safer alternative to tobacco-based products. Experts say e-cigarettes are just a mechanism to deliver nicotine in an attractive format.

#### **Way ahead:**

- The government should also impose appropriate restrictions on the sale and advertisement, online and otherwise, of e-cigarettes, including proper health warnings, in order to plug the existing regulatory vacuum. This should be done with immediate effect, and simultaneously the government should also commission independent scientific research on the benefits and risks posed by these products in the Indian context.

Sources: the hindu.

**(Q)** What are E-cigarettes? What are the potential health risks involved by smoking them? How do these differ from the conventional cigarettes? Explain.

## **4. GENOME SEQUENCING TO MAP POPULATION DIVERSITY**

#### **What to study?**

- For prelims: What is genome sequencing and how is it done? Human genome sequencing project and features.
- For Mains: Significance, need and challenges to the project.

**Context:** In an indigenous genetic mapping effort, nearly 1,000 rural youth from the length and breadth of India will have their **genomes sequenced** by the Council of Scientific and Industrial Research (**CSIR**). The project aims at educating a generation of students on the “usefulness” of genomics.

#### **Details of the project:**

- The project is an adjunct to a much larger government-led programme, still in the works, to sequence at least 10,000 Indian genomes.
- Typically, those recruited as part of genome-sample collections are representative of the country's population diversity. In this case, the bulk of them will be college students, both men and women, and pursuing degrees in the life sciences or biology.
- The project aims to reach out to a lot of collegians, educating them about genomics and putting a system in place that allows them to access information revealed by their genome.

#### **Methodology:**

- Genomes will be sequenced based on a blood sample and the scientists plan to hold at least 30 camps covering most States.
- Every person whose genomes are sequenced will be given a report. The participants would be told if they carry gene variants that make them less responsive to certain classes of medicines. For instance, having a

- certain gene makes some people less responsive to clopidogrel, a key drug that prevents strokes and heart attack.
- The project would involve the Hyderabad-based **Centre for Cellular and Molecular Biology (CCMB)** and cost ₹18 crore, with the sequencing to be done at the IGIB and the CCMB.

#### Need for genome sequencing:

- Ever since the human genome was first sequenced in **2003**, it opened a fresh perspective on the link between disease and the unique genetic make-up of each individual.
- Nearly 10,000 diseases — including cystic fibrosis, thalassemia — are known to be the result of a **single gene malfunctioning**.
- While genes may render some insensitive to certain drugs, genome sequencing has shown that cancer too can be understood from the viewpoint of genetics, rather than being seen as a disease of certain organs.

#### Significance of the project:

- Globally, many countries have undertaken genome sequencing of a sample of their citizens to determine unique genetic traits, susceptibility (and resilience) to disease.
- This is the first time that such a large sample of Indians will be recruited for a detailed study.

Sources: the hindu.

#### What are the uses of genome sequencing?

- A genome is an organism's **complete set of DNA**, including all of its genes.
- Genomics** is an interdisciplinary field of science focusing on the structure, function, evolution, mapping, and editing of genomes. Genomics also involves the sequencing and analysis of genomes through uses of high throughput DNA sequencing.
- Advances in genomics have triggered a revolution in discovery-based research and systems biology to facilitate understanding of even the most complex biological systems such as the brain.

## 5. PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS (PPV&FR) ACT, 2001

#### What to study?

- For Prelims and Mains: Key features of the act and the need for protection of farmers' rights.

**Context:** A group of farmer organisations and civil society representatives upped the ante against PepsiCo India after the MNC filed lawsuits against four potato growers from Sabarkantha district for allegedly growing a variety of potato — **FL 2027, also called FC5** — on which PepsiCo claimed exclusive rights by virtue of a **Plant Variety Certificate (PVC)** under the **Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001**.

#### What's the issue?

- PepsiCo India Holdings Pvt Ltd uses the registered variety of potatoes called FL 2027, which is a hybrid of FL 1867 and Wischip varieties, for manufacturing chips for its brand.
- The company is the registered breeder of FL 2027 under the **Protection of Plant Varieties and Farmers' Rights Act, 2001**. This entitles it to an exclusive right over the registered variety. **farmers are not authorised to grow this variety**. By growing these potatoes without licence, the farmers in Gujarat are violating its statutory rights.

#### What next?

- Nearly 200 civil society representatives and farm leaders have written to the Centre for intervention. Farmers groups are pointing out that **the law allows them to grow and sell any variety of crop or even seed as long as they don't sell branded seed of registered varieties**.

#### The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001:

- Enacted by India in **2001** adopting **sui generis system**.
- It is in conformity with **International Union for the Protection of New Varieties of Plants (UPOV), 1978**.
- The legislation recognizes the contributions of both commercial plant breeders and farmers in plant breeding activity and also provides to **implement TRIPs** in a way that supports the specific socio-economic interests of all the stakeholders including private, public sectors and research institutions, as well as resource-constrained farmers.

### **Objectives of the PPV & FR Act, 2001:**

- To establish an effective system for the protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants.
- To recognize and protect the rights of farmers in respect of their contributions made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties.
- To accelerate agricultural development in the country, protect plant breeders' rights; stimulate investment for research and development both in public & private sector for the development new of plant varieties.
- Facilitate the growth of seed industry in the country which will ensure the availability of high quality seeds and planting material to the farmers.

### **Rights under the Act:**

- **Breeders' Rights :** Breeders will have exclusive rights to produce, sell, market, distribute, import or export the protected variety. Breeder can appoint agent/ licensee and may exercise for civil remedy in case of infringement of rights.
- **Researchers' Rights :** Researcher can use any of the registered variety under the Act for conducting experiment or research. This includes the use of a variety as an initial source of variety for the purpose of developing another variety but repeated use needs prior permission of the registered breeder.

### **Farmers' Rights:**

- A farmer who has evolved or developed a new variety is entitled for registration and protection in like manner as a breeder of a variety;
- Farmers variety can also be registered as an extant variety;
- A farmer can save, use, sow, re-sow, exchange, share or sell his farm produce including seed of a variety protected under the PPV&FR Act, 2001 in the same manner as he was entitled before the coming into force of this Act provided farmer shall not be entitled to sell branded seed of a variety protected under the PPV&FR Act, 2001;
- Farmers are eligible for recognition and rewards for the conservation of Plant Genetic Resources of land races and wild relatives of economic plants;
- There is also a provision for compensation to the farmers for non-performance of variety under Section 39 (2) of the Act, 2001 and
- Farmer shall not be liable to pay any fee in any proceeding before the Authority or Registrar or the Tribunal or the High Court under the Act.

Sources: the Hindu.

## **6. CLEAN MEAT**

### **What to study?**

- For prelims and mains: what is cultivable meat, how is it developed and the need for it?

**Context:** The Department of Biotechnology (DBT) has decided to fund the Centre for Cellular and Molecular Biology (CCMB) and the National Research Centre on Meat for research on **cell-based meat**.

### **What is it?**

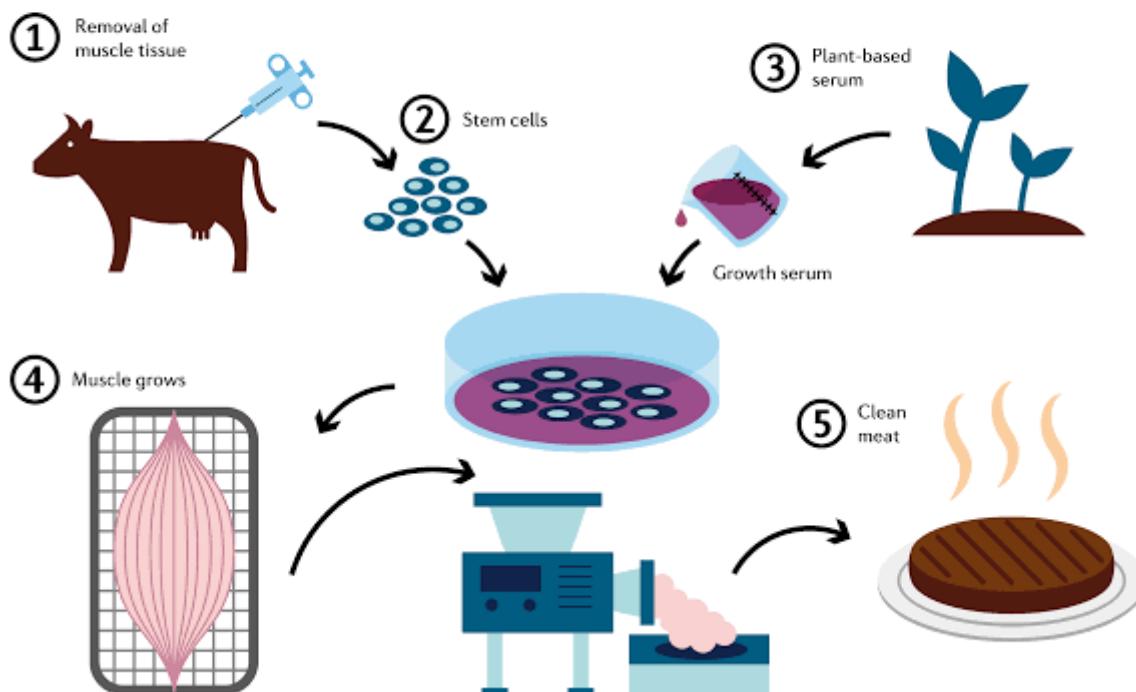
- **Cell-based meat**, also called **clean meat** or **cultured meat**, is **nutritionally equivalent to conventional meat, and tastes, smells, looks and feels exactly the same**. The only difference is in **the way it is produced**.
- Rather than raising livestock and slaughtering them for meat, **cell-based meat is produced through 'cellular agriculture'**, with animal cells being cultivated into meat.

### **Why It's the Future?**

- Lab-grown meats beat the old-fashioned kind in two areas: **They're better for body and they're better for the environment**.
- Clean meats are grown in a sterile environment, meaning that you'll avoid bacteria found in traditional meats.

- The environmental benefits might outweigh your personal benefit, though: As the UN's Food and Agriculture Organization notes, animals raised for food make up 14.5 percent of total carbon emissions across the globe.
- According to one study, replacing livestock with lab-grown meats will cut down on the land needed by 99 percent, and the water needed by 90 percent. Granted, those savings are off-set by the energy needed to power the lab itself, but it's still a net benefit.
- By shifting to lab-grown, you'll save resources that will be increasingly in demand as the world's population continues ticking upwards — by some estimates, demand for meat and seafood will double by 2050, reaching 1.2 trillion pounds.

## Production stages of Clean meat



Sources: the Hindu.

## 7. CENTRE FOR CELLULAR & MOLECULAR BIOLOGY (CCMB)

### What to study?

- For Prelims and Mains: Scissors enzyme and its significance and about CCMB.

**Why in News?** Scientists at CCMB have discovered a new enzyme which helps in breaking cell walls of bacteria and hence, offers a potential for a new drug delivery route to arrest the anti-bacterial resistance.

- Researchers discovered that by blocking 'scissors enzyme' from functioning, new ways to target microbes could be found, leading to a new wave of antibiotic drug. Other bacteria, too, have the same enzyme working on cell division as the cell wall is fundamental for bacterial growth and division.

### Significance:

- The new enzyme offers a potential for a new drug delivery route to arrest the anti-bacterial resistance through existing antibiotic drugs. It opens up fresh ways to target microbes, leading to a new wave of antibiotic drugs.

## About Centre for Cellular and Molecular Biology:

- The Centre for Cellular & Molecular Biology (**CCMB**) is a premier research organization which conducts high quality basic research and trainings in frontier areas of modern biology, and promote centralized national facilities for new and modern techniques in the interdisciplinary areas of biology.
- It was set up initially as a **semi-autonomous Centre** on April 1, **1977** with the Biochemistry Division of the then Regional Research Laboratory (presently, Indian Institute of Chemical Technology, IICT) Hyderabad.
- It is located in Hyderabad and operates under the aegis of the Council of Scientific and Industrial Research (**CSIR**).
- It is designated as “**Center of Excellence**” by the **Global Molecular and Cell Biology Network, UNESCO**.

Sources: the hindu.

*Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.*

## 1. EL NIÑO

### What to study?

- For Prelims and Mains: ENSO- El Nino and La Niña- causes, effects and impacts, global climate change and ENSO cycle.

**Context:** The India Meteorological Department (IMD) has finally declared that weak El Nino conditions are prevalent in the equatorial Pacific Ocean.

### Concerns for India:

- In India, there is a relationship between El Nino events and hotter than usual summers along with a decrease in rainfall during the monsoon. Most of the time, these events have also led to drought conditions. The weak El Nino might have an effect on the onset and intensity of monsoon this year, an update on which is expected soon from the government of India.
- In the 135 years between 1880 and 2014, around 90 per cent of all evolving El Nino years have seen below normal rainfall, and 65 per cent of them experienced droughts. In fact, six of the worst droughts in the country since 1871 have been triggered by El Nino — the most recent being in 2009.

### What causes El Nino?

- El Nino sets in when there is anomaly in the pattern. The westward-blowing trade winds weaken along the Equator and due to changes in air pressure, the surface water moves eastwards to the coast of northern South America. The central and eastern Pacific regions warm up for over six months and result in an El Nino condition. The temperature of the water could rise up to 10 degrees Fahrenheit above normal. Warmer surface waters increase precipitation and bring above-normal rainfall in South America, and droughts to Indonesia and Australia.

### What are El Nino's effects?

1. El Nino affects global weather. It favours eastern Pacific hurricanes and tropical storms. Record and unusual rainfall in Peru, Chile and Ecuador are linked to the climate pattern.
2. El Nino reduces upwelling of cold water, decreasing the uplift of nutrients from the bottom of the ocean. This affects marine life and sea birds. The fishing industry is also affected.

### What is ENSO?

- ENSO is nothing but El Nino Southern Oscillation. As the name suggests, it is an irregular periodic variation of wind and sea surface temperature that occurs over the tropical eastern Pacific Ocean. ENSO affects the tropics (the regions surrounding the equator) and the subtropics (the regions adjacent to or bordering the tropics).
- The warming phase of ENSO is called **El Nino**, while the cooling phase is known as **La Niña**.

### What is El Nino?

- El Nino is a climatic cycle characterised by high air pressure in the Western Pacific and low air pressure in the eastern.
- In normal conditions, strong trade winds travel from east to west across the **tropical Pacific**, pushing the **warm** surface waters towards the **western Pacific**. The surface temperature could witness an increase of 8 degrees Celsius in Asian waters. At the same time, **cooler** waters rise up towards the surface in the **eastern Pacific** on the coasts of Ecuador, Peru, and Chile.
- This process called **upwelling** aids in the development of a rich ecosystem.

