



# INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

## CURRENT AFFAIRS

MARCH 2019

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# GENERAL STUDIES - I

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

## 1. KUMBH MELA 2019

### What to study?

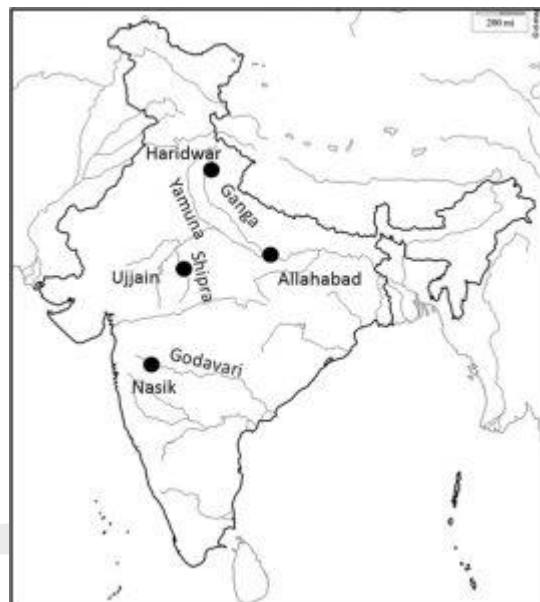
- For Prelims: About Kumbh Mela- places where it is held, mythological significance and Astrological significance.
- For Mains: Crowd Management during such huge gatherings- challenges and solutions.

**Context:** *Prayagraj Kumbh Mela 2019 has been placed in the Guinness World Records in three sectors.* It includes:

1. Largest traffic and crowd management plan.
2. The biggest painting exercise of public sites under paint my city scheme.
3. Biggest sanitation and waste disposal mechanism.

### About Kumbh Mela:

- The Kumbh Mela (the festival of the sacred pitcher) is anchored in Hindu mythology.
- It is the largest public gathering and collective act of faith, anywhere in the world.
- Crowds gather at the sacred confluence of the Ganga, the Yamuna, and the mystical Sarasvati. Primarily, this congregation includes Ascetics, Saints, Sadhus, Sadhvvis, Kalpvasis, and Pilgrims from all walks of life.
- The Mela was included in the list of "*Intangible Cultural Heritage of Humanity*" by UNESCO in 2017.



### Celebration:

- Kumbh Mela is celebrated four times over a course of 12 years.
- The geographical location of Kumbh Mela spans over four locations in India and the Mela site keeps rotating between one of the four pilgrimage places on four sacred rivers as listed below:
  1. Haridwar on the Ganges in Uttarakhand.
  2. Ujjain on the Shipra in Madhya Pradesh.
  3. Nashik on the Godavari in Maharashtra.
  4. Prayagraj at the confluence of the Ganges, the Yamuna, and the mythical Sarasvati in Uttar Pradesh.

### Selection of site:

- Each site's celebration is based on a distinct set of astrological positions of the Sun, the Moon, and the Jupiter. The celebrations occur at the exact moment when these positions are fully occupied, as it is considered to be the holiest time in Hinduism.

Sources: the hindu.

## 2. IDUKKI'S MARAYOOR JAGGERY GETS GI TAG

**Context:** The Marayoor Jaggery, the traditional and handmade product from Idukki district of Kerala, has received the Geographical Indication (GI) tag from the Central Government.

- The Jaggery is produced in Marayoor, a town in Idukki district of Kerala. It is made from sugarcane and no chemicals are added during the manufacturing process.
- It is not produced in modern factories or using modern equipment. It is prepared in sheds located on the sugarcane farm.

### 3. ARECANUT GETS ITS FIRST GI TAG FOR ‘SIRSI SUPARI’

**Context:** For the first time in the arecanut sector, ‘Sirsi Supari’ grown in Uttara Kannada has received the Geographic Indication (GI) tag. It is cultivated in Yellapura, Siddapura and Sirsi taluks. Totgars’ Cooperative Sale Society Ltd., Sirsi, is the registered proprietor of the GI.

- The arecanut grown in these taluks have unique features such as a round and flattened coin shape, particular texture, size, cross-sectional views, taste, etc. These features are not seen in arecanut grown in any other regions. Its average dry weight is 7.5 g and average thickness is 16 mm. This particular variety has a unique taste due to differences in chemical composition.

### 4. KASHI VISHWANATH CORRIDOR

#### What to study?

- For Prelims and Mains: Location of Kashi Vishwanath, the proposed Corridor and its significance.

**Context:** Prime Minister Narendra Modi has laid the foundation stone for the **Kashi Vishwanath Corridor**.

#### Key facts:

- The project envisions a massive makeover of the holy shrine and its surrounding areas. This massive makeover is the first after the 1780 AD when the Maratha queen Ahilyabai Holkar of Indore renovated the temple and the area surrounding it.
- The proposed 50-feet corridor will directly connect Ganga’s Manikarnika and Lalita Ghat to the Kashi Vishwanath Jyotirlinga Temple.
- Along the corridor, pilgrims and travellers will see a newly built museum and depicting Varanasi’s ancient history and culture.

#### Background:

- Kashi Vishwanath Temple is one of the most famous Hindu temples dedicated to Lord Shiva. It is located in Varanasi, Uttar Pradesh, India. The temple stands on the western bank of the holy river Ganga, and is one of the twelve Jyotirlingas, the holiest of Shiva temples.

### 5. RAMAKRISHNA DEV

#### What to study?

- For Prelims and Mains: About Ramakrishna- teachings, beliefs, contributions and famous disciples, Ramakrishna Mission.

**Context:** In a bid to conserve environment, the Ramakrishna Math and Ramakrishna Mission will break an age-old tradition this year, 2019 and do away with the practice of having a fireworks display as part of the birth anniversary celebrations of Sri Ramakrishna.

#### Ramakrishna Paramhansa:

1. Ramakrishna Paramhansa was one of the leading Hindu **spiritual leaders in 19th century**.
2. He was **born as Gadadhar Chattopadhyay on February 18, 1836**, in Kamarpukur, in Hooghly district of West Bengal.
3. **He emphasised that the realization of the existence of God is the supreme goal of all living beings.** For him, various religions were only a means to reach the Absolute.
4. **Among his most famous disciples was Swami Vivekananda**, who became famous across the world in his own right.
5. Reverence and admiration for him among Bengali elites led to the formation of the **Ramakrishna Mission by his chief disciple Swami Vivekananda**.

Sources: the hindu.

### 6. NOWRUZ

- **What is it?** Nowruz, also spelled as Navroz, is the Iranian New Year celebrated by ethnic Iranian people. Several ethno-linguistic communities around the world irrespective of their religious background observe it

as the start of the New Year. In India, the Parsi community, who follow Zoroastrianism, celebrate Navroz with full fervour.

#### What are the origins of Navroz? Which communities celebrate Navroz?

- Navroz is the beginning of the New Year for several communities. It dates back as far as the 6th Century BC, back when the Iranian community were homogeneously Zoroastrians. Once the community divided over the course of history, people of Iranian origin worldwide continued following Zoroastrian traditions and with that the Iranian New Year as well.

#### What is the significance of Navroz?

- Apart from the difference of one or two days, the Iranian community celebrates Navroz on March 21. March 21 is the first day of the Iranian calendar. It is also marked as the day King Jamshid was crowned as the King of Persia. King Jamshid holds a great significance in Zoroastrianism and the day of his coronation is generally considered to be the beginning of the New Year among Iranian people. It is interestingly the first day of the Aries constellation. Navroz is also the day of the Spring equinox and the rituals are performed based on the movements of the sun during the course of the day.

#### How is it celebrated in India?

- In India, the **Parsi community** celebrate the Iranian New Year in a similar fashion as is around the world. A visit to the Fire Temple, the place of worship of the Parsi community, is a ritual followed on Navroz every morning. In India, prominent numbers of the Parsi community still remain in Mumbai and Gujarat, who celebrate Navroz with ardour.

Sources: ie.

## 7. SHARDA PEETH CORRIDOR

#### What to study?

- For Prelims: Sharada Peeth- religious significance, location and related facts.
- For Mains: Significance and outcomes of this development in bilateral relations.

**Context:** Pakistan has given its green signal for Sharada Peeth corridor. *The Sharada Peeth corridor, when opened, will be the second religious tract after Kartarpur corridor in Pakistan-controlled territory that will connect the two neighbouring nations.*

#### Background:

- The temple has been completely deserted since Partition in 1947. Travel restrictions on Indians also discouraged the devotees from visiting the shrine.

#### About Sharada Peeth:

- The temple is revered by Kashmiri Pandits among other Hindus across the globe.
- It was once regarded as a major centre of higher learning of Vedic works, scriptures and commentaries.
- The temple is also one of the 18 Maha Shakti Peethas, or a "Grand Shakti Peethas".
- It is considered to be the abode of Hindu Goddess Saraswati.
- The temple has close resemblance with the Martand temple (another religious site in Anantnag) in architecture, design and construction style.