3. Drought caused by El Nino can be widespread, affecting southern Africa, India, Southeast Asia, Australia, and the Pacific Islands. Countries dependent on agriculture are affected.
4. Australia and Southeast Asia get hotter.
5. A recent WHO report on the health consequences of El Nino forecasts a rise in vector-borne diseases, including those spread by mosquitoes, in Central and South America. Cycles of malaria in India are also linked to El Nino.

Sources: down to earth.

## 2. CLIMATE - SMART AGRICULTURE (CSA)

- Climate-smart agriculture (CSA) is an integrated approach to managing landscapes—cropland, livestock, forests and fisheries—that address the interlinked challenges of food security and climate change.

### Overview

- A growing global population and changing diets are driving up the demand for food. Production is struggling to keep up as crop yields level off in many parts of the world, ocean health declines, and natural resources—including soils, water and biodiversity—are stretched dangerously thin. The absolute number of undernourished people has increased to nearly 821 million in 2017, up from 784 million in 2015. The food security challenge will only become more difficult, as the world will need to produce about 70 percent more food by 2050 to feed an estimated 9 billion people.
- The challenge is intensified by agriculture's extreme vulnerability to climate change. Climate change's negative impacts are already being felt, in the form of reduced yields and more frequent extreme weather events, affecting crops and livestock alike. Substantial investments in adaptation will be required to maintain current yields and to achieve the required production increases.
- Agriculture is also a major part of the climate problem. It currently generates 19–29% of total GHG emissions. Without action, that percentage could rise substantially as other sectors reduce their emissions.

### Producing More with Less

CSA aims to simultaneously achieve three outcomes:

1. **Increased productivity:** Produce more food to improve food and nutrition security and boost the incomes of 75 percent of the world's poor who live in rural areas and mainly rely on agriculture for their livelihoods.
  2. **Enhanced resilience:** Reduce vulnerability to drought, pests, disease and other shocks; and improve capacity to adapt and grow in the face of longer-term stresses like shortened seasons and erratic weather patterns.
  3. **Reduced emissions:** Pursue lower emissions for each calorie or kilo of food produced, avoid deforestation from agriculture and identify ways to suck carbon out of the atmosphere.
- While built on existing knowledge, technologies, and principles of sustainable agriculture, CSA is distinct in several ways. First, it has an explicit focus on addressing climate change. Second, CSA systematically considers the synergies and tradeoffs that exist between productivity, adaptation and mitigation. Finally, CSA aims to capture new funding opportunities to close the deficit in investment.

## 3. NATURAL CAPITAL ACCOUNTING (NCA)

### What is natural capital?

- **Natural capital** includes all of the resources that we easily recognize and measure, like minerals, energy, timber, agricultural land, fisheries and water.
- It also includes the **ecosystem services** that are often “invisible” to most people, such as air and water filtration, flood protection, carbon storage, pollination of crops, and habitats for wildlife.
- These values are not readily captured in markets, so we don't really know how much they contribute to the economy.

### Why does natural capital matter for economic growth? Isn't GDP enough?

- **Gross Domestic Product (GDP)** measures the value of goods and services produced over one year. This is an incomplete assessment of a country's economic wellbeing because GDP only looks at one part of economic performance—output—but tells us nothing about income in the long term. GDP doesn't take into account

the wealth underpinning this output. For example, when a country exploits its minerals, it is actually using up its finite mineral wealth.

- A full picture of a country's wealth – obtained through a methodology called '**wealth accounting**' – includes all assets that contribute to our economic wellbeing, from buildings and factory machines, to infrastructure, human and social capital, and natural capital.
- **Natural capital** is especially important to many developing countries because it makes up a large share of their total wealth – some 36 percent – and the livelihoods of many subsistence communities depend directly on healthy ecosystems. But currently **GDP ignores natural capital**. In forestry, for example, timber resources are counted, but forest carbon sequestration is not. Other services, like water regulation that benefits crop irrigation, are hidden and the value is (wrongly) attributed to agriculture in a country's GDP.

#### What are natural capital accounts? How are they different from the accounts that countries keep now?

- **Natural Capital Accounts (NCA)** are sets of unbiased data for material natural resources, such as forests, energy and water. NCA follow an international standard approved by the **United Nations Statistical Commission**, called the **System for Environmental-Economic Accounts (SEEA)**.
- Countries already produce datasets based on the internally agreed **System of National Accounts (SNA)**. These datasets describe a country's economic performance, and form the basis for calculating GDP and other well-known economic indicators, such as balance of trade and household consumption. While national accounts are limited to the production boundary of the economy, natural capital accounts go beyond that, to account for natural goods and services that aren't subject to market transactions and don't necessarily have well established market prices.
- It is in the interest of all countries to move beyond traditional GDP. Incorporating natural capital into national accounts will reveal the interactions of economic activity with the environment, and support better economic decisions.

#### How are natural capital accounts used?

- Incorporating natural capital into national accounts can support **inclusive development** and better **economic management**. For example, land and water accounts can help countries interested in hydropower to assess the value of competing land uses and find the optimal solution.
- **Ecosystem accounts** can help biodiversity-rich countries manage the tradeoffs between ecotourism, agriculture, subsistence livelihoods, and ecosystem services like flood protection. In this way, ecosystem accounting is a tool for maximizing economic growth while identifying who

#### SEEA

- The **System of Environmental Economic Accounting (SEEA)** organizes and presents statistics on the environment and its relationship with the economy.
- The SEEA is a **statistical system** that brings together economic and environmental information into a common framework to measure the condition of the environment, the contribution of the environment to the economy and the impact of the economy on the environment. The SEEA contains an **internationally agreed set of standard concepts, definitions, classifications, accounting rules and tables** to produce internationally comparable statistics.

#### Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES)

- The project is launched by the **United Nations Statistics Division**, the **UNEP**, the Secretariat of the Convention on Biological Diversity (**CBD**), and the **European Union**.
- Funded by the European Union through its Partnership Instrument (PI), NCAVES aims to assist the five participating partner countries, namely **Brazil, China, India, Mexico and South Africa**, to advance the knowledge agenda on environmental-economic accounting, in particular ecosystem accounting.
- The project will have a duration until the end of 2020.

#### Inclusive Wealth Index (IWI)

- The **UN International Human Dimensions Programme** has created an inclusive sustainability indicator, the Inclusive Wealth Index (IWI), which measures the productive bases of an economy: **produced, natural and human capital**, and based on these three assessments, calculates the trajectory of a country's wealth.
- The calculation of natural capital in the IWI is based on the shadow value of an economy's natural capital assets.

#### Bank of Natural Capital

- It is an educational initiative associated with **The Economics of Ecosystems and Biodiversity (TEEB)** to communicate natural capital investment and value theory related to what are sometimes called "economic intangibles" to the global public, in particular the direct economic and financial value of ecosystem services to man

benefits and who bears the cost of ecosystem changes, helping governments gauge whether their growth is inclusive.

- The concept of accounting for natural capital has existed for over 30 years, but little has been done to implement it. The challenge now is to build capacity for countries to implement the SEEA and to demonstrate its benefits to policymakers.

#### Green Economy:

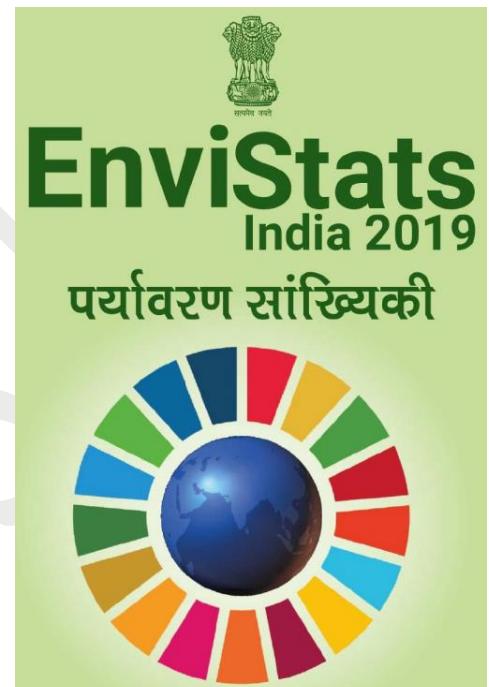
- The United Nations Environment Programme (**UNEP**) defines **green economy** as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.
- Such an economy is low carbon, resource efficient and socially inclusive.

## 4. ENVISTATS-INDIA 2019

**Context:** EnviStats-India 2019 is released by the Ministry of Statistics and Programme Implementation (**MoSPI**)

#### Key Findings:

- India's economic growth, took a toll on its natural assets like forests, food, clean air, etc.
- 11 states have registered a decline in natural capital between 2005 and 2015
- In the last 6 years, the rate of growth of forest stock has reduced by more than 10% in almost all states.
- Report states that when the average growth rate of **gross state domestic product (GSDP)** during 2005-15 for almost all the states was around 7-8 per cent, 11 states registered a decline in their natural capital. While 13 states showed a marginal growth in the range 0-5 per cent, just three states saw their natural capital increase by more than 5 per cent. **This model of economic growth may not let the country sustain the rate of development for long.**
- Monitoring the natural capital** is important and should be one of the determiners for sustainable development, says the report.
- The **natural capital** are those elements of the nature that provide valuable goods and services to humans, such as the stock of forests, food, clean air, water, land, minerals, etc.
- The report also reveals few positive trends. For example, Andhra Pradesh, Gujarat, Jharkhand, Kerala, Maharashtra and Odisha show an increase in parameters such as transition of fallow land to farmland, increase in forest cover along with growing carbon stock and new sources of minerals. It, however, shows alarming effects of climate change, urbanisation and decline in forest resource.



#### Water: Less snow, glaciers, inland and coastal wetlands

- Climate change has had a huge impact on water resources. The report shows a 24% decline in the area under snow and glacier in some states and also notes the impact of climate change on wetlands/water bodies in Himachal Pradesh, Sikkim and Jammu Kashmir.
- Moreover, unsustainable extraction of groundwater resources is causing a decline in the water levels in Tamil Nadu, Chhattisgarh, Goa, Odisha and Rajasthan.

#### Forest: Reducing stock

- In the last 6 years, the **rate of growth of forest stock** has **reduced by more than 10%** in almost all states. From 2006-07 to 2010-11, all states, except Goa and Sikkim, have shown such a decline. However, from 2010-11 to 2015-16, even though there was a marginal change in forest cover in Assam and Uttarakhand, growing stock has reduced by more than 10 per cent. But in the case of Jharkhand, Madhya Pradesh, Maharashtra and Rajasthan, despite a marginal change in forest cover, growing stock has significantly increased by more than 10 per cent.
- In the **northeast**, total growing stock has **decreased** from 1122.12 million cubic metres (cum) in 2006-07 to 958.34 million cum in 2015-16. Arunachal Pradesh and Assam, which contribute around 58 per cent of growing stock in the northeast, have shown a significant reduction in growing stock within the forest.

- The country is dependent on imports wood and wood products to fulfil its domestic demand. So the growing stock is a crucial forest resource, the decline of which may be a harbinger of trouble for the economy.

#### **Urbanisation**

- Conversion of agricultural land to meet needs of urban population will affect productive capacity. While mentioning the use of agricultural land for urbanisation, the report says that high rate of urban growth is likely to affect a productive capacity in states like Punjab, Haryana, Karnataka, Telangana and West Bengal.
- It calls for better utilisation of land in a sustainable manner to fulfil the demands of growing population without increasing the degraded land.

#### **To sustainably use natural resources**

- This statement on environment accounts strengthens and supports monitoring of sustainable development goals on zero hunger, sustainable cities and communities, life on land. Several countries are compiling natural capital accounts (NCA) to make economic decision making on natural resources an informed process. They want to use NCA as the basis for compiling indicators to monitor progress of sustainability policies.
- India is participating in the Natural Capital Accounting and Valuation of Ecosystem Services project launched by the United Nations Statistics Division (UNSD).
- According to MOSPI, this assessment of natural assets is a reminder of how important is sustainable use of natural resources and is likely to propel India on the path of compilation of ecosystem accounts. It adds that the Centre and state governments must prioritize actions to conserve and enhance natural capital.

Source: DowntoEarth

## **5. WEALTH ACCOUNTING AND THE VALUATION OF ECOSYSTEM SERVICES (WAVES)**

- **Wealth Accounting and the Valuation of Ecosystem Services (WAVES)** is a World Bank-led global partnership that aims to promote sustainable development by ensuring that natural resources are mainstreamed in development planning and national economic accounts.
- WAVES was launched at the 2010 Convention on Biological Diversity meeting in Nagoya, Japan.
- This global partnership brings together a broad coalition of UN agencies (UNEP, UNDP, UNCEEA), governments, international institutes, nongovernmental organizations and academics to implement Natural Capital Accounting (NCA) where there are internationally agreed standards, and develop approaches for other ecosystem service accounts.
- By working with central banks and ministries of planning and finance across the world to integrate natural resources into development planning through NCA, to enable more informed decision making that can ensure genuine green growth and long-term advances in wealth and human well-being.



#### **Objectives:**

1. Help countries adopt and implement accounts that are relevant for policies and compile a body of experience
2. Develop approaches to ecosystem accounting methodology
3. Establish a global platform for training and knowledge sharing
4. Build international consensus around natural capital accounting

## **6. STATE OF GLOBAL AIR-2019 REPORT**

#### **What to study?**

- For Prelims and Mains: Key findings of the report, concerns and measures needed to control air pollution.

**Context:** Two US based institutes **Health Effects Institute (HEI)** and **Institute for Health Metrics and Evaluation (IHME)** recently released a detailed report on quality of the global air with title, “State of Global Air-2019”.

#### **General observations:**

- In 2017, exposure to PM 2.5 pollution was found to be the third leading risk factor globally for Type 2 diabetes.

- **The economic costs of diabetes are substantial** — estimated as 1.8% of worldwide gross domestic product in 2015 and pose a growing challenge to health care systems in countries at all levels of development.
- **Type 2 Diabetes** represents a substantial, growing, and costly health burden. In 2017, the disease accounted for more than 1 million deaths globally and burdens have increased by 175% and 141%, respectively, since 1990.
- There is a **strong inverse relationship between a country's level of social and economic development and the PM2.5 exposures experienced by its population**; that is, less developed countries suffer PM2.5 exposures that are four to five times those of more-developed countries.
- In 2017, annual PM2.5 exposures were highest in South Asia, where Nepal, India, Bangladesh and Pakistan had the highest exposures. Bhutan's exposure level was the lowest in the region but was still above WHO's first interim target.
- **The 10 countries with the lowest national PM2.5 exposure levels** were the Maldives, United States, Norway, Estonia, Iceland, Canada, Sweden, New Zealand, Brunei, and Finland.
- **Ozone pollution is a continuing challenge in more developed countries** and is increasing in less developed areas, posing new air quality concerns.
- Air pollution collectively reduced life expectancy by 1 year and 8 months on average worldwide, a global impact rivaling that of smoking. This means a child born today will die 20 months sooner, on average, than would be expected in the absence of air pollution.