#### When was it built?

- One of the accounts of construction of the temple says that it was built during the rule of Kushans (early 1st century). While many other accounts say that Buddhists had a strong involvement in the Sharada region, the researchers have not been able to find evidence to support the claim.
- Academics also believe that Raja Lalitaditya had built the Sharada Peeth for containing the religious and political influence of the Buddhism. The claim is supported by the fact that Lalitaditya was a master of building massive temples.

#### Where is it located?

- Since partition, the temple has been out of bounds for Indian pilgrims. The ancient Sharada temple, as well as the adjacent ruins of Sharada University, are situated in **Neelam Valley, which is 160 km from Muzaffarabad, and close to the Line of Control**. It is in a small village Shardi where the river Neelam joins Madhumati and Sargun streams.

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

## 1. "DICTIONARY OF MARTYRS"

### What to study?

- For Prelims: About Dictionary of Martyrs.
- For Mains: Relevance and contributions of various freedom fighters and movements.

**Context:** Prime Minister Narendra Modi recently released ***the Dictionary of Martyrs of India's Freedom Struggle***.

- The aim is **to nurture and recall the brave deeds of the heroes of our freedom struggle**.

### Key facts:

- The project for compilation of "Dictionary of Martyrs" of India's Freedom Struggle was **commissioned by the Ministry of Culture, to the Indian Council of Historical Research (ICHR) to commemorate the 150th anniversary of uprising of 1857**.
- **Definition:** In this dictionary a martyr has been defined as a person who died or who was killed in action or in detention, or was awarded capital punishment while participating in the national movement for emancipation of India.
- **It includes** ex-INA or ex-military personnel who died fighting the British. It includes the martyrs of 1857 Uprising, Jallianwala Bagh Massacre (1919), Non-Cooperation Movement (1920-22), Civil Disobedience Movement (1930-34), Quit India Movement (1942-44), Revolutionary Movements (1915-34), Kisan Movements, Tribal Movements, Agitation for Responsible Government in the Princely States (Prajamandal), Indian National Army (INA, 1943-45), Royal Indian Navy Upsurge (RIN, 1946), etc. Information of about 13,500 martyrs has been recorded in these volumes.

### Significance:

- A nation that does not honour and remember those who created, or are an important part, of its history, often does not have a secure future. In that sense, this effort is not just a way to cherish the past, but is also a way to secure the future. This was the first attempt at compiling the names of martyrs on this scale. This shall have a positive influence on the future generations, and inspires them to think of "India First."

## 2. WHO ARE THE GURKHAS OF THE BRITISH ARMY?

### What to study?

- For Prelims and Mains: Gurkha regiment in British army, historical background and significance.

**Context:** The British Army announced this week that it would create a new Specialised Infantry Battalion by recruiting more than 800 Nepalese Gurkha servicepersons this year.

### Who are they? Brief background:

Currently, the Gurkhas comprise up to 3% of the British Army, and in 2015 completed 200 years of service there. Impressed by their discipline and ferocity in **Anglo-Nepalese War of 1814-16**, the British decided to recruit Gurkha soldiers starting in 1815. Since then, the Gurkhas have fought on the side of the British Empire in almost every war, including both World Wars.

- Upon Independence in 1947, the question of allotting the 10 regiments of Gurkha soldiers arose. This was settled by the Britain-India-Nepal Tripartite Agreement. In 1948, India created an 11th Gurkha Rifles regiment to accommodate the Gurkhas who refused to depart with the now-British regiments.
- Later, the British Army amalgamated their four regiments into a combined Royal Gurkha Rifles (RGR) regiment consisting of three battalions. The RGR was subsequently deployed in Britain's remaining colonies in Asia, including Malaysia, Singapore, and Hong Kong, to fill the vacuum created by departing Indian regiments such as the Sikhs, which were stationed there earlier.

### Recruitment of Gurkhas:

- The Gurkhas are recruited every year at the British Gurkha camp at Pokhara in Nepal. The camp enlists fresh recruits not only for the British Army, but also for the counter-terror arm of the Singapore Police Force. British

Army scouts roam the Nepalese countryside to identify potential recruits, who then undergo a rigorous training process before joining.

#### Service:

- Regarded as fierce and loyal, the Gurkhas are held in high esteem in the British Army. They are enlisted not only in the infantry, but also in the engineering corps and as logisticians. Their signature weapon, the khukri, famous for the inwardly curved shape of its blade and its legendary utility, forms part of the Gurkha regimental insignia in Britain as well as in India.
- Queen Elizabeth II of Britain is guarded by two personal Gurkha officers. Former Singaporean Prime Minister Lee Kuan Yew is known to have preferred Gurkha police officers for his protection.

Sources: Indian Express.

## 3. BIHAR DIWAS

#### What to study?

- For Prelims and Mains: Bihar diwas- celebration, historical background and significance.

**Context:** March 22<sup>nd</sup> marks the formation day of the state of Bihar and is called as 'Bihar Diwas'. March 22<sup>nd</sup> 2019 was the 107<sup>th</sup> foundation day of the state. It was first celebrated on a large-scale in 2010.

#### Historical background:

- **On October 22, 1764, the Battle of Buxar was fought between the forces of the East India Company led by Hector Munro and the joint army of the Nawab of Bengal, the Nawab of Awadh and the Mughal King Shah Alam II.** The battle was fought at Buxar and was a massive victory for the East India Company.
- The defeat resulted in the Mughals and Nawabs of Bengal losing control over the territories and the **East India Company according to the Diwani rights – the right to administer the collection and management of revenues.** The territories consisted of the current state of West Bengal, Bihar, Jharkhand, Orissa, and Bangladesh.
- In 1911, King George V was coronated in Delhi and the capital of British India was shifted to Delhi. **On March 21, 1912, Thomas Gibson Carmichael, the new governor of Bengal took charge and announced that from the next day, March 22, the Bengal Presidency will be split into four subhas of Bengal, Orissa, Bihar, and Assam.**

Sources: the hindu.

#### Topics: Indian Society

## THE DEATH PENALTY: A FATAL MARGIN OF ERROR

**Context:** SC found Khushwinder Singh guilty and befitting of the death sentence (*Khushwinder Singh v. State of Punjab*). The last time the death penalty was upheld by the Supreme Court was in July 2018 in the Delhi gang rape case. Since then, the court has acquitted 10 death row prisoners and reduced the sentence to life imprisonment of 23 others.

#### What's the issue?

- The judgment highlights **the processes that cause cases to slip through the cracks of the 'rarest of the rare' doctrine**, which mandates a consideration of both the crime and the criminal. The judgment exemplifies the varied standards of legal representation that impacts the imposition of the death penalty.

#### Things to be considered while awarding death sentence:

- Factors such as good conduct in custody, education, age, social, emotional and mental condition of the offender, and the possibility of reform need to be highlighted as relevant considerations in the sentencing scheme.
- Besides, other things such as grounds relating to the criminal such as his conduct in prison, his socio-economic and educational backgrounds, or the probability of reformation may be considered.

# EXECUTIONS IN INDIA

**1,303** Death sentences handed out between 2004 & 2013, according to NCRB

3 Convicts eventually executed in this period

**3,751** Death sentences commuted to life imprisonment during this period

**1,400** Executed between 1953 and 1963, according to the 35th Law Commission report released in 1967

**2007** THE YEAR THAT SAW THE HIGHEST NUMBER OF DEATH SENTENCES AWARDED (186), FOLLOWED BY 164 IN 2005

**1,241** Most number of death sentences commuted to life term within a year, in 2005

**318** Death sentences handed out by UP between 2004 and 2013, more than any other state. Maharashtra second with 108

**98** Countries which have abolished death sentence, according to a UN report

In 2007, the United Nations General Assembly adopted a resolution towards the abolition of capital punishment and the protection of human rights when it endorsed a call for a worldwide moratorium on death penalty



## The need to abolish Death Penalty:

- It unfairly targets poor and marginalised, that means, those without money & power.
- Executions occurred in around five cases for every 1 lakh murders and it looks quite arbitrary. It depends on judges personal beliefs.
- India's murder rate has declined continuously since 1991 and at present the lowest, except for 1963.
- Punishment should not imitate crime.
- As per the recent Death Penalty India Report by the National Law University, Delhi, the structural flaws in our criminal procedure and criminal justice system are most pronounced in death penalty cases.
- Most of the civilised world abolished it. Death penalty has not deterred terrorism, murder or even theft.
- From 2000-2015, Supreme Court imposed 60 death sentences and subsequently admitted that it had erred in 15 of them. So, it clearly admitted that it has arbitrarily imposed the most extreme punishment.
- The Police is not known for its probity or efficiency in our Country.
- Delays in the Criminal Justice System disproportionately affects those, who suffer the tyranny of the uncertainty of their life.