#### **Key findings- India specific:**

- **India and China are collectively accounted for more than 50% of global 5 million deaths due to air pollution.**
- **Major PM2.5 sources in India include** household burning of solid fuels; dust from construction, roads, and other activities; industrial and power plant burning of coal; brick production; transportation; and diesel-powered equipment.
- An estimated 846 million people in India (60% of the population) and 452 million people in China (32% of the population) were exposed to household air pollution in 2017.

#### **What has India done to reduce household emission?**

- A sweeping government effort seeks to **shift more households to liquefied petroleum gas (LPG) instead of biomass fuels**. While many families can afford subsidized LPG fuel, the fee for installing a household LPG hookup can be prohibitive.
- The government initiative, known as **Pradhan Mantri Ujjwala Yojana (PMUY)**, provided LPG connections to **35 million poor families free of charge between 2016 and early 2018** and aims to provide 80 million connections by 2020.

Sources: the hindu.

## **7. GLOBAL COOLING COALITION**

#### **What to study?**

- For Prelims and Mains: About the coalition- objectives, significance and functions.

**Context:** The first-ever **global coalition on clean and efficient cooling** was launched at the recently held **First Global Conference on Synergies between the 2030 Agenda and Paris Agreement in Copenhagen, Denmark**.

#### **Key facts:**

1. The Global Cool Coalition is a **unified front that links action across the Kigali Amendment, Paris Agreement and Sustainable Development Goals**.
2. **Objective:** It is expected to inspire ambition, identify solutions and mobilise action to accelerate progress towards clean and efficient cooling.
3. **Supporters:** Besides the UN, it is supported by the **Climate and Clean Air Coalition**, the **Kigali Cooling Efficiency Program** and **Sustainable Energy for All (SEforALL)**.
4. **Composition:** It includes government officials from Chile, Rwanda, Denmark as well as leaders from civil society, research and academia.

## Why do we need it?

- Throughout the world, 2018 was the fourth hottest year, preceded by 2017, 2015 and 2016. With increasing incomes and urbanisation, number of air conditioning units across the globe is set to increase from 1.2 billion to 4.5 billion by 2050, and India alone may account for one billion units.
- In the next 20 years, India's cooling requirement will increase by eight times, with air conditioners alone consuming more than half of the total energy required for cooling in the country by 2037-38. India has already developed a national cooling action plan that was launched by the Union environment ministry on March 8, 2019.

## 8. SUSTAINABLE ENERGY FOR ALL (SEFORALL)

- Sustainable Energy for All (SEforALL) is an International Organization working with leaders in government, the private sector and civil society to drive further, faster action toward achievement of **Sustainable Development Goal 7**, which calls for universal access to sustainable energy by 2030, and the **Paris Climate Agreement**, which calls for reducing greenhouse gas emissions to limit climate warming to below 2 degrees Celsius.
- Former UN Secretary-General Ban Ki-moon launched SEforALL in September 2011 as a global initiative that would mobilize action by these diverse actors in support of **SDG7's three core objectives**:
  1. ensuring universal access to modern energy services
  2. doubling the share of renewable energy in the global energy mix
  3. doubling the global rate of improvement in energy efficiency
- With a mandate that sent a clear signal about the central role of energy in ending poverty and halting precipitous changes in our global climate, SEforALL embarked on uncharted territory and rapidly generated momentum.
- SEforALL's global team is based in **Vienna**, Austria and **Washington, D.C.**
- It is combined partnership of **World Bank** and **UN**



### Global Tracking Framework Report

- It is a Multi-Tier Framework (MTF) for measuring energy access commissioned by **SE4ALL**
- Responsibility for the development of the Global Tracking Framework was assigned to a Steering Group, which is co-chaired by the **World Bank's Energy Sector Management Assistance Program (ESMAP)** and the **International Energy Agency (IEA)**. Its members are:

- Global Alliance for Clean Cookstoves ("the Alliance")
- International Institute for Applied Systems Analysis (IIASA)
- International Partnership for Energy Efficiency Cooperation (IPEEC)
- International Renewable Energy Agency (IRENA)
- Renewable Energy Network for the 21st Century (REN21)
- UN Energy
- UN Foundation
- United Nations Development Programme (UNDP)
- United Nations Environment Programme (UNEP)
- United Nations Industrial Development Organization (UNIDO)
- World Energy Council (WEC)
- World Health Organization (WHO)
- Practical Action

The objectives set for the Global Tracking Framework were three:

- (i) to build consensus among all relevant institutions about the best methodology for tracking progress toward the three SE4ALL objectives through 2030;
- (ii) to apply that methodology, with the year 2010 as the starting point for the three objectives;
- (iii) to provide a road map for the gradual improvement of the Global Tracking Framework through 2030.

## 9. NO END TO DISCOLOURATION OF RIVER PERIYAR IN KERALA

### What to study?

- For Prelims and Mains: Eutrophication- causes, effects and measures for prevention.

**Context:** The Periyar River in Kerala has turned black near the Pathalam Regulator cum Bridge.

### Background:

- The discolouration of Periyar and fish kill has been a serious issue for last couple of years. **Decrease in dissolved oxygen** level has caused several fish-kills in the past few years.
- Environmental activists have been protesting against the pollution of the river and demanding steps for its protection. For the record, the pollution of the river system had earlier led to violent protests in the region.

### What is the reason for discolouration?

- The discolouration was due to the **poor quality** of water as a result of **eutrophication**. When **excessive nutrients** reach the waterbody, it will lead to **algal bloom**. A few days later, algae will die and decay, resulting in a foul smell and discolouration of water.
- Water in some reaches of the river system has been **stagnant**. **Reduced water flow** in the system has added to the deteriorating water quality.
- Huge quantities** of organic load in the form of **sewage** from nearby townships are regularly reaching the river system. **Discharge of untreated effluents** into the river from industrial units is also causing discolouration of water.

### What needs to be done?

- Areas near industrial units are to be regularly monitored.
- The river flow should not be restricted by closing the bund so that the natural pollutants will flow away from the water.
- Excessive discharge of pollutants from an unauthorized industrial unit functioning upstream must be controlled.

Sources: the hindu.

## 10. INDIA STARES AT PILE OF SOLAR E-WASTE

### What to study?

- For Prelims: Solar Power potential and technologies used to store solar power and waste generated therein.
- For Mains: Solar e-waste- extent, concerns, effects and measures needed.

**Context:** By 2050, India will likely stare at a pile of a new category of electronic waste, namely solar e-waste. **India's PV (photovoltaic) waste volume** is estimated to grow to 200,000 tonnes by 2030 and around 1.8 million tonnes by 2050.

### What's missing?

- Currently, India's e-waste rules have no laws mandating solar cell manufacturers to recycle or dispose waste from this sector.
- India is poorly positioned to handle PV waste as it doesn't yet have policy guidelines on the same.
- A **lack of a policy framework** is coupled with the fact that even basic recycling facilities for laminated glass and e-waste are unavailable.
- Despite the e-waste regulation being in place for over seven years, only less than 4% of estimated e-waste is recycled in the organised sector as per the latest estimates from the Central Pollution Control Board.

### What constitutes Solar e-waste and concerns associated?

- Solar modules** use potentially hazardous materials, including **lead** compounds, **polymers** and **cadmium** compounds. If disposed of in an inappropriate way, potential leaching of those hazardous materials can have negative environmental and health impacts.

- For instance, leaching of lead has huge environmental impact including loss in biodiversity, decreased growth and reproductive rates in plants and animals, and several other health hazards like adverse impact on kidney function, nervous, immune, reproductive and cardiovascular systems.

#### **Need of the hour:**

- Specify **liability** and **responsibility** of each stakeholder for waste management and treatment.
- Mandate module manufacturers to use **environmentally sustainable design** and materials with end-of-life in mind.
- Lay down **standards for PV waste** collection, treatment and disposal.
- Encourage mutual **recycling** responsibility agreements between module suppliers, project developers and power purchasers.
- Undertake **regular surveys** of recycling facilities to understand technology and capacity levels. Identify investment and technical requirements for dedicated PV recycling facilities with focus on high-value recovery.

#### **Way ahead:**

- India is among the leading markets for solar cells in the world, buoyed by the government's commitment to install 100 GW of solar power by 2022.
- So far, India has installed solar cells for about 28 GW and this has been done largely from **imported solar PV cells**.
- Therefore, the time is ripe for the country to put in place a comprehensive policy to address the issues.

Sources: the hindu.

## **11. NGT FORMS CENTRAL MONITORING COMMITTEE TO CHECK RIVER POLLUTION**

#### **What to study?**

- For Prelims and Mains: Functions and composition of the committee constituted, river pollution- extent, challenges, concerns and measures needed.

**Context:** The National Green Tribunal (NGT) has formed a Central Monitoring Committee to prepare and enforce a national plan to make over 350 river stretches across the country pollution free.

#### **Key facts:**

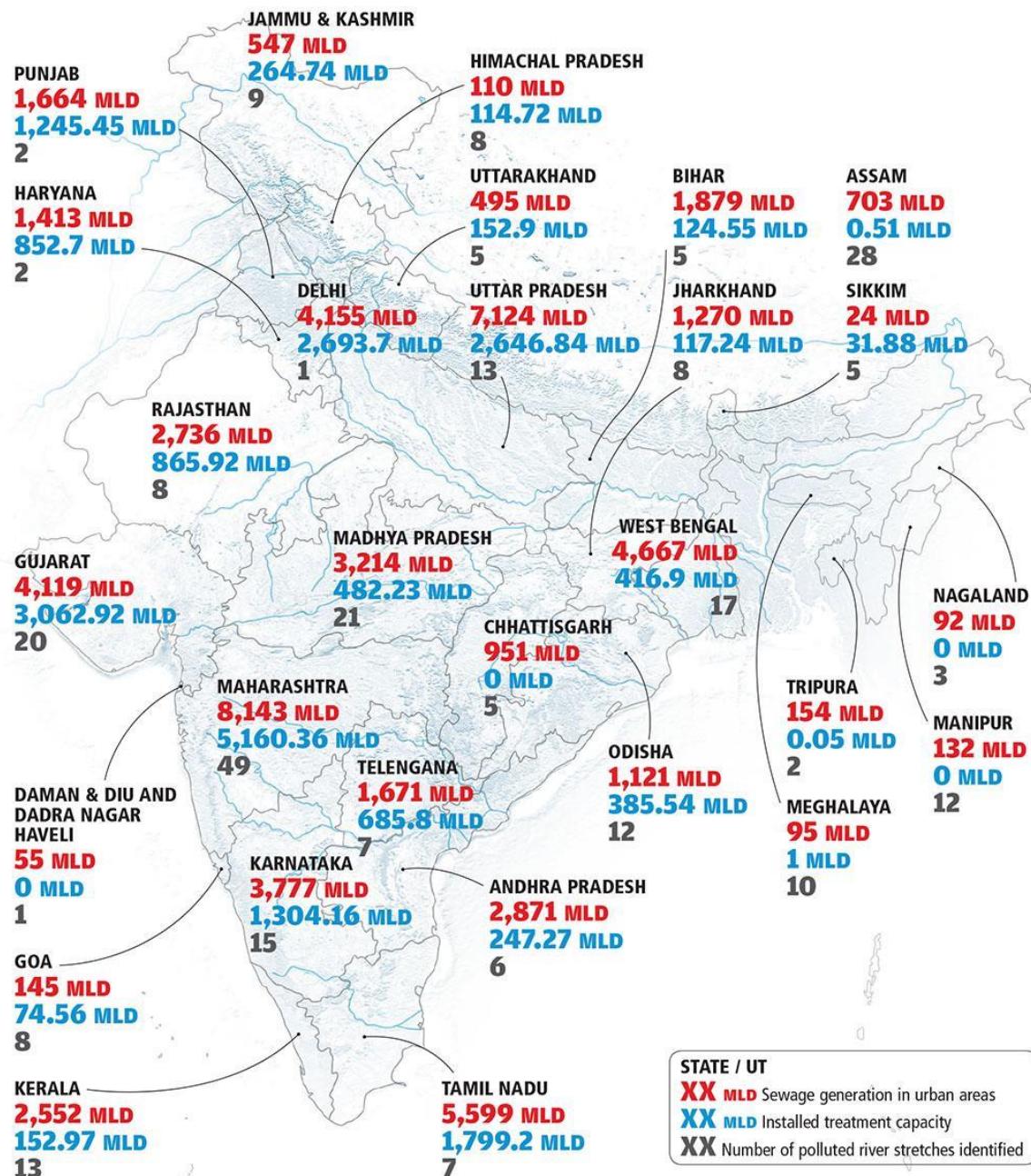
- Composition:** The committee would comprise a representative of NITI Aayog, secretaries of Ministry of Water Resources, Ministry of Urban Development and Ministry of Environment, the director general of National Mission for Clean Ganga and the Chairman of the Central Pollution Control Board. **The Chairman of CPCB will be the nodal authority for coordination.** The chief secretaries of the states will act as the nodal agency at the state level.
- Objective:** The committee has been composed to monitor pollution of rivers, as it has caused serious threat to the safety of water and environment. Besides checking river pollution, the central monitoring committee will coordinate with the River Rejuvenation Committees of the states and oversee the execution of the action plans, taking into account the timelines, budgetary mechanism and other factors.

#### **Concerns:**

- Crores of rupees have been pumped in for cleaning rivers under the Centre's National River Conservation Plan (**NRCP**), Atal Mission for Rejuvenation and Urban Transformation (**AMRUT**), **Smart Cities Mission** programmes of the Ministry of Urban Development and the "**Namami Gange**" under Ministry of Water Resources, River Development and Ganga Rejuvenation (**MOWR**).
- Still pollution level in rivers of India has not shown any sign of improvement. More than 38,000 million litres of waste water goes into the major rivers, water bodies and even percolates into the ground every day. Over and above this there is industrial effluent.

## Extent of contamination

Spending enormous money, creating awareness and building sewage treatment plants have not helped cleanse India's polluted river stretches. The estimated polluted riverine length is 12,363km, about 5 times the length of Ganga main stem



### Need of the hour:

- CPCB and the state pollution control boards should launch a nationwide programme on biodiversity monitoring and indexing of the rivers to assess the efficacy of river cleaning programme.
- For the safety of human health and maintaining the sanctity of the rivers, regular hygienic surveys of the rivers should be carried out with reference to fecal coliform and fecal streptococci, as indicated in the primary water quality criteria for bathing waters.
- There is also the need for a regular study of the Indian rivers with regard to biological health and its diversity.