## Need for review:

- The **inconsistent and arbitrary application of the death penalty remains a matter of great concern to the judiciary**. The irreversibility of the death penalty has fundamentally affected the jurisprudence around it. It is commonly accepted that a judge in adversarial proceedings cannot go on a 'truth searching exploration' beyond what is presented. Yet, death penalty jurisprudence is rife with examples where duty has been placed upon the courts to elicit information relating to the question of sentence, even if none is adduced before it.

## Way ahead:

- Gradual abolition of the death penalty requires serious introspection from the court and the body politic. Our institutions may persist with attempts to 'tinker with the machinery of death' until there is a collective realisation that **the death penalty is untenable in a fair criminal justice system**. Till such time, the setting of established benchmarks for practice, and a system of oversight are necessary to ensure that the quality of legal representation does not become the difference between a sentence of life and death.

**Topics: Women and women related issues.**

## 1. KANYASHREE SCHEME

**What to study?**

- For Prelims: Key features of the Scheme.
- For Mains: Significance and performance of the scheme.

**Context:** Experts and activists have observed that **Kanyashree stipends** are no shield against trafficking. They say the complex problem cannot be prevented merely by monetary handouts meant to retain girls in school.

**About Kanyashree scheme:**

- **What is it?** Kanyashree is a conditional cash transfer scheme aiming at improving the status and wellbeing of the girl child by incentivising schooling of teenage girls and delaying their marriages until the age of 18. It received the United Nations Public Service Award last year.
- **Performance of the scheme:** Through the initiative, cash was deposited into the bank account of girls for every year they remained in school and were unmarried. This initiative led to a “drastic reduction in child marriage, increase in female education and female empowerment.”

Sources: the hindu.

## 2. WEB- WONDER WOMEN CAMPAIGN

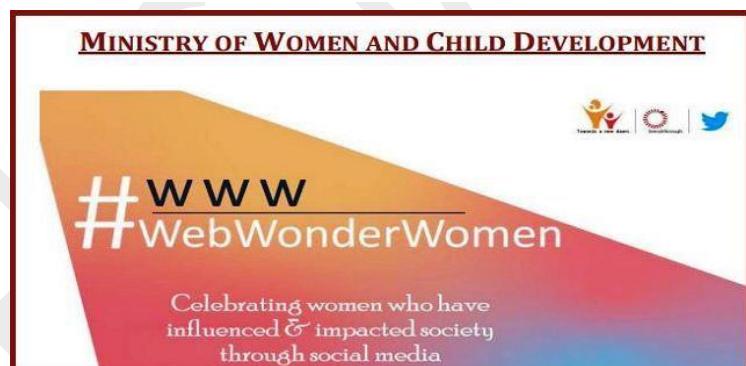
**What to study?**

- For Prelims and Mains: Features and significance of the campaign.

**Context:** The Ministry of Women and Child Development hosted a felicitation event for **Web Wonder Women**.

**About the Campaign:**

- **The Campaign has been launched by the Ministry of Women and Child Development**, Government of India in association with the NGO Breakthrough and Twitter India.
- Through the campaign, the Ministry aims **to recognize the fortitude of Indian women stalwarts from across the globe who have used the power of social media to run positive & niche campaigns to steer a change in society**.
- The Campaign is aimed at encouraging, recognizing and acknowledging the efforts of these meritorious Women.



## 3. INTERNATIONAL WOMEN'S DAY 2019

**What to study?**

- For Prelims and Mains: About International Women's Day, theme, relevance and significance.

**Context:** **International Women's Day is celebrated on March 8 every year.** It is a day when the world comes together to appreciate womanhood and their importance in society. The day also celebrates the social, economic, cultural and political achievements of women.

**History:**

- Earlier, it was called **National woman's day and was acknowledged by the U.S. on February 28, 1909**. This was done because of the labour movement which was started in 1908 where 15000 female employees went on strike in New York City to protest against poor working conditions.
- **National Women's Day was recognised as International Women's Day only in 1910 after German women's rights activist Clara Zetkin suggested at an International Conference.**

## Themes:

- This year the themes for International Women's Day are **#BalanceforBetter**, which is described as a "call-to-action for driving gender balance across the world" and "**More Powerful Together**". The themes stress upon the need for more men to get involved in the fight against gender equality and feminism.

## Why March 8?

- It was on this day that women in Soviet Russia gained the right to vote in 1917, hence March 8 was declared a national holiday for them. The United Nations General Assembly invited member states to proclaim March 8 as the UN Day for women's rights and world peace in 1977.

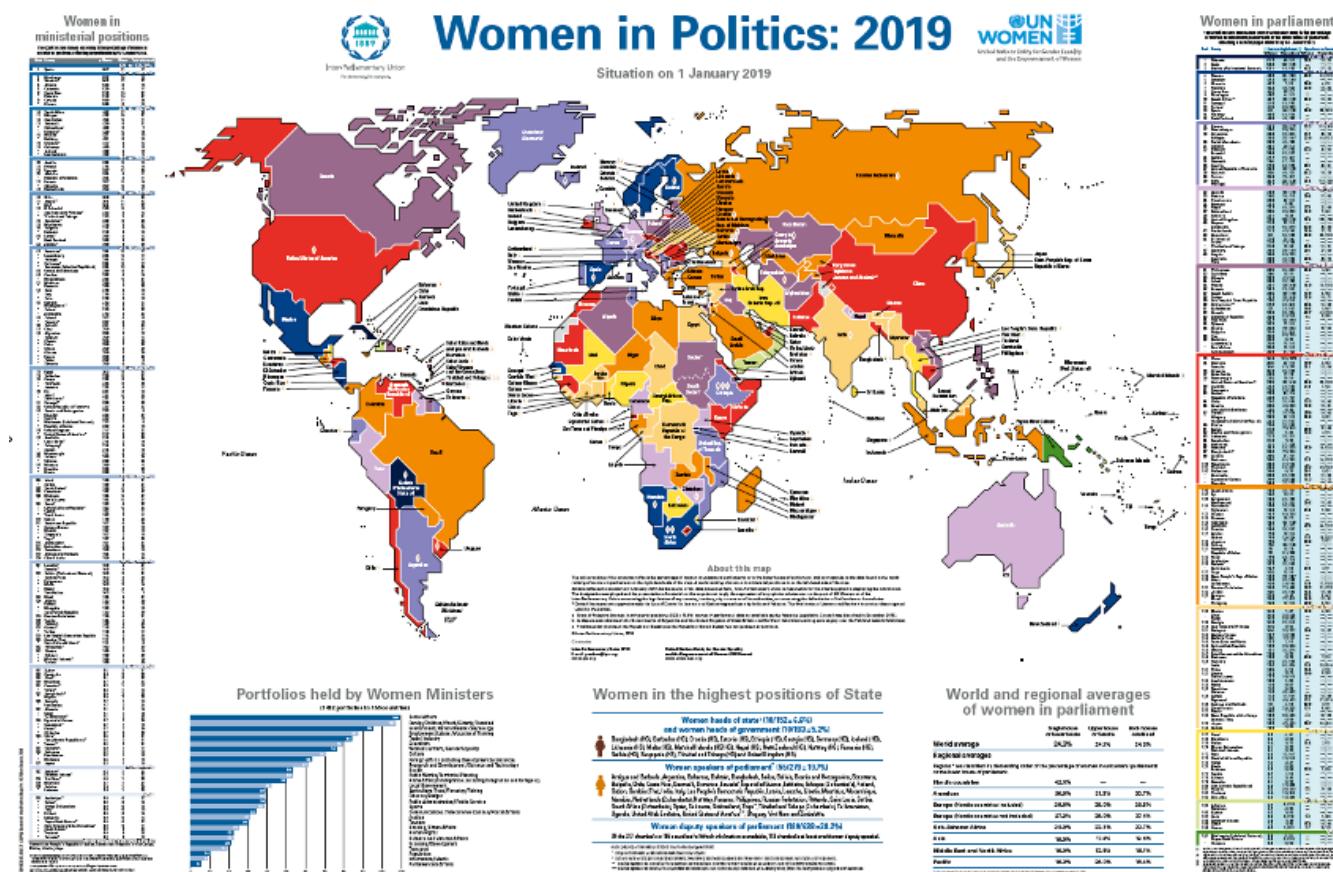
## 4. IPU-UN WOMEN MAP OF WOMEN IN POLITICS

### What to study?

- For Prelims: About IPU and findings of the report.
- For Mains: Significance of women in politics, challenges present and ways to address them.

**Context:** *Women's representation in political decision-making continues to rise slowly*, with slight improvements since 2017, according to the data presented in the 2019 edition of the biennial *IPU-UN Women map of Women in Politics*.

- The map was launched at a press conference during the *Commission on the Status of Women (CSW 63) at the United Nations headquarters in New York*.