Sources: the hindu.

**(Q)** Examine the factors behind the high levels of pollution in Indian rivers. What can be done to protect our rivers from degradation and slow death. Discuss.

## 12. INDIAN FOREST ACT AMENDMENT

### What to study?

- For Prelims: Key features of the Indian Forest Act and amendments.
- For Mains: Need for review and the expected outcomes.

**Context:** It is said that the amendments proposed in the colonial-era **Indian Forest Act, 1927** reflect the Centre's attempt to grab natural resources owned by tribals for generations.

### Concerns:

- As per the new draft, forest officials have been given the absolute authority to shoot tribals for "violation of laws". If a forest guard kills an "offender", the move will invite **no prosecution by the state governments without first initiating an inquiry into the matter under an executive magistrate**. Under the new amendment, **forest departments can also declare any forest as reserved and alienate the forest-dwelling communities from their ancestral lands**.

### Highlights of the draft amendment bill:

- The amendment accords **significant powers to India's forest officers** — including the power issue search warrants, enter and investigate lands within their jurisdictions, and to provide indemnity to forest officers using arms to prevent forest-related offences.
- It seeks **to provide indemnity to Forest-officer using arms etc**, to prevent the forest offence. Forest-officer not below the rank of a Ranger shall have power to hold an inquiry into forest offences and shall have the powers to search or issue a search warrant under the Code of Criminal Procedure, 1973.
- The amendment **defines community** as "a group of persons specified on the basis of government records living in a specific locality and in joint possession and enjoyment of common property resources, without regard to race, religion, caste, language and culture".
- **Forest is defined** to include "any government or private or institutional land recorded or notified as forest/forest land in any government record and the lands managed by government/community as forest and mangroves, and also any land which the central or state government may by notification declare to be forest for the purpose of this Act."
- "**Village forests**", according to the proposed Act, may be forestland or wasteland, which is the property of the government and would be jointly managed by the community through the Joint Forest Management Committee or Gram Sabha.
- The legislation also proposes a **forest development cess of up to 10%** of the assessed value of mining products removed from forests, and water used for irrigation or in industries. This amount would be deposited in a special fund and used "exclusively for reforestation; forest protection and other ancillary purposes connected with tree planting, forest development and conservation," the draft document noted.
- While the preamble of IFA, 1927, said the Act was focused on laws related to transport of forest produce and the tax on it, the **amendment has increased the focus** to "conservation, enrichment and sustainable management of forest resources and matters connected therewith to safeguard ecological stability to ensure provision of ecosystem services in perpetuity and to address the concerns related to climate change and international commitments".
- **Increased role of states:** The amendments say if the state government, after consultation with the central government, feels that the rights under FRA will hamper conservation efforts, then the state "may commute such rights by paying such persons a sum of money in lieu thereof, or grant of land, or in such other manner as it thinks fit, to maintain the social organisation of the forest dwelling communities or alternatively set out some other forest tract of sufficient extent, and in a locality reasonably convenient, for the purpose of such forest dwellers".

### Indian Forest Act, 1927:

- The Indian Forest Act, 1927 was largely based on previous Indian Forest Acts implemented under the British. The most famous one was the **Indian Forest Act of 1878**.
- Both the 1878 act and the 1927 one sought to consolidate and reserve the areas having forest cover, or significant wildlife, to regulate movement and transit of forest produce, and duty leviable on timber and other forest produce.
- It also defines the procedure to be followed for declaring an area to be a **Reserved Forest**, a **Protected Forest** or a **Village Forest**.
- It defines what a **forest offence** is, what are the acts prohibited inside a Reserved Forest, and penalties leviable on violation of the provisions of the Act.

- **The amendment also introduces a new category of forests — production forest.** These will be forests with specific objectives for production of timber, pulp, pulpwood, firewood, non-timber forest produce, medicinal plants or any forest species to increase production in the country for a specified period.

#### **The need for review:**

- Many reports like the **MB Shah report** of 2010 and the **TSR Subramanian report** of 2015, have talked about amending the IFA.

Sources: the hindu.

**(Q)** The recent amendments to the Indian Forest Act, 1927 will create new markets & jobs for poor communities. Critically analyze.

## **13. NATIONAL CLEAN AIR PROGRAMME (NCAP)**

#### **What to study?**

- For Prelims: NCAP- features and targets.
- For Mains: Significance, challenges in its implementation and measures needed to improve its outcomes.

**Context:** MoEFCC has constituted a committee to implement the National Clean Air Programme (NCAP).

#### **Key facts:**

- **Composition:** The committee will be chaired by the Secretary, Union Environment Ministry and has among its members the Joint Secretary (Thermal), Ministry of Power; Director-General, The Energy Resources Institute (TERI) etc.
- **Terms of reference:** The committee would be headquartered in New Delhi and its remit includes ensuring “inter-ministerial organisation and cooperation, sharing information and resolving issues that could arise between ministries. The committee would also give overall guidance and directions to effectively implement the programmes.

#### **Need:**

- The World Health Organization's (WHO) database on air pollution over the years has listed **Tier I and Tier II Indian cities as some of the most polluted places in the world.**
- In 2018, 14 of **the world's 15 most polluted cities were in India.**

#### **National Clean Air Programme (NCAP):**

- This is the **first ever effort in the country to frame a national framework for air quality management with a time-bound reduction target.**
- The programme will **not be notified under the Environment Protection Act or any other Act** to create a firm mandate with a strong legal back up for cities and regions to implement NCAP in a time bound manner for effective reduction.

#### **Key features of the National Clean Air Programme (NCAP):**

- Achieve a national-level target of **20-30% reduction of PM2.5 and PM10 concentration by between 2017 and 2024.**
- **Central Pollution Control Board (CPCB)** will execute this nation-wide programme in consonance with the **section 162 (b) of the Air (Prevention and Control of Pollution) Act, 1986.**
- The programme has been launched with an initial budget of ₹300 crore for the first two years.
- The plan includes **102 non-attainment cities, across 23 states and Union territories, which were identified by Central Pollution Control Board (CPCB) on the basis of their ambient air quality data between 2011 and 2015.**
- **Non-attainment cities** are those which have been consistently showing poorer air quality than the National Ambient Air Quality Standards. These include Delhi, Varanasi, Bhopal, Kolkata, Noida, Muzaffarpur, and Mumbai.
- As part of the programme, the Centre also plans to **scale up the air quality monitoring network across India.** At least 4,000 monitors are needed across the country, instead of the existing 101 real-time air quality (AQ) monitors, according to an analysis.

- The plan proposes a **three-tier system**, including real-time physical data collection, data archiving, and an action trigger system in all 102 cities, besides extensive plantation plans, research on clean-technologies, landscaping of major arterial roads, and stringent industrial standards.
- It also proposes **state-level plans of e-mobility in the two-wheeler sector, rapid augmentation of charging infrastructure, stringent implementation of BS-VI norms, boosting public transportation system, and adoption of third-party audits for polluting industries.**
- Various committees:** The national plan has proposed setting up an apex committee under environment minister, a steering committee under-secretary (environment) and a monitoring committee under a joint secretary. There would be project monitoring committees at the state-level with scientists and trained personnel.

## CLEARING THE AIR

### AIM OF NATIONAL CLEAN AIR PROGRAMME

To meet prescribed annual average ambient air quality standards at all locations in the country

#### How it will work



Sources: the hindu.

## 14. SUSTAINABLE INDIA FINANCE FACILITY (SIFF)

- The Sustainable India Finance Facility (SIFF) is an innovative partnership between **UN Environment, World Agroforestry Centre** and **BNP Paribas** which aims to '**leverage private finance for public good**' in India.
- SIFF brings together governments, the private sector, academia and communities to scale up sustainable investment in natural resource management, renewable energy production, and rural livelihoods.

## Key Projects of SIFF:

### 1. Zero Budget Natural Farming in Andhra Pradesh

- SIFF is supporting the Government of Andhra Pradesh's efforts to become India's first Zero Budget Natural Farming (ZBNF) state by converting 6 million farmers cultivating 8 million hectares to 100% chemical free agriculture by 2024.

### 2. Conservation and Livelihoods Generation in the Western Ghats

- SIFF is working with entrepreneurs on a range of interventions that will deliver economic returns through conservation and community forestry in the Western Ghats including protecting estuaries, watersheds, developing sustainable fisheries, biodiversity friendly bamboo plantations and NTFPs based premium markets.

### 3. Improving Air Quality and Community Health in Northern India

- SIFF is assessing additional projects on alleviating the deteriorating air quality over northern India.
- In northern India, vehicular emissions, industrial pollution and construction, combined with the burning of crop residues is creating toxic levels of pollution, exacerbated during the winter temperature inversion, and evident through thick smog across northern Indian cities.
- SIFF is working with state governments and key industry actors to advance innovative ideas in biomass to bioethanol and biomass to bio-CNG conversion to remedy the situation.



**SIFF**  
SUSTAINABLE INDIA FINANCE FACILITY

The benefits of ZBNF include;

- a) provision of **cost-effective bio-inoculants**
- b) consistent yields
- c) restoration of ecosystem services
- d) conservation of biodiversity
- e) use of local seeds
- f) multi-cropping with tree cover
- g) ability of farms to withstand extreme climatic events
- h) safe and nutritious food
- i) improvements in health
- j) empowerment of women farmers.

## Topics: Disaster and management

### 1. FOREST FIRES THREATENING ODISHA'S FLORA AND FAUNA

#### What to study?

- For Prelims: Causes, effects and benefits of forest fires, MODIS- objectives and significance.
- For Mains: Concerns, why they are on rise and the need for preparedness.

**Context:** Odisha had registered a sudden jump in forest fires across the State resulting in massive damage to flora and fauna.

- As many as 5,332 fire spots had been noticed since November 1 last year, the beginning of forest fire season, in the State. The month of March had alone registered 4,495 fire spots.

#### Why worry about forest fires?

- Apart from causing a huge loss to the timber and other fruit and leaf bearing trees and creepers of the forest, fires also destroy wildlife and their habitat.
- Nests and eggs of ground dwelling birds are lost. Reptiles also lose their young ones due to forest fires.

#### Causes of Forest Fire:

- Forest fires are **caused by Natural causes as well as Man-made or anthropogenic causes**.
- **Natural causes** such as lightning which set trees on fire. High atmospheric temperatures and low humidity offer favourable circumstance for a fire to start.
- **Man-made causes** like flame, cigarette, electric spark or any source of ignition will also cause forest fires.
- Traditionally Indian forests have been affected by fires. The problem has been **aggravated with rising human and cattle population and the increase in demand for grazing**, shifting cultivation and Forest products by individuals and communities.
- **High temperature, wind speed and direction, level of moisture in soil and atmosphere and duration of dry spells** can intensify the forest fires.

### **Preparedness and mitigation measures:**

Forest fires are usually seasonal. They usually start in the dry season and can be prevented by adequate precautions.

1. **Increase the number of fire fighters** as well as equip them properly with drinking water bottles, back-up supplies of food and water, proper shoes or boots, rakes, spades and other implements, light, rechargeable torches, and so on.
2. **Seasonal labour could be contracted** during the fire season.
3. With **adequate training**, they would serve to fill gaps along the line. Local villagers would be the best resource.
4. **To keep the source of fire separated from combustible material.**
5. **Do not allow combustible material to pile up**
6. **Adopt safe practices** in areas near forests viz. factories, coalmines, oil stores, chemical plants and even in household kitchens.
7. In case of forest fires, **the volunteer teams are essential not only for fire fighting but also to keep watch on the start of forest and sound an alert.**
8. **Arrange fire fighting drills**
9. **Extra funds** should be used for hiring more Forest Department field staff to put out fires during the fire season and to patrol the forests during other times.

### **How does government get informed on Forest Fire?**

- When a fire is detected by **NASA's MODIS** (Moderate Resolution Imaging Spectroradiometer) and **VIIRS** (Visible Infrared Imaging Radiometer Suite) satellites, the Forest Survey of India (FSI) analyses the data by overlaying the digitised boundaries of forest areas to pinpoint the location to the exact forest compartment.
- The FSI relays news of the fire to the concerned State, so that the Divisional Forest Officer (DFO) in charge of the forest where the fire is raging is informed.

Sources: the hindu.

**(Q)** Of late incidents of forest fire are on the rise. Discuss the causes behind forest fires, approaches of fighting forest fires and ways of mitigating them?

## **2. FACE OF DISASTERS 2019 REPORT**

### **What to study?**

- For prelims and mains: key observations, concerns and need of the hour.

**Context:** The **Face of Disasters 2019 report** was recently published by **Sustainable Environment and Ecological Development Society (SEEDS)**.

- The report released by SEEDS as part of its **25<sup>th</sup> anniversary**, analyses past trends, looking at disasters from a broader perspective to capture their varied facets.

**Eight key areas have emerged that will be critical to consider as we look ahead, as per the report:**

1. Water and the changing nature of disaster risk: A 'new normal' of rainfall variability is bringing challenges of too much and too little water, often in parallel.
2. No disaster is 'natural': Risks lurking under the radar slip through the cracks because they don't meet the idea of a 'natural disaster'.
3. The silent events: The disasters that go unseen leave those affected at even greater risk.

### **About MODIS:**

- **MODIS** (or Moderate Resolution Imaging Spectroradiometer) is a key instrument aboard the **Terra** (originally known as EOS AM-1) and **Aqua** (originally known as EOS PM-1) satellites.
- Terra's orbit around the Earth is timed so that it passes from north to south across the equator in the morning, while Aqua passes south to north over the equator in the afternoon.
- **Terra MODIS and Aqua MODIS** are viewing the entire Earth's surface every 1 to 2 days, acquiring data in 36 spectral bands, or groups of wavelengths.

### **Significance:**

- These data will improve our understanding of global dynamics and processes occurring on the land, in the oceans, and in the lower atmosphere.
- MODIS is playing a vital role in the development of validated, global, interactive Earth system models able to predict global change accurately enough to assist policy makers in making sound decisions concerning the protection of our environment.

- Land becomes water (and water becomes land): Changes to the coastline are already affecting livelihood sources and will be hotspots for vulnerability in the future.
- The complexity of disaster impact: Beyond official ‘damages’, the long-term and uncaptured disaster impacts have life-changing consequences for affected communities.
- The urban imperative: Risk is rapidly urbanising and will affect everyone.
- Transformations in the third pole: Himalayan glaciers are melting, with serious implications for the whole region.
- Planning for what you can’t see: Earthquake risk is looming large under the radar, but are we prepared?