### Key Highlights of the report:

1. The map, which presents **global rankings for women in the executive and parliamentary government branches as of 1 January 2019**, shows the **proportion of women ministers is at an all-time high at 20.7 per cent, 2.4 percentage points higher compared to 2017**. It also shows that the types of portfolios women ministers hold are diversifying.
2. The **global share of women Members of Parliament (MPs)—24.3 per cent—has increased by nearly one point compared with 2017**. The share of women parliamentary speakers also increased by 0.6 percentage points to 19.7 per cent, and the share of women deputy speakers increased by 1.6 percentage points to 28.2 per cent.

3. **However, women's representation in top-level leadership has decreased** from 7.2 per cent of elected Heads of State to 6.6 per cent (10 out of 153), and from 5.7 per cent of Heads of Government to 5.2 per cent (10 out of 193).
4. **Among countries in Asia, Pakistan progressed from having no women ministers since 2012 to reaching its highest-ever share of women ministers** at 12 per cent.
5. **In Europe, Slovenia dropped the most percentage points** since 2017 from 50 per cent to 25 per cent women ministers. Lithuania no longer has women in ministerial positions, compared to 2017 when there were three out of 14, or 21.4 per cent.
6. **The number of countries with no women ministers decreased from 13 in 2017 to 11:** Azerbaijan, Belize, Brunei Darussalam, Iraq, Kiribati, Lithuania, Papua New Guinea, Saint Vincent and the Grenadines, Saudi Arabia, Thailand and Vanuatu.
7. **The types of portfolios held by women ministers are shifting.**
8. Strikingly, **more women are in charge of portfolios traditionally occupied by men compared to 2017:** 30 per cent more women ministers cover Defence, 52.9 per cent more women cover Finance, and 13.6 per cent more women cover Foreign Affairs.

**Nine countries, up from six in 2017, have 50 per cent or more women in ministerial positions:**

1. 7%: Spain.
2. 6%: Nicaragua.
3. 4%: Sweden.
4. 3%: Albania.
5. 9%: Colombia.
6. 9%: Costa Rica.
7. 9%: Rwanda.
8. 50%: Canada.
9. 50%: France.

#### **Way ahead:**

- Equal representation in government positions is fundamental for a democracy to be truly representative and effective. Despite some positive movement, the overwhelming majority of government leaders remain male. It is a shared responsibility between men and women to change this and ensure gender equality at all political levels. It is important to identify the main barriers that are stopping women from accessing decision-making positions.
- More women in politics leads to more inclusive decisions and can change people's image of what a leader looks like.

Sources: bs.

**Mains Question:** Critically comment on the role of women in electoral politics in the world and in India.

## **5. A MODEL POLICY FOR WOMEN IN THE POLICE**

#### **What's the issue?**

- Women constitute about 7% of the police strength in India. This number is expected to rise, with many States and Union Territories providing for 30% (and more) reservation for women in the police in specific ranks. However, this is not enough. ***The discourse on mainstreaming women in the police by making policing inclusive, non-discriminatory and efficient in India is missing in policy circles.***

#### **What needs to be done?**

1. ***Develop a model policy that will challenge the deep-rooted patriarchy in the institution.***
2. A model policy, while laying the foundation for equal opportunities for women in every aspect of policing, should also strive ***to create a safe and enabling work environment.***
3. ***Merely providing reservation is not enough;*** police departments should develop an action plan to achieve the target of ***30% or more in a time-bound manner.*** This also applies to States that have not provided a quota as yet.

4. Departments should also undertake **special recruitment drives** in every district to ensure geographical diversity. To achieve the target, the police should reach out to the media and educational institutions to spread awareness about opportunities for women in the police.
5. **Current data reveal that most women in the police are concentrated in the lower ranks.** Efforts should be made to change this. The impulse to create women-only battalions for the sake of augmenting numbers should be eliminated.
6. The model policy should strive **to ensure that decisions on deployment of women are free of gender stereotyping to facilitate bringing women into leading operational positions.** Women police officers should be encouraged to take on public order and investigative crimes of all types, and should be given duties beyond the minimum mandated by special laws. Desk work too must be allocated evenly among men and women.
7. Departments need to be mindful various needs of working police-women and exercise **sensitivity in making decisions on transfers and posting of women personnel.** As far as possible, women should be posted in their home districts in consultation with supervising officers.
8. **Most State police departments have received funds under the Modernisation of State Police Forces Scheme for providing separate toilets and changing rooms for women,** and for constructing separate accommodation for women with attached toilets in all police stations and units. Police departments must ensure the best use of this fund.
9. **Police departments must also ensure safe working spaces for women and adopt a zero-tolerance policy towards discrimination and harassment,** in order to make policing a viable career option for women.
10. **Departments are legally bound to set up Internal Complaints Committees to prevent sexual harassment at the workplace.** Departments must operationalise the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act of 2013.

## 6. OXFAM REPORT ON WOMEN'S LABOUR FORCE PARTICIPATION

### What to study?

- For Prelims and Mains: Key findings, concerns, potential and need for reforms.

**Context:** Oxfam, an international non-profit organisation, has released a report on women's labour force participation.

- The report based its estimates on employment unemployment survey (EUS) 2011-12, done by the National Sample Survey Organisation (NSSO), International Labour Organization (ILO) studies, and also builds on the first inequality report launched by Oxfam in 2018.

### Key observations:

1. Irrespective of employment category (casual and regular/salaried), organised or unorganised sector, and location (urban and rural), women workers in India are paid **a lower wage rate**.
2. **The gender pay gap** was 34 per cent in India, that is, women get 34 per cent less compared to men for performing the same job with same qualifications.
3. **In the organised sector**, women professionals even in the highest ranks of labour (legislators, senior officials, and managers) are also paid less compared to their male counterparts. However, these women constitute only one per cent of the total female work force and the gap is lowest as they are aware of their rights.
4. **The wage difference** is lesser for more skilled workers and more for semi-skilled or unskilled workers. Across enterprise type, wage difference is less for government/public sector and public/private limited company.
5. **Large pay gaps** in terms of average daily wages exist in male and female wage rates of casual and regular workers in rural and urban areas and the gap is narrower for regular workers in urban areas. On the other hand, for casual workers, wage gap is narrower in rural areas.
6. While **inequality in jobs has increased, inequality in education has decreased between boys and girls.** But this situation further exacerbates the crisis in jobs when it comes to women. Even as girls frequently outperform boys in school examinations, they are not finding suitable jobs for the skills that they have.
7. While **both men and women are diversifying out of agriculture, almost 75 per cent of rural women are still engaged in it.** A patriarchal ideology and local socio-cultural traditions confine women to the village where agriculture continues to be their most important (but insufficient) source of food and income. Male outmigration has also pushed women into taking on more responsibility of own cultivation and to perform wage labour to ensure households' daily survival.

### **Concerns:**

- Women's labour force participation in India is one of the lowest in the world. Women comprise half of the Indian population but make up less than a quarter of the labour force. Three in four Indian women do not work in the country.
- Looking at the extremely low levels of participation of women in the labour market makes one wonder whether the phenomenal success of India's economic transition forgot about its women and left them behind.

Sources: down to earth.

**Mains Question:** What explains the decline of the already low female labour force participation rate in India, particularly during a period of rapid economic growth? Examine.

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

## **1. SWACHH BHARAT GRAMEEN**

### **What to study?**

- For Prelims: About SBM- G- key facts, objectives and targets.
- For Mains: Significance and achievements of the scheme, what else needs to be done?

**Context:** The **National Annual Rural Sanitation Survey (NARSS) 2018-19**, conducted by an Independent Verification Agency (IVA) under the World Bank support project to the Swachh Bharat Mission Grameen (SBM-G), has found that **96.5% of the households in rural India who have access to a toilet use it.**

### **Background:**

- The survey was conducted between November 2018 and February 2019 and covered 92040 households in 6136 villages across States and UTs of India.
- **The survey used the PPS (Probability Proportion to Size) sampling methodology**, which yields results within a confidence interval of 95%.

### **Key findings:**

- The NARSS confirmed the Open Defecation Free (ODF) status of 90.7% of villages which were previously declared and verified as ODF by various districts/States.
- 93.1% of households were found to have access to toilets during the survey period (the corresponding figure as per the SBMG MIS in November 2018 was 96%)
- 96.5% of the people who had access to toilets used them.
- 90.7% of villages which were previously declared and verified as ODF were confirmed to be ODF. The remaining villages also had sanitation coverage of about 93%.
- 95.4% of the villages surveyed found to have minimal litter and minimal stagnant water.

### **Impact and significance of SBM:**

- Since its launch in October 2014, the SBM, the world's largest sanitation program, has changed the behaviour of hundreds of millions of people with respect to toilet access and usage.
- 500 million people have stopped defecating in the open since the SBM began, down from 550 million at the beginning of the programme to less than 50 million today.
- Over 9 crore toilets have been built across rural India under the Mission. Over 5.5 lakh villages and 615 districts have been declared ODF, along with 30 ODF States and Union Territories.