#### Concerns:

- 2019 will see unusual flooding, as well as heatwaves and drought that are already ongoing. A single mega-disaster can wipe out hard-won development gains and recurrent small-scale stresses keep vulnerable families in a cycle of poverty.
- While this multiple event pattern is repeated every year, only a few really capture the public attention. Other risks continue to intensify under the radar.

#### Need of the hour:

- The complexity of disasters today requires a proactive and multi-pronged approach. Current trends are reinforcing that disasters have multiple facets and complexities.
- There is a clear need for comprehensive understanding of risks, and hyper-localised plans and allocation of resources to reduce them.

Sources: the Hindu.

**(Q)** “The relationship between disaster and development depends on the development choices made by the individual, community and the nation”. Discuss. (250 Words)

### Topics: Various Security Forces, their mandate

#### 1. ASSAM RIFLES

##### What to study?

- For Prelims and Mains: Assam rifles and the issue of dual control, what needs to be done?

**Why in News?** The Delhi High Court has sought the response from the Cabinet Committee on Security on a plea seeking directions to remove **the dual control of Assam Rifles and bring it under the Ministry of Defence**.

##### Key facts:

- Assam Rifles which is also referred to as the **Sentinels of North East** is the **oldest paramilitary force** of India.
- The **administrative** control of Assam Rifles lies with the **Home Ministry**, while the **operational** control is with the **Defence Ministry**.

##### What's the issue now?

- A plea filed in the court alleges **the dual control as the violation of the rights of the troopers of Assam Rifles**.
- The plea challenges the **Government of India (Allocation of Business) Rules, 1961** saying that it places **Assam Rifles under the head ‘Police’**, which is arbitrary, unreasonable and violates the rights of Assam Rifles ex-servicemen guaranteed under Article 14 of the Constitution.

##### What's the demand now?

- The petition argues since the objective and functions of Assam Rifles were that of military and paramilitary force, its categorisation as a police force was arbitrary, unreasonable and in violation of the rights of its personnel. The petition seeks a grant of pay, allowances, pension (including arrears) and ex-servicemen facilities to Assam Rifles personnel at par with the Indian Army.

#### About SEEDS:

- SEEDS**, a **non profit voluntary organization**, is a collective endeavor of young professionals drawn from development related fields. It originated as an informal group of likeminded persons, getting together for the purpose of creative research projects of academic interest.
- Functions:** It is involved in research activities in Community Development, Disaster Management, Environmental Planning, Transport Planning, and Urban and Regional Planning. Activities are carried out on behalf of government, semi – government and international development agencies.

## 2. INDIAN ARMY OPENS VACANCIES FOR WOMEN IN MILITARY POLICE

### What to study?

- For prelims and mains: role and functions of military police and significance of involvement of women in military police.

**Context:** In a first, the Indian Army has begun **online registration of women for recruitment as soldiers into the military police.**

- The move comes three months after the Government announced that **women would be inducted into the force in the “Personnel Below Officer Rank” (PBOR) category in a graded manner to eventually comprise 20 percent of total Corps of Military Police.**

### Significance:

- So far, women were allowed in select areas such as medical, legal, educational, signals and engineering wings of the Army. The appointment of women in Military Police is a huge step towards **further empowering women and improving their representation in the Indian armed forces.**
- Those appointed under **Personnel Below Officer Rank (PBOR)** are given the responsibilities to **investigate offences such as rape, molestation and theft; serve military operations where the Army needs police assistance; assistance in evacuation of villages during cross-border hostilities; and ceremonial as well as policing duties.**

### Role of Military Police:

- The Military Police is responsible for preserving “good order and discipline and to prevent breaches of the same by persons serving in or attached to the regular Army”.
- The role of the military police includes policing cantonments and Army establishments, preventing breach of rules and regulations by soldiers, maintaining movement of soldiers as well as logistics during peace and war, handling prisoners of war and extending aid to civil police when required.

### Permanent commission of women officers in Indian Army:

- Defence Ministry has already announced that women officers recruited into the armed forces under the Short Service Commission will now have the option of taking up Permanent Commission in the Indian Armed Forces.

Sources: The Hindu.

## 3. ARMY INVOKES EMERGENCY POWERS

### What to study?

- For prelims and mains: emergency powers- features, need, concerns and significance.

**Context:** The Army is in the process of procuring **Spike-LR Anti-Tank Missiles** from Israel and **Igla-S Very Short Range Air Defence Systems (VSHORAD)** from Russia through a set of new financial powers for emergency procurements sanctioned by the Defence Ministry earlier this month.

### Features of emergency financial powers given to Army:

- After the Pulwama attack, the government has given emergency powers to the armed forces for buying equipment to enable them to fight wars on the western border with Pakistan.
- Under the latest emergency financial powers, armed forces have been given a **free hand to procure equipment worth upto ₹300 crore** on a priority basis.

### Loosening the purse strings

New emergency financial powers were approved by the MoD for three services early this month. A look at some relaxations:

**Financial limit: ₹300 crore**

■ Services have free hand to procure critical equipment of the day

■ Two deals under this new route - Spike-LR Anti-Tank Missiles from Israel and Igla-S Very Short Range Air Defence Systems (VSHORAD) from Russia

**Timeline: Deliveries to be completed in 3 months, extendable to six months**

- The government also relaxed certain rules to cut delays in military purchase like allowing the three services to procure required weapons and equipment from a single vendor.
- Entirely new systems** not in use **can also be procured** under the new powers.
- For the procurement under the emergency orders, the forces **need not even take concurrence** of the Integrated Financial Advisor from the **defence finance department**.

**Spike-LR Anti-Tank Missiles:**

- being **procured from Israel**.
- range of 4 km.**

**Need:**

- The defence Ministry feels that since the forces have to fight wars, they should decide on their requirement and priority in the acquisition and buy that equipment.

Sources: The Hindu.

*Topics: Security challenges and their management in border areas; linkages of organized crime with terrorism.*

## 1. AFSPA

### What to study?

- For Prelims and Mains: AFSPA- features, draconian provisions, misuses and need for review.

**Context:** After 32 years, the controversial Armed Forces (Special Powers) Act, which gives sweeping powers to security forces, was partially removed from three of nine districts of Arunachal Pradesh but would remain in force in the areas bordering Myanmar.

## WHAT IS ARMED FORCES SPECIAL POWERS ACT?

► **Introduced in 1958**, AFSPA confers on members of the armed forces special powers to rein in suspects in areas declared "disturbed" on account of insurgent activities or similar threats. It has been in **force in Manipur since 1980**, and the alleged **excesses committed under it** are the reasons why activist Irom Sharmila has been on a **hunger strike since 2000**.

### WHAT ARE SPECIAL POWERS?

AFSPA allows any commissioned officer, warrant officer and non-commissioned officer – or any other



person of equivalent rank – to:

► Fire upon or use force against any person acting 'in contravention of any law for the time being in force in the disturbed area'

► Arrest suspicious people without warrant

► Destroy any structure suspected to house an arms dump, shelter from which armed attacks are made or are likely to be made

► Conduct searches without warrants for evidence, to recover a wrongfully confined person or property or arms or explosives

► AFSPA bars prosecution or proceedings – except with Centre's nod – against personnel for action committed while exercising powers under the Act

### Background:

- The state, which was formed on February 20, 1987, had inherited the controversial AFSPA enacted by Parliament in 1958 and applied to the entire State of Assam and the Union Territory of Manipur. After Arunachal Pradesh, Meghalaya, Mizoram and Nagaland came into being, the Act was appropriately adapted to apply to these states as well.

### What does the AFSPA mean?

- In simple terms, AFSPA gives armed forces the power to **maintain public order in "disturbed areas"**. They have the authority to prohibit a gathering of five or more persons in an area, can **use force** or even **open fire** after giving due warning if they feel a person is in contravention of the law. If reasonable suspicion exists, the army **can also arrest** a person **without a warrant**; **enter or search premises without a warrant**; and **ban the possession of firearms**.

- Any person arrested or taken into custody may be handed over to the officer in charge of the nearest police station along with a report detailing the circumstances that led to the arrest.

#### **What is a “disturbed area” and who has the power to declare it?**

- A disturbed area is one which is declared by notification under Section 3 of the AFSPA. An area can be disturbed due to differences or disputes between members of different religious, racial, language or regional groups or castes or communities.
- The Central Government, or the Governor of the State or administrator of the Union Territory can declare the whole or part of the State or Union Territory as a disturbed area. A suitable notification would have to be made in the Official Gazette. As per Section 3, it can be invoked in places where “the use of armed forces in aid of the civil power is necessary”.

#### **What's the origin of AFSPA?**

- The Act came into force in the context of increasing violence in the Northeastern States decades ago, which the State governments found difficult to control.
- The Armed Forces (Special Powers) Bill was passed by both the Houses of Parliament and it was approved by the President on September 11, 1958. It became known as the Armed Forces Special Powers Act, 1958.

#### **What are the special powers given to army officials?**

- Under Section 4 of the AFSPA, an authorised officer in a disturbed area enjoys certain powers. The authorised officer has the power to open fire at any individual even if it results in death if the individual violates laws which prohibit (a) the assembly of five or more persons; or (b) carrying of weapons. However, the officer has to give a warning before opening fire.
- The authorised officer has also been given the power to (a) arrest without a warrant; and (b) seize and search without any warrant any premise in order to make an arrest or recovery of hostages, arms and ammunitions.
- Individuals who have been taken into custody have to be handed over to the nearest police station as soon as possible.
- Prosecution of an authorised officer requires prior permission of the Central government.

#### **What has been the role of the judiciary?**

- There were questions about the constitutionality of AFSPA, given that law and order is a state subject. The Supreme Court has upheld the constitutionality of AFSPA in a 1998 judgement (**Naga People’s Movement of Human Rights v. Union of India**).
- In this judgement, the Supreme Court arrived at certain conclusions including (a) a suo-motto declaration can be made by the Central government, however, it is desirable that the state government should be consulted by the central government before making the declaration; (b) AFSPA does not confer arbitrary powers to declare an area as a ‘disturbed area’; (c) the declaration has to be for a limited duration and there should be a periodic review of the declaration 6 months have expired; (d) while exercising the powers conferred upon him by AFSPA, the authorised officer should use minimal force necessary for effective action, and (e) the authorised officer should strictly follow the ‘Dos and Don’ts’ issued by the army.

#### **Has there been any review of the Act?**

- On November 19, 2004, the Central government appointed a five member committee headed by **Justice B P Jeevan Reddy** to review the provisions of the act in the north eastern states.
- The committee submitted its report in 2005, which included the following recommendations:** (a) AFSPA should be repealed and appropriate provisions should be inserted in the Unlawful Activities (Prevention) Act, 1967; (b) The Unlawful Activities Act should be modified to clearly specify the powers of the armed forces and paramilitary forces and (c) grievance cells should be set up in each district where the armed forces are deployed.
- The 5<sup>th</sup> report of the Second Administrative Reforms Commission on public order** has also recommended the repeal of the AFSPA.
- These recommendations have not been implemented.

Sources: the hindu.

## 2. BLOCKING OF HIGHWAY

### Context:

- Supreme Court has sought responses from the Centre and Jammu and Kashmir on the plea seeking quashing of an order which restricts civilian traffic two days a week on the national highway (NH) stretch from Udhampur to Baramulla for movement of security forces.
- The J&K govt. has issued an order banning the movement of civilian traffic on a 270-km stretch (Udhampur-Baramulla) of the Jammu-Srinagar-Uri national highway for two days every week.
- On Sundays and Wednesdays, the highway would be exclusively used for movement of military convoys. The decision has been taken considering the security concerns that led to temporarily blocking part of the highway. However this has an implication on civilian population.

### Why is the highway important?

- The Jammu-Srinagar-Uri national highway (NH-1A) runs 370 km. **The national highway is not just the only road link that connects Kashmir to the outside world but also the key highway that connects Srinagar with the southern and northern districts of the Valley.** The highway passes through five of the 10 districts of the Valley, and highways to at least two more districts branch out from it. The highway, directly and indirectly, impacts a population of over 69 lakh.

### Why such decision?

- **The government has cited the recent suicide bombing of a security forces convoy** in Pulwama — which killed 40 CRPF personnel — as the reason for restricting traffic.

### Implications of the road-block:

- It means a virtual lockdown of the Valley for two days every week. According to official figures, over 10,000 vehicles move on the highway from both sides every hour, including around 5,000 light motor vehicles. These include vehicles carrying students, patients, government officials and businessmen.
- Closing the highway during daytime would mean that most government and private offices, banks, schools and colleges would remain shut on Wednesdays and the movement of people to hospitals would be severely restricted on Wednesdays and Sundays.

### What can be done?

- Whenever security forces' vehicles are using the highway, civilian traffic can be halted for various lengths of time.

Sources: TH, IE.

*Topics: Role of external state and non-state actors in creating challenges to internal security. Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges.*

## 1. UK GOVT RELEASED 'ONLINE HARMS WHITE PAPER' TO REGULATE ONLINE CONTENT

### What to study?

- For Prelims: Key features of the white paper released.
- For Mains: Significance and the need for such kind of regulations.

**Context:** UK government has released a white paper on 'online harms'. These new rules are aimed at limiting harmful online content. Developing a culture of transparency, trust and accountability will be a critical element of the new regulatory framework.

### **Highlights:**

- In this white paper, the UK government called for an **internet regulator with the power to issue fine, to block access to websites if necessary, and to make individual executives legally liable for harmful content spread on their platforms.**
- The **government will establish a new statutory duty of care** to make companies take more responsibility for the safety of their users and tackle harm caused by content or activity on their services. Compliance with this duty of care will be overseen and enforced by an independent regulator.
- **Companies must fulfil their new legal duties.** The regulator will set out how to do this in codes of practice. If companies want to fulfil these duties in a manner not set out in the codes, they will have to explain and justify to the regulator how their alternative approach will effectively deliver the same or greater level of impact.
- **The regulator will have the power to require annual transparency reports from companies in scope,** outlining the prevalence of harmful content on their platforms and what measures they are taking to address this. These reports will be published online by the regulator, so that users and parents can make informed decisions about online use.

### **Why was it required?**

- Illegal and unacceptable content and activity is widespread online. The impact of harmful content and activity can be particularly damaging for children and young people, and there are growing concerns about the potential impact on their mental health and wellbeing.
- As per Online Harms White Paper, Tackling illegal and harmful content and activity online is one part of the UK's wider mission to develop rules and norms for the internet, including protecting personal data, supporting competition in digital markets and promoting responsible digital design.

Sources: the hindu.

## **2. BAN ON TIKTOK APP**

### **What to study?**

- For prelims and mains: why ban, need, issues and what's the way out?

Context: The Indian government has ordered Google and Apple to take down the Chinese-owned Tiktok video app after a court expressed concerns over the spread of pornographic material.

### **Background:**

- Tiktok has already been banned in neighbouring Bangladesh and hit with a large fine in the United States for illegally collecting information from children.
- The app, which claims to have 500 million users worldwide including more than 120 million in India, has been fighting the effort to shut it down after a high court in Chennai called for the ban on 3 April.

### **What necessitated this and can the ban be justified?**

- The case was launched by an activist group which said the app **encouraged paedophiles and pornography.**
- The ban assumes that **only a few platforms are a source of the problem and ignores the fundamental nature of the internet.** The internet is not just Facebook or TikTok or WhatsApp. There are several other websites where people can go and find some of the most horrible content and then share it to the other platforms. **To single out one app as a source of the problem as has happened with TikTok is worrying.**
- The TikTok ban also raises questions about the **future of tech policy in India.** The Ministry of Electronics and Information Technology (MeITY) is already working on new rules for intermediaries, which would put a lot **more onus on companies to monitor content beforehand, and assumes that automated monitoring and AI will solve the problem.**

### **What needs to be done?**

- **The best way to protect users, especially children, is to empower them with information.**
- Time is indeed nigh for **legislation specifically protecting the interests of young users, it is also important for policymakers and internet companies to create education materials targeted at children and their parents.**

- To begin with, the government must make the safe use of the internet a part of the school and college course curricula.

#### Way ahead:

- TikTok is not the only internet company to be lethargic in acting on complaints, Twitter and Facebook have been slow to act as well, aside from doing little to help law enforcement in cracking down on crime.
- If such companies value their users and wish to retain them, they should start being proactive in dealing with harmful behaviour on their sites.

Sources: the Hindu.

**Topics: Cybersecurity related issues; money-laundering and its prevention**

## CHECKPOINT TIPLINE BY WHATSAPP

#### What to study?

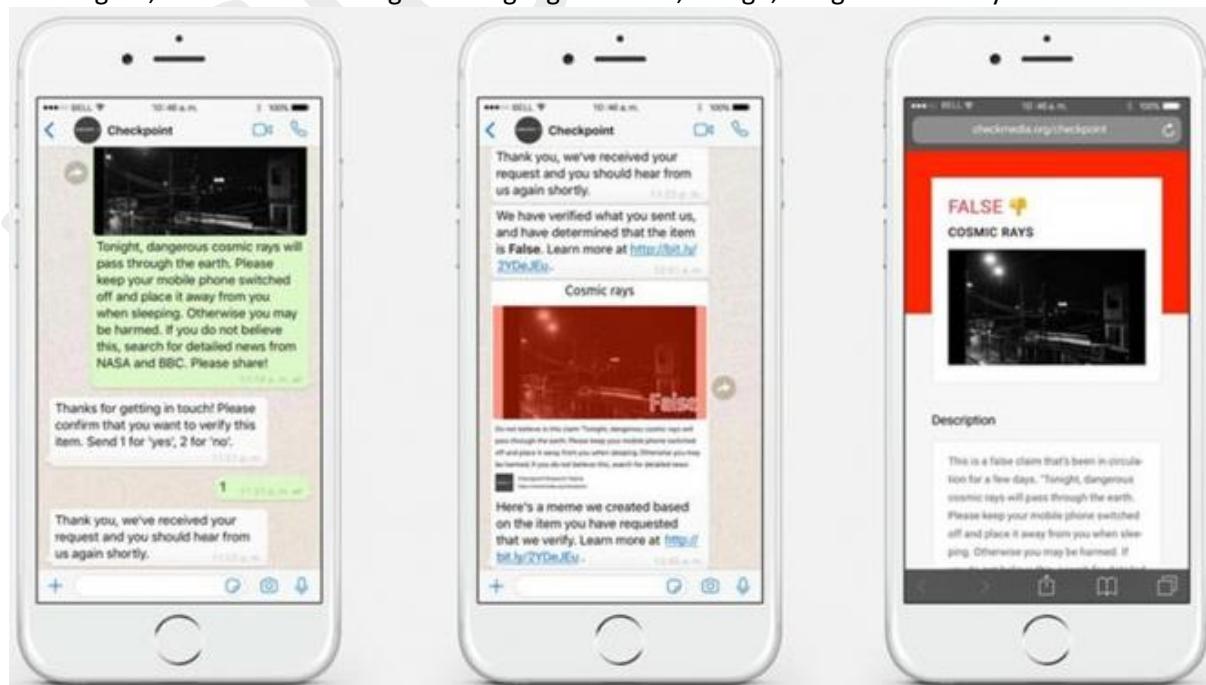
- For Prelims: Key features and significance of Tipline.
- For Mains: Fake News- concerns, effects, role of social media platforms and other stakeholders involved.

**What is it?** WhatsApp has unveiled a brand new initiative, called Checkpoint Tipline, that will **help people verify** if any information they receive is **true or false**.

- Launched by PROTO**, an India-based media skilling startup, the tipline is basically aimed at **creating a database of rumours**. The idea is **to study misinformation spread ahead of the upcoming elections for Checkpoint**, which is a research project commissioned and technically assisted by WhatsApp.

#### How it works?

- WhatsApp users can submit all the information received through the messaging platform and that they are uncertain about to the ‘Tipline’ on WhatsApp (+91-9643-000-888).
- Following this, PROTO’s verification centre will “seek to respond and inform the user” if the information received is verified or not.
- The response will indicate if information is classified as true, false, misleading, disputed or out of scope and include any other related information that is available.
- The verification centre, in turn, will be able to review rumors in the form of pictures, video links or text. Apart from English, it will cover four regional languages – Hindi, Telugu, Bengali and Malayalam.



**Significance:**

- This is not the first time the global messaging platform has tried to filter the barrage of information exchanged every day by billions of users. In the aftermath of a series of mob lynchings following misinformation spreading on WhatsApp, the company is now taking stringent steps in the lead up to the 2019 general elections in India.
- It has also undertaken many efforts to battle fake news, including the five-forward limit, social campaigns, and the latest – a ‘Tipline’ for misinformation.

# FACTS for PRELIMS

## ENVIRONMENT

### 1. CONNECT4CLIMATE



- **Connect4Climate** is a global partnership program launched by the **World Bank Group** and the Italian Ministry of Environment, Land and Sea, together with the German Federal Ministry for Economic Cooperation and Development, that takes on climate change by supporting ambitious leadership, promoting transformative solutions and empowering collective action.
- The Connect4Climate community connects about 500 partners around the world including civil society groups, media networks, international organizations, academic institutions, youth groups, and the private sector.
- Connect4Climate interacts with a global audience of more than a million individuals who participate on Connect4Climate's social media channels, including Facebook, Twitter, Vimeo, YouTube, Flickr, LinkedIn, and Instagram.

### 2. PROGRAM ON FORESTS (PROFOR)

- The **Program on Forests (PROFOR)** was created in **1997** to support in-depth analysis, innovative processes and knowledge-sharing and dialogue, in the belief that sound forest policy can lead to better outcomes on issues ranging from livelihoods and financing, to illegal logging, biodiversity and climate change. PROFOR encourages a big-picture approach to forest conservation and management in developing countries.
- The **World Bank** houses PROFOR's Secretariat.



### 3. RICE KNOWLEDGE BANK-ASSAM

- **Context:** To bridge the gap between research and practice in rice production, the International Rice Research Institute (**IRRI**), in collaboration with the **Government of Assam**, Assam Agriculture University, and the World Bank funded **Assam Agribusiness and Rural Transformation Project (APART)** developed the **Rice Knowledge Bank, Assam (RKB, Assam)**—a digital extension service

that provides practical knowledge solutions, specialized for small-scale farmers for the state of Assam.



**Rice Knowledge Bank, Assam**

Your Information Source for Rice Farming

BETA VERSION

#### About Rice Knowledge Banks:

- To bridge the gap between research and practice in rice production, the **International Rice Research Institute (IRRI)** developed the **Rice Knowledge Bank (RKB)**—a digital extension service that provides practical knowledge solutions, specialized for small-scale farmers in developing countries.
- RKB showcases rice production techniques, agricultural technologies, and best farming practices based on IRRI's pool of knowledge from research findings, learning and media resources, and in-country projects.

### 3. NEELAKURINJI

- Kurinji or Neelakurinji (*Strobilanthes kunthianus*) is a **shrub** that is **found in the shola forests** of the **Western Ghats** in South India.
- Nilgiri Hills, which literally means the blue mountains, got their name from the purplish blue flowers of Neelakurinji that **blossoms only once in 12 years**.
- Some Kurinji flowers bloom once every seven years, and then die. Their seeds subsequently sprout and continue the cycle of life and death.
- The **Paliyan tribal people** living in **Tamil Nadu** used it as a **reference to calculate their age**.

### 4. NANDHAUR WILDLIFE SANCTUARY

- **Why in News?** With the number of tigers steadily on the rise at Nandhaur Wildlife Sanctuary in **Uttarakhand**, the authorities feel upgrading it to a tiger reserve is necessary for the conservation of tigers at the facility.
- Nandhaur Wildlife Sanctuary is situated **close to the Nandhaur river in Kumaon region of the State**.

### 5. TOLUENE

- **Toluene** is one of the petrochemical wastes that get released without treatment from industries such as refineries, paint, textile, paper and rubber.
- Toluene has been reported to cause serious health problems to aquatic life, and studies point that it has genotoxic and carcinogenic effects on human beings.

## 6. EARTH DAY

- It is an annual event, organized to show support for environmental protection around the world on **April 22**.
- Earth Day was **founded by American senator Gaylord Nelson for environmental education**.
- This day **commenced on April 22, 1970. In the year 2020, the 50th anniversary** of the first Earth Day will be celebrated.
- Theme of Earth Day 2019: Protect Our Species.**

## 7. THE EAST ASIA – AUSTRALASIAN FLYWAY (EAAF)

- Context:** In a first, east Asian birds make Andaman stopover. These birds also use Andaman and Nicobar Islands for a few week rest before they can fly along the **East Asian-Australasian Flyway (EAAF)**.

### Key facts:

- The routes that migratory waterbirds traverse on an annual basis are known as '**flyways**'. There are **nine major flyway around the world**.
- The **East Asian – Australasian Flyway (EAAF)** stretches from the Russian Far East and Alaska, southwards through East Asia and South-east Asia, to Australia and New Zealand and encompasses 22 countries.
- The EAAF is home to over 50 million migratory waterbirds from over 250 different populations, including 32 globally threatened species and 19 Near Threatened species.
- During migration, waterbirds rely on a system of highly productive wetlands to rest and feed, building up sufficient energy to fuel the next phase of their journey.



## 8. OLIVE RIDLEY TURTLE

- Why in news?** The idyllic **Kalam Island** off the Odisha coast has become lively with lakhs of baby Olive Ridley turtles crawling towards the Bay of Bengal after emerging from eggshells. The Odisha Forest and Environment Department said baby turtles had emerged from approximately 1.25 lakh nests.

### Key facts:

- Vulnerable** — IUCN Red list.
- Habitat** — warm and tropical waters of primarily in the Pacific, Indian Ocean and Atlantic ocean.

- Gets name from its olive colored carapace, which is heart-shaped and rounded
  - Arribadas** — synchronized nesting in mass numbers,
  - Operation Olivia** — Olive Ridely Turtle protection program undertaken by Indian Coast Guard
  - mating and breeding season — winter
  - mostly carnivorous, feeding on such creatures as jellyfish, snails, crabs, and shrimp. They will occasionally eat algae and seaweed.
- Nesting sites in India:**
- Hope Island of Coringa Wildlife Sanctuary (Andhra Pradesh)
  - Gahirmatha beach (Odisha)
  - Astaranga coast (Odisha)
  - Beach of Rushikulya River
  - Devi River mouth

## 9. INDIAN BULLFROGS

- A study has found that the Indian bullfrogs introduced in the Andaman islands are invasive, and eat native wildlife including fish and lizards.

### About Indian Bullfrog:

- The Indian bullfrog (*Hoplobatrachus tigerinus*) is **native to the Indian subcontinent**. It is a **large species of frog** found in mainland Myanmar, Bangladesh, India, Pakistan, Afghanistan, and Nepal.
- Other names: Indus Valley bullfrog, Asia bullfrog.
- The bullfrogs are **prolific breeders**: they have short breeding seasons, and each egg clutch can contain up to 5,750 eggs.
- Its tadpoles are **carnivorous and eat other tadpoles, including their own species**.
- They prefer **freshwater wetlands and aquatic habitats**. Generally they avoid coastal and forest areas.

## 10. EURASIAN LYNX

- The Eurasian Lynx**, found currently only in Ladakh and some parts of Pakistan-Occupied Kashmir, may have found its way into the Kashmir Valley, according to a report.
- If confirmed, the lynx would be the third smaller cat species reported from the Kashmir Valley. The other two include the Jungle Cat and the Leopard Cat.
- The Eurasian Lynx or Ee in Ladakhi is one of the medium-sized wild cats which roam the high and cold snow-covered mountains of Ladakh. The cat is agile and strong and is highly adapted to the thin air atmosphere of Ladakh.
- It inhabits temperate and boreal forests up to an altitude of 5,500 m (18,000 ft). Because of its wide distribution, it has been listed as Least Concern on the IUCN Red List since 2008.

## 11. BEJJUR VULTURES

- They are also known as **longbilled vultures (Gyps indicus)**. It is the smallest of the vultures.
- Feed exclusively on carrion, and mainly remains of cattle.
- Breed in colonies.
- Listed under the '**critically endangered**' category by the International Union for Conservation of Nature (IUCN).
- Vulnerable to poisoning by Diclofenac.**



## 12. GREAT INDIAN BUSTARDS (GIB)

- Why in News?** There are 150 Great Indian Bustards (GIB) in Rajasthan's Desert National Park (DNP), as per a survey.
- The bird is a **critically endangered species** listed in the International Union for conservation of Nature's (IUCN) Red List.
- It is also found in Gujarat, Maharashtra, Karnataka and Andhra Pradesh.
- The DNP, spread over Jodhpur, Jaisalmer, Barmer and Bikaner districts, however remains its main habitat.
- It is listed in **Schedule I of the Indian Wildlife (Protection) Act, 1972** and in the **CMS Convention** and in **Appendix I of CITES**.
- It has also been identified as one of the species for the recovery programme under the Integrated Development of Wildlife Habitats of the Ministry of Environment and Forests, Government of India.
- Project Great Indian Bustard — state of Rajasthan** — identifying and fencing off bustard breeding grounds in existing protected areas as well as provide secure breeding enclosures in areas outside protected areas.
- Protected areas:** Desert National Park Sanctuary — Rajasthan, Rollapadu Wildlife Sanctuary — Andhra Pradesh and Karera Wildlife Sanctuary— Madhya Pradesh.