### **About SBM:**

- To accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation, the Prime Minister of India launched the Swachh Bharat Mission on 2nd October, 2014.
- **The Mission Coordinator for SBM is Secretary, Ministry of Drinking Water and Sanitation (MDWS) with two Sub-Missions, the Swachh Bharat Mission (Gramin) and the Swachh Bharat Mission (Urban).** Together, they aim to **achieve Swachh Bharat by 2019, as a fitting tribute to Mahatma Gandhi on his 150th Birth Anniversary.**

- The aim of Swachh Bharat Mission (Gramin) is to achieve a clean and Open Defecation Free (ODF) India by 2nd October, 2019.

#### Objectives:

- To bring about an improvement in the general quality of life in the rural areas, by promoting cleanliness, hygiene and eliminating open defecation.
- To motivate communities to adopt sustainable sanitation practices and facilities through awareness creation and health education.
- To encourage cost effective and appropriate technologies for ecologically safe and sustainable sanitation.
- To develop community managed sanitation systems focusing on scientific Solid & Liquid Waste Management systems for overall cleanliness in the rural areas.
- To create significant positive impact on gender and promote social inclusion by improving sanitation especially in marginalized communities.

**Mains Question:** The success of Swachh Bharat mission lies in the behavioural change it has managed to bring, more than anything else. Critically analyze.

## 2. SWACHH SURVEKSHAN AWARDS 2019

#### What to study?

- For Prelims: Rankings of cities in various categories.
- For Mains: Swachh Bharat Mission- Significance, challenges and solutions.

**Context:** The *Swachh Survekshan awards 2019* were recently conferred by President Ram Nath Kovind.

*Swachh Survekshan 2019 covered all urban local bodies in the country*, making it the largest such cleanliness survey in the world.

#### Performance of various countries:

- Indore was adjudged India's cleanest city for the third straight year.** The second and third positions in the category were grabbed by Ambikapur in Chhattisgarh and Mysuru in Karnataka.
- Bhopal is country's **Swachh capital**.
- New Delhi Municipal Council area was given the '**Cleanest Small City' award**.
- Uttarakhand's Gauchar was adjudged the '**Best Ganga Town**'.
- The '**Cleanest Big City**' award has been bagged by Ahmedabad, while Raipur is the '**Fastest Moving Big City**'.
- Ujjain has been the adjudged the '**Cleanest Medium City**' and Mathura-Vrindavan bagged the tag of the '**Fastest Moving Medium Cities**'.

#### Conclusion:

- Cleanliness should be integral to the behaviour of every citizen to make it effective and sustainable.
- Many people pay attention to personal hygiene but remain apathetic to public and community cleanliness. Change in this mentality is important for achieving the goals of Swachh Bharat.

Sources: the hindu.

**Mains Question:** Critically analyze the role Swachh Bharat has played in making India open defecation free?

## 3. INDIA URBAN OBSERVATORY & VIDEO WALL

#### What to study?

- For Prelims and Mains: Key features and significance of India Urban Observatory, data smart cities policy.

**Context:** Ministry of Housing and Urban Affairs has launched the state-of-the-art India Urban Observatory and Video Wall.

#### What is Urban Observatory?

- It is a **platform that uses data from different sources to enable analysis and visualization over a geospatial platform**. Such platforms churn out interesting analyses and visualizations by collating massive datasets.
- The concept of Urban Observatories was formally initiated at the **UN Habitat-II Conference in 1997 in Istanbul**.

### **India Urban Observatory:**

- It is an important component of the recently launched **DataSmart Cities strategy** that envisions creating a ‘Culture of Data’ in cities, for intelligent use of data in addressing complex urban challenges.
- It will **showcase the insights gained from the Observatory and the various Missions/ offices with the idea to proactively engage with citizens/ visitors in spreading awareness about the various initiatives of the Ministry.**
- It would progressively become **the chief data analysis and Management Hub of the Ministry and would enable evidence-based policy formulation, capacity building of ecosystem partners on data-driven governance, foster innovation through development of newer and better use cases thereby enabling solutions at scale and speed.**

### **Background:**

- **The Data Smart Cities Policy allows cities to open their data to public view**, such as number of hospitals, gardens, people, public toilets and other city management. Making cities ‘DataSmart’ is key to realizing the full potential of technology interventions and innovation ecosystems in cities.
- The Data Smart Cities Strategy also presents a **Data Maturity Assessment Framework (DMAF)**, that measures the readiness and evolution of cities in their efforts to implementing the Data strategy.

### **Significance:**

- It is imperative for the empowerment of communities that cities work on using information available through various sources to improve their functioning, public services, governance systems, achievements and failures in the public domain, thereby, empowering their citizens through the access to information.
- The future of Governance is data-driven and Indian cities are beginning to adopt this change in their functioning.

Sources: the hindu.

## **4. MERCER QUALITY OF LIVING RANKING 2019**

### **What to study?**

- For Prelims: Highlights of the survey, performance of various cities.
- For Mains: Findings, significance, concerns, challenges and the need for comprehensive measures.

**Context:** Global consulting firm **Mercer has released its annual quality of living survey** in which 231 cities across the globe were ranked based on various factors. This is the 21<sup>st</sup> edition.

### **Highlights of the report:**

- Globally, **Vienna tops the ranking for the 10th year running**, closely followed by Zurich, the runner-up.
- This year, Mercer provides a separate ranking on personal safety. Western Europe dominates the ranking, with **Luxembourg named as the safest city in the world**.
- **London has been named the UK's best city to live in**.
- **Indian cities:** Chennai, the capital of Tamil Nadu is ranked at 105 in Mercer's Quality Of Living Index and is the number one city from India. Bengaluru was the second best with the ranking of 149.

### **What Factors Determine Quality of Living?**

These factors are evaluated in Mercer's Quality of Living Reports, which offer city-to-city comparisons for nearly 500 global assignment destinations.

1. Recreation Public services and transport.
2. Socio-cultural environment.
3. School and education.
4. Medical and health considerations.
5. Political and social environment.
6. Natural environment.
7. Housing
8. Economic environment.
9. Consumer goods availability.

### **Key observations:**

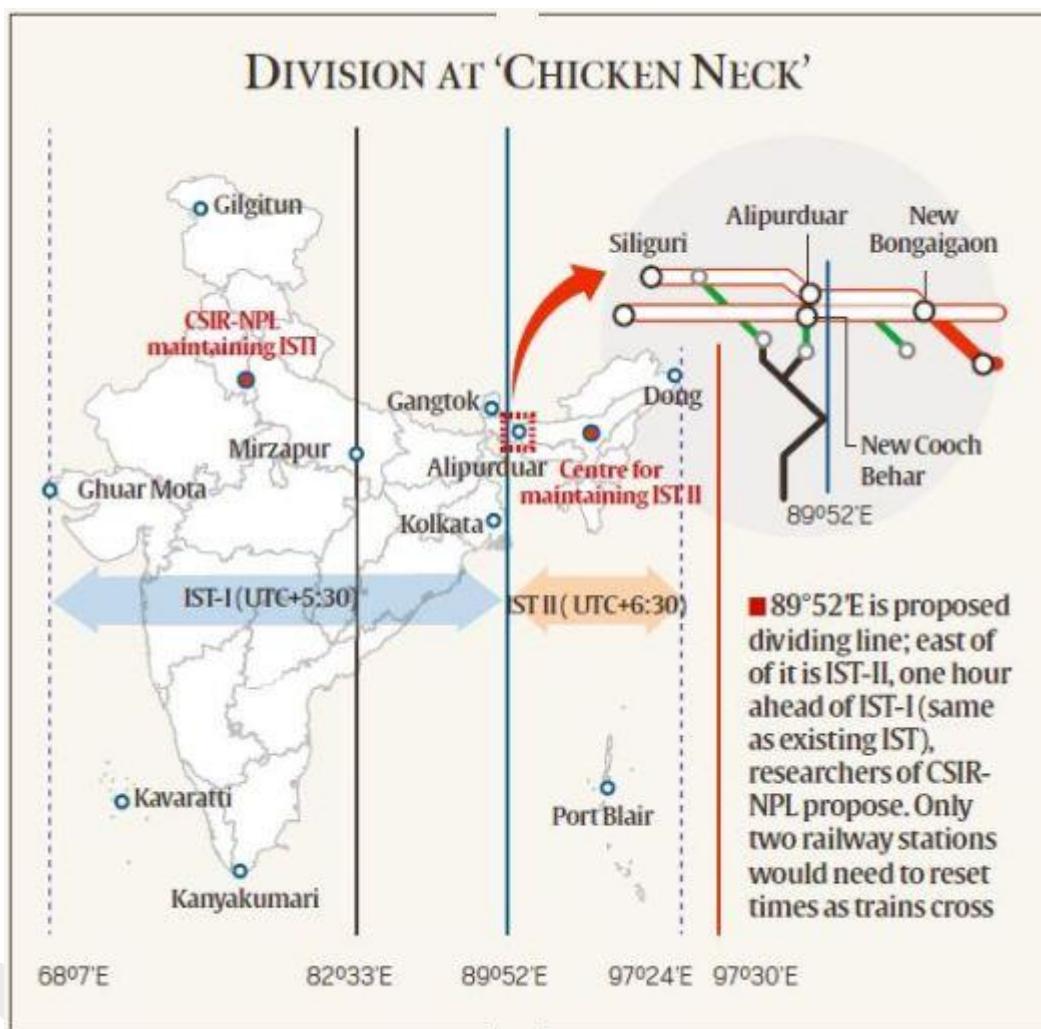
- Trade tensions and populist undercurrents continue to dominate the global economic climate. Combined with the spectre of monetary policy tightening and volatility looming over markets, international businesses are under more pressure than ever to get their overseas operations right.
- The survey shows that many cities around the world still offer attractive environments in which to do business, and the best understand that the quality of living is an essential component of a city's attractiveness for businesses and mobile talent.
- Many cities had seen an improvement, but terror attacks in the last ten years have caused cities including Athens, Madrid and Paris to slide down the table.

## 5. SHOULD INDIA HAVE TWO TIME ZONES ? NATIONAL TIMEKEEPER ADDS NEW ARGUMENTS

**Context:** Scientists at the Council of Scientific & Industrial Research's National Physical Laboratory (CSIR-NPL), which maintains Indian Standard Time, have published a research article describing the necessity of two time zones, with the new one an hour ahead of the existing time zone.

### Need for two time zones- arguments by CSIR- NPL:

- The researchers estimated energy savings at 20 million kWh a year. They also analysed the importance of synchronising office hours — as well as biological activities — to sunrise and sunset timings.



### How is energy saved?

- Energy is saved by longer use of sunlight and consequently less use of energy for lighting. The demand for electricity goes up in the morning for water heating and increases again in the evening for five to six hours, mainly for lighting, declining as people turn off lights and go to bed.

### Why there is Necessity of Two time zones?

- Over the years, various citizens and political leaders have debated whether India should have two separate time zones.
- The demand is based on the huge difference in daylight times between the country's longitudinal extremes, and the costs associated with following the same time zone.
- Those arguing against the idea, on the other hand, cite impracticability particularly the risk of railway accidents, given the need to reset times at every crossing from one time zone into another.

#### Possible Impact of change in time zones:

- **Northeast India would move an hour ahead**, increasing the region's productive, daylight hours and the country's potential energy savings could amount to a whopping 20 million kWh a year.
- **Offices could open sooner after sunrise**, and perhaps workers could even savour the last dregs of dusk as they trudge towards home or their desired form of recreation.
- **Biomedical research has consistently pointed to the physical and psychological benefits** of aligning circadian (sleep) rhythms to the sun's rising and setting.

#### Concerns:

- **India has a huge population**: if the country were divided into two time zones, there would be chaos at the border between the two zones. It would mean resetting clocks with each crossing of the time zone. There is scope for more dangerous kinds of confusion. Railway signals are not fully automated and many routes have single tracks. Trains may meet with major accidents owing to human errors. Just one such accident would wipe out any benefits resulting from different time zones in the country.
- **Partitioning the already divided country further into time zones may also have undesirable political consequences**. Moreover, our research shows that the energy saving from creating two time zones is not particularly large.
- **With a time difference of one hour in the mornings and in the evenings, there would be nearly 25% less overlap between office timings in the two zones**. This could be important for banks, offices, industries and multinational companies which need to be constantly interconnected. This will be further detrimental to productivity and to the interests of the eastern region.
- **There is already a sense of alienation between the relatively prosperous and industrialised western zone and the less developed eastern zone**. The people in the Northeast sense a distance from the mainland and a separateness in clock time may accentuate it.
- **Having a separate time zone for the eastern region will provide no energy or other benefits to the rest of the country**. Moreover, India will continue to be in off-set time zones, five and a half hours in the west and six and a half in the eastern region ahead of.

## 6. WORLDWIDE COST OF LIVING 2019

#### What to study?

- For Prelims and Mains: Highlights of the report, significance and performance of various countries.

**Context: The Economist Intelligence Unit has released the report of the Worldwide Cost of Living Survey 2019.**

- The Survey **compares more than 400 individual prices across 160 products and services in cities around the world**.

#### Key findings:

- **For the first time three cities share the title of the world's most expensive city** – Singapore, Hong Kong and Paris. Living costs in all three cities are 7% higher than in New York, the benchmark city.
- **In this year's top 10, Singapore represents the only city that has maintained its ranking from the previous year**. Singapore marks its sixth straight year at the top of the rankings.
- Unsurprisingly, the cheapest cities to live in were largely made up of those experiencing well-documented political or economic disruption (or both in some cases).
- **Caracas, Venezuela's capital was at the very bottom of the list this year**, a position previously occupied by war-torn Syria in Damascus for obvious reasons.
- Deteriorating economic conditions in Venezuela and hyperinflation are at the root of its downward-trending position down the list.

Sources: the hindu.

**Topics:** Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc., geographical features and their location- changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

## 1. BOMB CYCLONE

### What to study?

- For Prelims and Mains: Bomb cyclone- meaning, features, threats and preparedness, why are they on rise in recent times?

**Context:** A powerful bomb cyclone has impacted several part of the US causing heavy floods.

### What is a Bomb cyclone?

- The term is used by meteorologists to indicate **a mid-latitude cyclone that intensifies rapidly**.
- A bomb cyclone happens when atmospheric pressure in the middle of the storm drops at least 24 millibars over 24 hours, quickly increasing in intensity.** The lower the pressure, the stronger the storm.

### How it works?

- Deep drops in barometric pressure occur when a region of warm air meets one of cold air. The air starts to move and the rotation of the earth creates a cyclonic effect. **The direction is counter clockwise in the Northern hemisphere leading to winds that come out of the northeast.**

### What's the difference between hurricanes, cyclones and typhoons?

- Hurricanes, cyclones and typhoons are all tropical storms. They are all the same thing but are given different names depending on where they appear. When they reach populated areas they usually bring very strong wind and rain which can cause a lot of damage.
- Hurricanes are tropical storms that form over the North Atlantic Ocean and Northeast Pacific. Cyclones are formed over the South Pacific and Indian Ocean. Typhoons are formed over the Northwest Pacific Ocean.

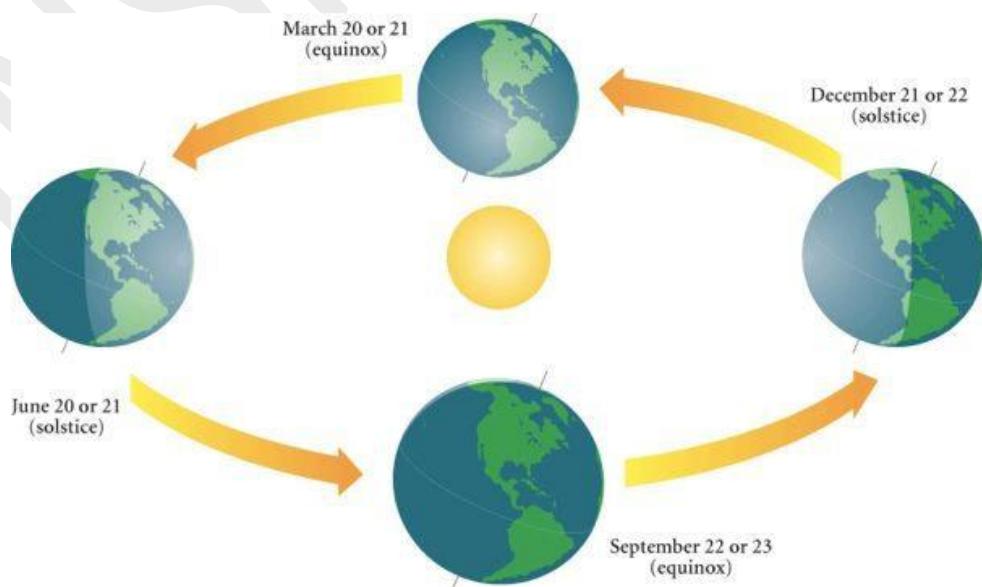
Sources: the hindu.

## 2. VERNAL EQUINOX

### What to study?

- For Prelims and Mains: Vernal equinox- meaning, changes associated and features.

**Context:** March 20, 2019, marks the spring equinox — the first official day of spring in the Northern Hemisphere. This day is unique in that the length of day and night are close to equal.