## 13. TWO NEW BIRD SPECIES SPOTTED IN KERALA SANCTUARY

- Two new species of birds have been spotted in North Kerala's Aralam Wildlife Sanctuary during a recent bird survey in the district.
- The new species spotted were **Woolly-necked Stork** and **White-bellied Drongo**, both dry-land species.

## 14. YANGTZE GIANT SOFTSHELL TURTLES

- Context:** The only known female member of one of the world's rarest turtle species has died at a zoo in southern China. The animal was one of four **Yangtze giant softshell turtles** known to be remaining in the world. The Suzhou zoo, where the female turtle lived, also houses a male Yangtze giant softshell turtle. The other two live in Vietnam.

## 15. AQUAPONIC AND HYDROPONIC METHODS OF AGRICULTURE

- Aquaponic** method combines **aquaculture** — cultivating fish and other aquatic animals in tanks — with **hydroponics**, where plants are cultivated in water.
- The water from the fish tank is pumped onto the beds where plants grow. While the fish excretions provide nutrients for the plants, the clean water is recirculated back to the fish tank.
- While the **initial cost** to set up the facility would be **high**, the **recurring cost is low** in aquaponics and there are two sources of revenue : Fish and Vegetables.
- Hydroponics** can save up to 90% water than conventional agriculture.

## 16. BAMBOO RICE

- Four decades later, bamboo rice shows up in **Odisha**. The rare variety, which was last harvested in **Chandaka-Dampara Wildlife Sanctuary in 1979**, grows twice or thrice in a century

### What is Bamboo Rice?

- Bamboo rice is special rice that is grown out of a dying bamboo shoot.
- When the bamboo shoot breathes its last, it flowers into a rare variety of rice seeds, which are known as bamboo rice.

### The Process of Storing Bamboo Rice:

- Given the unpredictable flowering and thorniness of the bamboo, this makes no easy rice harvest.
- To get perfect polished bamboo rice, the area around the base of each bamboo is cleaned and all the debris formed is removed.
- The base is then smoothed with a slush of clay and kept to dry.
- Once dried, the bamboo rice is then stored in to the prepared surface and gathered to be consumed.

## DEFENCE

### 17. BILATERAL MARITIME EXERCISE 'AUSINDEX-19'

- Context:** The third edition of '**AUSINDEX-19' (Australia India Exercise)**, bilateral maritime exercise between Indian Navy and Royal Australian Navy is being held at Visakhapatnam.
- Objective:** The exercise seeks to 'strengthen and enhance mutual cooperation and interoperability between the Indian Navy and Royal Australian Navy, providing opportunities for interaction and exchange of professional views between the personnel of the two navies'.

### 18. EXERCISE 'SEA VIGIL'

**Context:** The maiden national level Coastal Defence Exercise SEA VIGIL was conducted recently by the Indian Navy.

- The exercise witnessed the simultaneous activation of the coastal security apparatus across the country involving maritime stakeholders at the Centre and all the 13 Coastal States and Union Territories.
- Key takeaways from the exercise debrief were deliberated and disseminated to all for further action/ follow-up. The feedback from the exercise and the deliberations would be presented at the next meeting of the National Committee for Strengthening Maritime and Coastal Security (NCSMCS).

### 19. BOLD KURUKSHETRA-2019

- Bold Kurukshetra is a Joint Military Exercise of **India and Singapore**.
- The latest edition is being held at Babina Cantonment of Jhansi.
- The joint exercise is aimed at developing military technology, enhance the maritime security and bolster the nations' fight against terrorism.

### 20. DHANUSH ARTILLERY GUNS

**Context:** The Indian Army has received its **first batch of Dhanush artillery guns**.

- The gun, which has a calibre of 155x45mm, is the **first ever indigenous artillery gun of this calibre, is classified as 'medium artillery'**.
- Dhanush has been designed and developed by the **Ordnance Factory Board** at the Gun Carriage Factory at Jabalpur based on the Bofors drawings.

### 21. INDIAN NAVY LAUNCHES GUIDED MISSILE DESTROYER 'IMPHAL'

- Context:** The Indian Navy has launched guided missile destroyer '**Imphal**' at Mazagon Dock Shipbuilders in Mumbai.

#### Key facts:

- Imphal is the third ship to be launched under Project 15B. The warships built under the project are propelled by four gas turbines to achieve speed in excess of 30 knots. They have a length of 163 metres and 17.4 metres at the beam and a displacement of 7,300 tonnes.
- The **first ship of Project 15B**, a guided missile destroyer christened '**Visakhapatnam**', was launched on April 20, 2015.

### 22. COAST GUARD PATROL SHIP "VEERA" COMMISSIONED

- Veera**, third in the series of offshore patrol vessels of the Coast Guard, was built by L&T at its shipbuilding facility at Kattupalli in Chennai. A ship of this class has been designed and constructed in India for the first time as part of 'Make in India' concept of the Central government.
- Veera is equipped with the state-of-the-art machinery comprising an integrated bridge system, which includes advanced navigation and communication technology and integrated platform management system.

### 23. VEER PARIVAR APP

- Context:** President Ram Nath Kovind recently launched '**Veer Parivar App**', a mobile application for families of CRPF personnel killed in the line of duty.
- The application will act as an interface between the Central Reserve Police Force (CRPF) authorities and the next of kin of the slain personnel.
- It will render all assistance to the families of the martyred CRPF personnel with regard to issuance of ex gratia, pensionary benefits and all information regarding the welfare schemes introduced for them by the government.
- The assistance will be provided to the families on a real-time basis. The CRPF headquarters in Delhi and various group centres across the country will respond to these issues.
- The Android-based app will be installed by the force's officials securely on the phone of the families and will not be available over the app stores.

### 24. US APPROVES SALE OF 24 MH 60 HELICOPTERS TO INDIA

- The **MH-60 Romeo Seahawk helicopter** is considered to be the world's most advanced maritime helicopter.
- Built by Lockheed Martin**, the helicopters are designed to hunt down submarines, as well as knock out ships and conduct search-and-rescue operations at sea.
- They will provide the Indian defence forces with the capability to perform anti-surface and antisubmarine warfare missions along with the ability to perform secondary missions including

vertical replenishment, search and rescue and communications relay.

## 25. INDIAN ARMY BUILT LONGEST SUSPENSION BRIDGE AT LEH

- The Indian Army has successfully built the longest suspension bridge 'Matiri Bridge' over the Indus River in the Leh-Ladakh region.
- Suspension Bridge constructed over Indus River by Combat Engineers 'Fire & Fury Corps'.
- The 260-feet long suspension bridge was built in a record time of 40 days.

## NATIONAL

## 26. MEDICINE LABELS IN REGIONAL LANGUAGE

- Context:** In order to counter fake, sub-standard and expired drugs, the Union Health Ministry has said Hindi and regional language will be used in the tendering process.
- Background:** The Drugs Technical Advisory Board (DTAB) recently recommended that government procurement agencies should take necessary steps in the tendering process to include the regional language, along with English, on the label of iron tablets and polio drops in government programmes.

## 27. DRUGS TECHNICAL ADVISORY BOARD (DTAB)

- DTAB is highest statutory decision-making body on technical matters related to drugs in the country.
- It is constituted as per the Drugs and Cosmetics Act, 1940.
- It is part of Central Drugs Standard Control Organization (CDSCO) in the Ministry of Health and Family Welfare (MoHFW).

## 28. INVESTOR EDUCATION AND PROTECTION FUND (IEPF)

- Why in News?** The Investor Education and Protection Fund (IEPF) Authority has recovered deposits worth Rs 1,514 crore from Kolkata-based Peerless General Finance and Investment Company.

### About Investor Education and Protection Fund Authority:

- established by the central government under Section 125 of Companies Act 2013.
- a statutory body under the Ministry of Corporate Affairs.
- The Secretary in the Ministry of Corporate Affairs is the Chairperson of IEPF.
- The authority aims to administer the Investor Education and Protection Fund with the objective of promoting Investor's Education, Awareness and Protection.

- It is empowered to undertake various initiatives to fulfil its objectives through Investor Awareness Programmes and various other mediums like print, Electronic, Social Media and Community Radio.

## 29. SIDHMUKH NOHAR PROJECT

- Why in News?** The SC is hearing the issue of diversion of Beas water for Sidhmukh Nohar Project in Rajasthan. The issues framed by the apex court for discussion consisted of whether the state of Rajasthan is entitled to carry 0.17 million acre-feet (MAF) (ex-Nangal) Beas diverted water through BML for Sidhmukh Nohar Project in accordance with various agreements between the partner states and Government of India.
- Sidhmukh and Nohar project** is constructed to utilise the share of Rajasthan in Ravi Beas surplus water over and above pre-partition used to the extent of 0.47 MAF from the existing Bhakra Main line canal which is re-modelled in Punjab to accommodate the increased flows.

## 30. INDIA BECOMES NET STEEL IMPORTER, A FIRST IN 3 YEARS

- India was a **net importer of steel** during the 2018-19 fiscal year, the first time in three years, as the country lost market share among its traditional steel buyers and imports jumped on demand for higher quality steel domestically.
- India's **exports** during the fiscal year **declined** after rival steelmakers in China, Japan, South Korea and Indonesia, blocked from markets in the United States and Europe by tariffs and other protectionist measures, ate away at the country's markets in West Asia and Africa.
- Imports from the four Asian countries also climbed as they diverted supply into India. Imports of value-added steel, primarily for the auto sector and high-end electrical steel, were the biggest source of imports.

## 31. NON-CORE ASSETS

- Why in News?** The Department of Investment and Public Asset Management (DIPAM) issued guidelines for monetisation of non-core assets of CPSEs.
- Non-core assets** are assets that are either not essential or simply no longer used in a company's business operations. Non-core assets are often sold when a company needs to raise cash. Some businesses sell their non-core assets in order to pay down their debt.
- Composition:** A non-core asset can be any kind of asset, including an entire subsidiary or a holding in another company. But often non-core assets are things such as real estate, commodities, natural resources, currencies or securities. A non-core asset might also be factory or property that is no longer being used.
- Who decides?** Whether an asset is considered non-core is entirely relative to the company. An asset that

is non-core for one company might be core for another.

### 32. GREEN CAR LOAN LAUNCHED BY SBI

- State Bank of India (SBI) has recently launched **India's first 'Green Car Loan'** to encourage customers to buy electric vehicles.
- Green Car Loan is part of its environment friendly commitment towards building a cleaner and greener environment. With this initiative, **SBI has become India's first bank to offer a loan specifically for electric cars.**

### 33. CAFÉ SCIENTIFIQUE

- 'Café Scientifique' is the first of its kind initiative in the State of Kerala **aimed at popularising Science**.
- Objective:** The café envisages to bring science back into popular culture by demystifying scientific research for the public and empowering non-scientists to comfortably assess science and technology issues, particularly those that impact social policymaking.
- Background:** It is a **grassroots public science initiative based on the French Café Philosophique model**. Originating in England, the concept quickly gained popularity and was adopted by other countries.

#### How it works?

- The plan is to organise meetings of science enthusiasts in the district every month at a café or a convenient place, where one or more scientists are invited to talk to the public about new developments in science.
- The project is also aimed at making science relevant, powerful and important to the public, especially the younger generations.
- Various topics such as universe, climate change, evolution, genetics and human-animal relations will be discussed in every monthly gathering.

### 34. BHARATI SCRIPT

- Why in news?** A team of scientists at IIT Madras have developed a method for reading documents in Bharati script using a multi-lingual optical character recognition (OCR) scheme.

#### What is Bharati script?

- Bharati is a **unified script for nine Indian languages** which is being proposed as a common script for India. It is developed by an IIT Madras team.
- Bharti script aims to bring down the communication barriers in India with a common script.
- The scripts that have been integrated include Devnagari, Bengali, Gurmukhi, Gujarati, Oriya, Telugu, Kannada, Malayalam and Tamil. English and Urdu have not been integrated so far.

### 35. DIFFERENT HARVEST FESTIVALS BEING CELEBRATED IN SEVERAL PARTS OF COUNTRY

- Vaisakhi- Celebrated by Sikhs.
- Vishu- Kerala.
- Rongali Bihu- Assam.
- Naba Barsha- Bengal.
- Puthandu Pirappu- Tamil Nadu.

## AWARDS/PRIZES/DAYS

### 36. RUSSIA'S HIGHEST CIVILIAN AWARD FOR PM

- Russia's highest civilian award – the "Order of the Holy Apostle Andrew the First,"** will be awarded to PM Narendra Modi for his work on bilateral ties.
- Eligibility:** The Order of the Holy Apostle Andrew the First is awarded to prominent government and public figures, prominent representatives of science, culture, art and various sectors of the economy for "exceptional services that contribute to the prosperity, greatness and glory of Russia".
- It was first awarded** by former Russian Tsar 'Peter the Great' in 1698 and subsequently discontinued. In 1998, former President Boris Yeltsin reinstated the honour by a presidential decree.
- Previous recipients include** Chinese President Xi Jinping, and presidents of Azerbaijan and Kazakhstan, former Soviet leader Mikhail Gorbachev and author Aleksandr Solzhenitsyn.

### 37. ZAYED MEDAL

- Context:** UAE awards PM Narendra Modi with Highest Civilian Honour. PM Modi has been awarded in recognition of efforts in giving "a big boost" to bilateral relations between both the countries.
- The 'Order of Zayed' is **the highest civil decoration instituted by the UAE**.
- 'Zayed' is **the founding father of the United Arab Emirates**.
- It is awarded to **Heads of Government/Head of State for their international relations with UAE**.

### 38. RABINDRANATH TAGORE LITERARY PRIZE

- Context:** The Rabindranath Tagore Literary Prize 2019 was awarded to author **Rana Dasgupta for his 2010 novel "Solo"**.
- Solo is a tale of estrangement and the ultimate failure of material existence.

#### About the prize:

- aims to revive poetry and books that can change lives.
- An amount of \$10,000, a Tagore statue and a certificate for contribution to literature will be given to the awardee.

- **Eligibility:** Indian Poets, novelists and Playwrights writing in officially recognized languages or dialects of the Indian subcontinent, including English.

### 39. GIC INDIA CHIEF AWARDED FREEDOM OF THE CITY OF LONDON

- **Context:** The Chairman and Managing Director of the General Insurance Corporation (GIC) of India, the country's reinsurance major, has been awarded the Freedom of the City of London in recognition of her work to promote insurance ties between India and the UK.
- **What is it?** The Freedom of the City of London dates back to the 13th century and has since developed into an honour bestowed upon individuals who make an impact in the financial hub of London, referred to as the City or the Square Mile.