### What is it?

- The Vernal Equinox is a solar term with great balance. At the equinox, earth's two hemispheres are receiving the sun's rays equally. On the day of the vernal equinox, night and day are often said to be equal in length.
- The equinox is the moment in Earth's orbit when the sun appears to cross the celestial equator. It means longer and warmer days as the northern hemisphere begins to tilt towards the sun.

### How do people celebrate it?

- ***The vernal equinox also is the Persian New Year, known as Nowruz.*** For more than 300 million people worldwide it's the start of a monthlong celebration of new beginnings.
- ***In Chichen Itza, Mexico, thousands gather at the Kulkulkan pyramid.*** In the late afternoon, the sun creates a shadow that looks like a snake sliding down the northern staircase.
- ***Holi***, a major festival in India that marks the start of spring, also begins on March 20 this year.

Sources: the hindu.

# GENERAL STUDIES - II

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

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

### What to study?

- For Prelims: Highlights of the Bill, 9<sup>th</sup>
- For Mains: Significance and concerns associated with the reservations, solutions to the problem of reservation.

**Context:** A PIL has been filed in the High Court of Rajasthan challenging **the Rajasthan Backward Classes Amendment Bill, 2019** on grounds of an “untenable basis” of proportionality of population.

### 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.

### Background:

- **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.

## 2. CONSTITUTION BENCH

**Context:** Constitution benches of India's Supreme Court have delivered landmark judgments, especially in recent months.

### What is it?

- Constitution benches normally have five judges, but there have been benches with seven, nine and even 13 judges.

- **Article 145(3)** says at least five judges need to hear cases that involve “a substantial question of law as to the interpretation” of the Constitution, or any reference under Article 143, which deals with the power of the President of India to consult the Supreme Court.

### 3. HOW J&K PRESIDENTIAL ORDERS HAVE WORKED ?

**Context:** Weeks after President Ram Nath Kovind has issued an executive order amending The Constitution (Application to Jammu and Kashmir) Order, 1954 to extend the provisions of the 77th and 103rd Amendments to the state, the Centre’s move has been challenged in the Jammu & Kashmir High Court.

#### What's the issue?

- The executive order was issued on March 1, the day after the Union Cabinet approved the proposal of the J&K Governor’s administration to amend the 1954 Order. *The Centre said the amendment “will give benefit of promotion in service to the Scheduled Castes, Scheduled Tribes, and also extend the 10 per cent reservation for economically weaker sections in educational institutions and public employment”.*
- *The latest order has the consent of the Governor without the requisite aid and advice of the Council of Ministers.* In a situation of Central rule, the Governor acts only as a nominee of the Union government and does not meet the definition of state government as laid down by Article 370 and the Supreme Court.
- Major J&K parties have always opposed the amendments to the 1954 Order without ratification by the Constituent Assembly of the state. The Centre could do it because the SC allowed it. The opposition in J&K has been to the route taken by the Centre, and not to the laws themselves.

#### How is J&K governed?

- J&K negotiated the terms of its entry into the Indian Union. When Maharaja Hari Singh signed the **Instrument of Accession** on October 26, 1947, J&K gave up control over only three subjects: Defence, Foreign Affairs, Communications. A separate Constituent Assembly of J&K was planned to frame the J&K Constitution, and to work out J&K’s constitutional relationship with New Delhi.
- **Under Article 370**, which was part of the Indian Constitution at its commencement on January 26, 1950, only two articles apply to J&K: Article 1, which defines India, and Article 370 itself. Article 370 provides that other provisions of the Indian Constitution can apply to J&K “subject to such exceptions and modifications as the President may by order specify”, and with the concurrence of the state government.

#### Role of state government:

- State government was defined as “*the person for the time being recognised by the President as the Maharaja of Jammu and Kashmir acting on the advice of the Council of Ministers for the time being in office*”. The decisions to extend the provisions of the Indian Constitution other than those specified in the Instrument of Accession, however, had to be ratified by the J&K Constituent Assembly.

#### The 1954 Presidential Order:

- But the J&K Constituent Assembly was yet to be set up, and the Centre wanted to extend a few provisions of the Constitution to streamline J&K’s relationship with the Union. Thus, a Presidential Order was issued on January 26, 1950 itself, with the state government’s concurrence. On November 5, 1951, J&K’s Constituent Assembly was convened.
- The 1950 Order was replaced by The Constitution (Application to Jammu and Kashmir) Order, 1954. This Order, while applying to J&K provisions of Part-III of the Indian Constitution that relates to fundamental rights, introduced Article 35A — which protected laws passed by the state legislature of J&K in respect of permanent residents from any challenge on the ground that they violated any of the fundamental rights.
- This order was ratified by the Constituent Assembly that also framed the J&K Constitution, before dispersing on November 17, 1956.
- Through these Presidential orders, successive central governments have extended 94 out of the 97 entries in the Union List, and 26 out of the 47 in the Concurrent List to J&K, and made 260 out of the 395 Articles of the Indian Constitution applicable to J&K. This list does not include The Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest (SARFAESI) Act, 2002, the GST Acts, and the two constitutional provisions that were extended on March 1.

## Views of the Supreme Court in various cases:

- **Prem Nath Kaul vs The State Of Jammu & Kashmir (1959)**- relationship should be finally determined by the Constituent Assembly of the State itself.
- **Sampat Prakash vs State Of Jammu & Kashmir, 1969**- Presidential orders could still be made through Article 370.
- **Mohd Maqbool Damnoo vs State Of Jammu And Kashmir, 1972**- upheld and highlighted the importance of state government.

For overview of Article 370 and Article 35A, refer: <https://indianexpress.com/article/explained/understanding-articles-370-35a-jammu-kashmir-indian-constitution-5610996/>.

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

## 1. CONTEMPT OF COURT

### What to study?

- For Prelims and Mains: What is Contempt of Court? Provisions in this regard, Criticisms and analysis.

**Why in News?** The Supreme Court has stayed the conviction and punishment of The Shillong Times editor and publisher by the Meghalaya High Court in a contempt case.

### What is contempt under the Indian law?

- In India, the Contempt of Courts Act, 1971, divides contempt into civil contempt and criminal contempt.
- 'Civil contempt' is a 'wilful disobedience to any judgment, decree, direction, order, writ or other processes of a Court or wilful breach of an undertaking given to the court'.
- 'Criminal contempt' is 'the publication (whether by words, spoken or written, or by signs, or by visible representation, or otherwise) of any matter or the doing of any other act whatsoever which:
  1. Scandalises or tends to scandalise, or lowers or tends to lower the authority of, any court.
  2. Prejudices, or interferes or tends to interfere with the due course of any judicial proceeding.
  3. Interferes or tends to interfere with, or obstructs or tends to obstruct, the administration of justice in any other manner.'

### Need:

- Judiciary ensures justice and equality to every individual and institutions, therefore, the makers of the constitution upheld the sanctity and prestige of the revered institution by placing provisions under articles 129 and 215 of the constitution, which enables the courts to hold individuals in contempt if they attempt to demean or belittle their authority.

### Is criticism allowed?

- Yes. The Contempt of Courts Act, 1971, very clearly states that fair criticism of any case which has been heard and decided is not contempt.

Sources: the hindu.

## 2. GOVT.'S PREROGATIVE TO FRAME SCHEMES: SC

### What to study?

- For Prelims: Article 226 and related issues.
- For Mains: Judicial overreach- need, significance, concerns and what's the way out?

**Context:** It is the sole prerogative of the government to frame schemes and courts should stay out of governance, the Supreme Court has said in a judgment.

#### Background:

- SC has criticised the Uttarakhand High Court for framing a scheme to regularize hundreds of casual workers engaged by the Border Roads Organisation (BRO) in the construction of roads for Char Dham Yatra pilgrimage.

#### Important observations made by SC:

1. It is not the function of the courts to frame any scheme but it is the sole prerogative of the government to do it.
2. All that the High Court, in exercise of its extraordinary power under Article 226 of the Constitution, can do is to direct the government to consider framing an appropriate scheme.
3. Such directions to the government to consider framing a scheme should be with regard to the facts and circumstances of each case.
4. It is only in exceptional cases when the court considers it proper, should it issue appropriate mandatory directions, the Supreme Court held.

#### Need of the hour:

- The line between Judicial activism and Judicial Overreach is very narrow. In simple terms, when Judicial activism crosses its limits and becomes Judicial adventurism it is known as Judicial Overreach.
- When the judiciary oversteps the powers given to it, **it may interfere with the proper functioning of the legislative or executive organs of government**. Judicial Overreach destroys the **spirit of separation of powers**.

Sources: the hindu.

**Topics:** Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.

## 1. FINANCE COMMISSION OF INDIA

#### What to study?

- For Prelims and Mains: About FC- roles, objectives, functions, criteria used and need for reforms.