### 36. WORLD BOOK DAY

- World Book Day, also known as **World Book and Copyright Day**, or International Day of the Book, is an annual event **organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO)** to promote reading, publishing, and copyright.
- World Book Day was **first celebrated on 23 April 1995**, and continues to be recognized on that day.
- The city of Sharjah has been selected as the **World Book Capital for the year 2019**.

### 37. INTERNATIONAL DAY OF HUMAN SPACE FLIGHT

- **Context:** The International Day of Human Space Flight was observed across the world on **April 12, 2019**.
- The day celebrates the anniversary of the first ever human space flight undertaken by **Yuri Gagarin**, a Soviet Union citizen then. The spacecraft was launched by Vostok-K launch vehicle.

### 38. INDIA TO BE GUEST OF HONOUR AT ADIBF 2019

- **Context:** India will be the Guest of Honour country at the 2019 Abu Dhabi International Book Fair (ADIBF) to be held during April. The fair aims to highlight the UAE's rich heritage, and showcase its authenticity, cultural and literary output. This will be the 29th edition of the Abu Dhabi International Book Fair.

## SCIENCE & TECH

### 39. WORLD'S LARGEST PLANE MAKES FIRST TEST FLIGHT

- **Context:** The world's largest aircraft recently took off over the Mojave Desert in California.

#### Key facts:

- It is carbon-composite plane built by Stratolaunch Systems Corp.

- It is called Roc.
- It has a wingspan the length of an American football field and is powered by six engines on a twin fuselage.
- The plane is designed to drop rockets and other space vehicles weighing up to 500,000 pounds at an altitude of 35,000 feet and has been billed by the company as making satellite deployment as "easy as booking an airline flight."

### 40. WORLD'S FIRST 3D PRINTED VASCULARISED ENGINEERED HEART

- **Context:** Researchers from Tel Aviv University, Israel have made world's first 3D printed vascularised engineered heart.
- Researchers managed to produce an entire heart, complete with cells, blood vessels, ventricles and chambers. It was made using a patient's own tissues and biological materials.

#### Need:

- Cardiovascular disease is the world's leading cause of death, according to the World Health Organization, and transplants are currently the only option available for patients in the worst cases. But the number of donors is limited and many die while waiting.
- When they do benefit, they can fall victim to their bodies rejecting the transplant — a problem the researchers are seeking to overcome. Using the patient's own tissue could eliminate the risk of an implant provoking an immune response and being rejected.

### 41. BUBBLE BOY DISEASE

- US scientists claim that they used HIV to make a gene therapy that cured eight infants of severe combined immunodeficiency, or "bubble boy" disease.

#### What is Bubble boy disease?

- The **inherited immune system disorder** is technically called X-linked severe combined immunodeficiency (**SCID**), and it affects **mostly boys**. Bubble boy disease is the most common SCID condition, and the frequency of the illness isn't known.

#### Why is X-linked SCID nicknamed "bubble boy disease"?

- If a child tests positive for the disease at birth, they can't necessarily do activities that other children can do.
- A child with X-linked SCID can't fight off infections the way a healthy child can because their immune system doesn't function properly.
- They have to live inside a "bubble" to keep from coming into contact with germs that wouldn't hurt a healthy person but could kill someone whose immune system doesn't work.

### What causes this?

- Bubble boy disease is caused by **mutations in a gene** called **IL2RG** on the **X chromosome**.
- The **IL2RG** gene provides instructions for making a **protein** that is critical for **normal immune system** function.
- This protein is necessary for the growth and maturation of developing **immune system** cells called **lymphocytes**.

### 42. SPACEX LAUNCHES ITS FIRST COMMERCIAL FLIGHT WITH FALCON HEAVY

- US space flight company **SpaceX** recently carried out its **first commercial launch** with its **Falcon Heavy rocket** by placing a Saudi satellite in orbit.
- The 13,000-pound Saudi Arabian telecommunication satellite is operated by **Arabsat** and is expected to provide television, internet and mobile phone service to the Middle East, Africa and Europe.

### 43. 'RAAVANA-1' SATELLITE

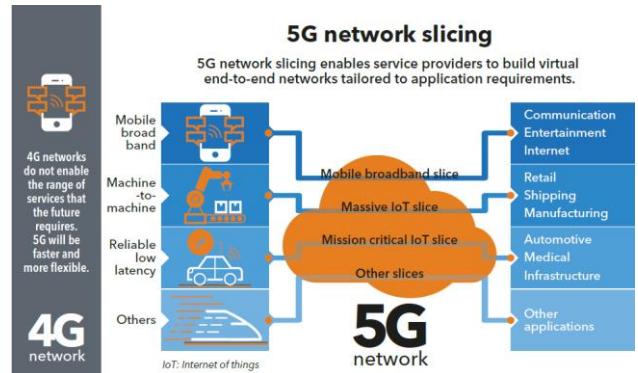
- Context:** Sri Lanka has launched its **first satellite** '**Raavana-1'** into space from the **Mid-Atlantic Regional Spaceport** at NASA's Wallops Flight Facility on Virginia's East Shore. '**Raavana 1**' weights around 1.05 kg. The lifespan of the satellite is around one and a half years.
- It is designed to **orbit the Earth 15 times a day at a speed of 7.6 km per second**.
- 'Raavana 1'** was designed to accomplish five missions: Its camera mission is to take pictures of Sri Lanka and its neighbouring countries. Its Lora Demonstration Mission is to validate the module to be used to data download next satellites. The Attitude Determination and Control Mission of '**Ravaana 1**' involves the team trying to reduce the angular velocity of the satellite using magnetic torquers.

### 44. NEPALISAT-1

- Nepal's first satellite **NepaliSat-1** was recently launched into space from the Virginia-based station of the National Aeronautics and Space Administration (NASA) in the US.
- NepaliSat-1 will collect information about the **country's topography and Earth's magnetic field**. The satellite is equipped with a 5MP camera to capture Nepal's topography and a magnetometer to collect data related to the Earth's magnetic field.
- The satellite was developed by two Nepalis Abhas Maskey and Hariram Shrestha at Japan's Kyushu Institute of Technology.

### 45. SOUTH KOREA TO LAUNCH WORLD'S FIRST 5G NETWORKS

- South Korea will launch world's first 5G mobile networks on April 5, 2019. **South Korea will be the first country to launch 5G networks**.



### 46. GOOGLE 'WING' LAUNCHES FIRST DRONE DELIVERY SERVICE IN AUSTRALIA

- Air delivery service developer '**Wing**', owned by Google parent company Alphabet, began delivering its first orders to customers in Canberra, Australia through flying drones.
- The drones will **deliver food and drinks** as well as **medication** directly to clients' homes.
- Australia's Civil Aviation Safety Authority (CASA) gave its approval after testing the safety of the drones, its traffic management system, drone pilot training and operational plans.

### 47. ACTIVE VOLCANOES OF INDONESIA

- The active volcano of Indonesia **Mount Agung** has erupted again. Two other volcanoes **Mount Bromo** in **East Java** and **Mount Merapi** in Yogyakarta also continues to erupt.
- Mount Agung:** Mount Agung is an active volcano in Bali of Indonesia.
- Mount Bromo:** Mount Bromo is an active volcano and part of the Tengger massif, in East Java, Indonesia.
- Mount Merapi:** Mount Merapi is an active volcano located on the border between Central Java and Yogyakarta provinces, Indonesia.

### 48. OLDEST HUMAN FOOTPRINT FOUND IN CHILE

- Scientists in Chile has recently found **oldest single footprint** at the paleo-archaeological site Pilauco (Osorno, Chile). It is a **single footprint**, discovered in Chile, dates back 15,600 years.

### 49. NEW EARLY HUMAN SPECIES FOUND: HOMO LUZONENSIS

- Context:** Researchers have unearthed an **unknown human species** that lived on an island in **Philippines** some 50,000 years ago—**Homo luzonensis**.
- The newfound species is **named Homo luzonensis** in honor of **Luzon**, the island where the mysterious beings lived during the late Pleistocene epoch, more than 50,000 years ago. They were **less than four feet tall**.

- Though Iuzonensis is short like the hobbit, it shares features with a number of other ancient human relatives.
- It has curved foot and finger bones like Australopithecus (a genus that includes the famous Lucy); premolars that have characteristics similar to those seen in Australopithecus, Homo habilis and Homo erectus; and small molars that look like those of modern humans, or Homo sapiens.

## 50. AKADEMİK LOMONOSOV

- It is the world's only floating nuclear power unit.** The plant was launched by Russia on May 19, 2018 at the St Petersburg shipyard.
- Why in News?** It is ready to start commercial operations in Russia. The power plant is ready to start generating power after a series of comprehensive and successful tests on its twin KLT-40 reactor system.

## INTERNATIONAL

### 51. SRI LANKA OPENS CHINA-FINANCED RAILWAY LINE

- Sri Lanka has opened a new railway line, built with China's assistance, connecting its coastal city of **Matara** and **Beliatta** in **Hambantota**, a move that will boost passenger traffic into the island nation's deep south.
- The 26.75-km long Matara-Beliatta railway extension is the first to be constructed in Sri Lanka since 1948, and it passes through the country's longest and second-longest railway bridges.

### 52. REIWA

- Japan on April 1, 2019 declared 'Reiwa' as the name of its **new imperial era** that will begin on May 1, 2019 once the new Crown Prince Naruhito ascends the Chrysanthemum Throne.
- Crown Prince Naruhito will succeed his father Emperor Akihito, who will abdicate the empire on April 30, 2019, putting an end to three decades long '**Heisei**' era.
- The new era will be the **248<sup>th</sup>** in the history of Japan.
- Japan's emperor has **no political power**, but remains a highly **symbolic figure**.

### 53. HONG KONG OVERTAKES JAPAN AS WORLD'S THIRD LARGEST STOCK MARKET

- Hong Kong's equity market has overtaken Japan to be the world's third largest in value, behind only the U.S. and mainland China.

### 54. UIGHUR MUSLIMS

- The Chinese authorities are using a vast, secret system of advanced facial recognition technology to track and control the Uighurs. It is the first known

example of a government intentionally using artificial intelligence for racial profiling.

#### Who are Uighurs?

- The Uighurs are mostly Muslims, and number about 11 million in western China's Xinjiang region.** They see themselves as culturally and ethnically close to Central Asian nations, and their language is similar to Turkish.

#### What's the issue?

- The tension and recent violence between the Uighurs and China is mainly caused by economic and cultural factors.
- There's been a mass migration of Han Chinese (China's ethnic majority) to Xinjiang, and the Uighurs feel their culture and livelihoods are under threat.
- Uighurs also react vehemently to gradual curtailment of their commercial and cultural activities, restrictions on Islam, strict control over religious schools in the region by China.

### 55. IRAN, PAKISTAN AGREE TO SET UP JOINT BORDER 'REACTION FORCE'

- Context:** Iran and Pakistan have agreed to set up a joint border "reaction force" to counter terrorism.
- Background:** The announcement comes following tensions between the two countries who have in recent months accused each other of not doing enough to stamp out militants allegedly sheltering across the border.



### 56. INDONESIA RELEASES SPECIAL STAMP ON RAMAYANA THEME

- Indonesia has released a **special commemorative stamp on the theme of Ramayana** to mark the **70th anniversary of establishment of its diplomatic ties with India**. A specially signed version of the stamp will be on display at the Philately Museum in Jakarta.

### 57. MUELLER'S REPORT

- Context:** The United States Department of Justice has released the special counsel Robert Mueller's report. The report looks into alleged Russian collusion in the 2016 Presidential elections which saw incumbent US President Donald Trump rise to power.

- The report states that the **Russian government-sponsored efforts to illegally interfere with the 2016 presidential election, but did not find that the Trump campaign or other Americans colluded in those schemes.**

## 58. NAVAL FLEET REVIEWS

- Context:** China is planning to observe an international fleet review on April 23 at **Qingdao to mark the 70th anniversary of founding its naval forces.** Nearly 60 countries are sending naval delegations for the fleet review, including India (INS Kolkata and INS Shakti), Japan, South Korea and others. The **United States declined to be part of the show.**
- What is it?** Naval fleet reviews intend to not only gather forces from other countries but make a statement about a nation coming of age in this domain. Such shows are intended to enhance confidence building. They as well seek to legitimize the official stance on various “core interests” but also seek consent and respect from other navies. These go a long way in ushering conventional deterrence in the region. Domestically, fleet reviews suggest to the coalescing of forces in supporting maritime agenda of the nation and the leadership.

## 59. ASIAN TEA ALLIANCE (ATA)

- Context:** The Asian Tea Alliance (ATA) was launched in Guizhou in China.

### What is ATA?

- Asian Tea Alliance (ATA) is a **union of five tea-growing and consuming countries. The members of the alliance are the Indian Tea Association, China Tea Marketing Association, Indonesian Tea Marketing Association, Sri Lanka Tea Board and Japan Tea Association.**
- ATA plans to work towards enhancing tea trade, cultural exchanges, technology exchanges as well as globally promoting tea. It will also work towards enhancing global consumption of tea, while creating a sustainability agenda for the future of Asian tea.

## 60. UK MODERN SLAVERY INNOVATION FUND

- Context:** Britain has pledged £4 million to support the fund. The funding will also be used to run workshops on modern slavery in South Africa, improve support for survivors in India, and develop an online data hub to boost anti-slavery policies.
- Modern Slavery Innovation Fund (MSIF):** It aims to tackle the root causes of modern slavery,

strengthening efforts to combat slavery and reduce vulnerability, and build an evidence base to better understand what works in the future. Proposals should set out how they support at least one of the 6 objectives of the fund:

1. Reduce Vulnerability to Exploitation
2. Victim Support and Recovery
3. Improve Global Co-ordination
4. Improve Law, Legislation and Policy
5. Encourage responsible business and slavery-free supply chains
6. Improve the Evidence Base

## 61. BAN ON BURQA

- Context:** The **Sri Lanka government** has issued a decree banning burqas and other face-covering garments, in light of the Easter Sunday attacks.
- The law does not specifically name burqas, niqabs or hijab worn by many Muslim women.
- A burqa is an outer garment that covers the entire body and the face, a niqab is a veil that also covers the face, while a hijab covers only the hair.
- Concerns:** Activists saying the move “violated Muslim women’s right to practice their religion freely”.

## 62. INDONESIA TO SHIFT CAPITAL

- Context:** Indonesia has announced its plans to move its capital **away from Jakarta.**

### Need:

- to ensure more equitable development of the country amid environmental concerns and overcrowding issues.
- major concerns behind the move is traffic congestion in the Capital.
- Another reason is that Jakarta is prone to annual flooding and is **one of the world's fastest sinking cities.**