**Context:** Shri Ajay Narayan Jha recently joined the **Fifteenth Finance Commission** as its Member.

The **Fifteenth Finance Commission was constituted by a Presidential Order** in November, 2017 **under the Chairmanship of Shri N. K. Singh** to decide the formula for devolution of revenue between Centre and States, for a period of 5 years – April, 2020 to March, 2025.

#### What is the Finance Commission?

The Finance Commission is **constituted by the President under article 280 of the Constitution**, mainly to give its recommendations on distribution of tax revenues between the Union and the States and amongst the States themselves.

Two distinctive features of the Commission's work involve **redressing the vertical imbalances between the taxation powers and expenditure responsibilities of the centre and the States respectively and equalization of all public services across the States**.

#### What are the functions of the Finance Commission?

It is the duty of the Commission to make recommendations to the President as to:

1. the distribution between the Union and the States of the net proceeds of taxes which are to be, or may be, divided between them and the allocation between the States of the respective shares of such proceeds;
2. the principles which should govern the grants-in-aid of the revenues of the States out of the Consolidated Fund of India;

3. the measures needed to augment the Consolidated Fund of a State to supplement the resources of the Panchayats and Municipalities in the State on the basis of the recommendations made by the Finance Commission of the State;
4. any other matter referred to the Commission by the President in the interests of sound finance.

The ***Commission determines its procedure and have such powers in the performance of their functions as Parliament may by law confer on them.***

#### **Who appoints the Finance Commission and what are the qualifications for Members?**

The Finance Commission is appointed by the President under Article 280 of the Constitution. As per the provisions contained in the Finance Commission [Miscellaneous Provisions] Act, 1951 and The Finance Commission (Salaries & Allowances) Rules, 1951, the Chairman of the Commission is selected from among persons who have had experience in public affairs, and the four other members are selected from among persons who:

- are, or have been, or are qualified to be appointed as Judges of a High Court; or
- have special knowledge of the finances and accounts of Government; or
- have had wide experience in financial matters and in administration; or
- have special knowledge of economics

#### **The recommendations of the Finance Commission are implemented as under:**

##### ***Those to be implemented by an order of the President:***

- The recommendations relating to distribution of Union Taxes and Duties and Grants-in-aid fall in this category.
- Those to be implemented by executive orders:
- Other recommendations to be made by the Finance Commission, as per its Terms of Reference

#### **When was the first Commission Constituted and how many Commissions have been Constituted so far?**

- The First Finance Commission was constituted vide Presidential Order dated 22.11.1951 under the chairmanship of Shri K.C. Neogy on 6th April, 1952. Fifteenth Finance Commissions have been Constituted so far at intervals of every five years.

#### **Why is there a need for a Finance Commission?**

- The Indian federal system allows for the division of power and responsibilities between the centre and states. Correspondingly, the taxation powers are also broadly divided between the centre and states. State legislatures may devolve some of their taxation powers to local bodies.

#### **Formula used for distribution:**

- The share in central taxes is distributed among states based on a formula. Previous Finance Commissions have considered various factors to determine the criteria such as the population and income needs of states, their area and infrastructure, etc. Further, the weightage assigned to each criterion has varied with each Finance Commission.

#### **The criteria used by the 11th to 14th Finance Commissions are:**

- **Population** is an indicator of the expenditure needs of a state. Over the years, Finance Commissions have used population data of the 1971 Census. The 14th Finance Commission used the 2011 population data, in addition to the 1971 data. The 15th Finance Commission has been mandated to use data from the 2011 Census.

**Table 2: Weight of criteria used by 11<sup>th</sup> to 14<sup>th</sup> Finance Commissions**

Criteria	11 <sup>th</sup>	12 <sup>th</sup>	13 <sup>th</sup>	14 <sup>th</sup>
Income Distance	62.5	50.0	50.0	
Population 1971	10.0	25.0	25.0	17.5
Population 2011				10.0
Index of Infrastructure	7.5			
Fiscal Discipline	7.5	7.5	17.5	
Tax Effort	5.0	7.5		
Fiscal Capacity Discipline				47.5
Area	7.5	10.0	10.0	15.0
Forest Cover				7.5
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Reports of the 1<sup>st</sup> to 14<sup>th</sup> Finance Commissions; PRS.

- **Area** is used as a criterion as a state with larger area has to incur additional administrative costs to deliver services.
- **Income distance** is the difference between the per capita income of a state with the average per capita income of all states. States with lower per capita income may be given a higher share to maintain equity among states.
- **Forest cover** indicates that states with large forest covers bear the cost of not having area available for other economic activities. Therefore, the rationale is that these states may be given a higher share.
- **Grants-in-Aid:**
- Besides the taxes devolved to states, ***another source of transfers from the centre to states is grants-in-aid.*** As per the recommendations of the 14th Finance Commission, grants-in-aid constitute 12% of the central transfers to states. The 14th Finance Commission had recommended grants to states for three purposes: (i) disaster relief, (ii) local bodies, and (iii) revenue deficit.

**Mains Question:** Discuss the role that Finance Commission play in improving centre state administrative relations?

## 2. PERMANENT STATUS TO FINANCE COMMISSION

### What to study?

- For Prelims and Mains: About FC- roles, objectives, functions, criteria used and need for reforms.

**Context:** RBI governor bats for permanent status to Finance Commission.

### Need for permanent status:

- Finance commissions have over the past several decades adopted different approaches with regard to principles of tax devolution, grants to be given to states and fiscal consolidation issues. In other words, ***there has to be continuity and change between finance commissions.***
- ***There is a need to ensure broad consistency between Finance Commissions so that there is some degree of certainty in the flow of funds, especially to the states.*** This has become even more critical in the post GST scenario.
- If it is given permanent status, ***the Commission can function as a leaner entity in the intervening period till the next Finance Commission is set up in a full-fledged manner.*** During the intervening period, it can also address issues arising from implementation of the recommendations of the finance commission.

## 3. A LAW FOR THE CBI

**Context:** The CBI has been in controversies lately.

### Challenges faced by CBI:

- It cannot function in a state unless the matter is referred to it by a high court or the Supreme Court or by the consent of the state government concerned.
- The ruling party in a state, sometimes genuinely and many times on flimsy grounds, has denied permission to the CBI to investigate matters. Recently, Andhra Pradesh and West Bengal, and earlier Karnataka, Nagaland and Sikkim had withdrawn consent to the CBI to operate.
- There have been other instances when the CBI faced off with other law enforcement agencies like the Intelligence Bureau (IB), Income Tax Authorities (ITA), Directorate of Enforcement and police forces of different states.

These were due to the ***CBI lacking legal powers to operate on an all-India basis.***

### What's the concern now?

- There was always a demand for ***an all-India legislation to give the CBI statutory powers*** over central government employees posted anywhere in the country.
- State governments have resisted such a law on the plea that ***a central agency would take away the powers of policing vested in them.***

### Need of the hour:

- Give ***statutory backing to the CBI on an all India basis with a constitutional amendment,*** with the consent of at least half of the state legislatures.

**Topics: Parliament and State Legislatures – structure, functioning, conduct of business, powers & privileges and issues arising out of these.**

## 1. NATIONAL REGISTER OF CITIZENS (NRC)

### What to study?

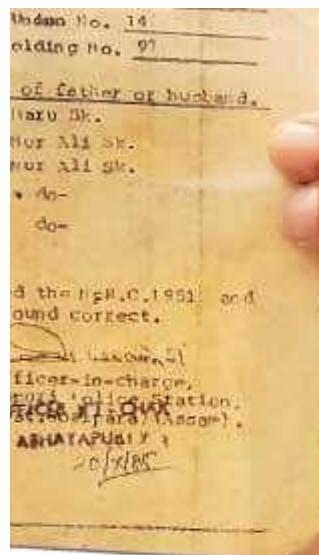
- For Prelims: Particulars of NRC.
- For Mains: Update of NRC- issues associated including ethical concerns.

**Context:** The Election Commission of India (ECI) has assured the Supreme Court that names have not been deleted from the Assam electoral roll on the basis of their exclusion from the draft National Register of Citizens (NRC), which was published in July last year.

### What's the issue?

A petition has been filed in the Supreme Court alleging that several categories of persons were deprived of voting rights ahead of the Lok Sabha polls.

- One category included 2ed persons whose names figured in the draft NRC but not in the voter list.
- Second category included persons whose names were deleted from the voter list appeared in the draft NRC published on July 30, 2018. The petition claimed these people had voted in the last Lok Sabha election in 2014.
- The third category of people were those declared foreigners by the foreigners' tribunal as well as by the Guwahati High Court; the court order was stayed by the Supreme Court.
- The fourth category comprised those already declared foreigners by the tribunal; this was set aside by the Supreme Court. However, their names had been deleted from the voters list pursuant to the order of the tribunal.
- In the fifth category were those whose names had not been included in the draft NRC, but their family members were included; these had filed a claim for the inclusion of their names.



## NRC: An Introduction

**WHAT IS NRC?**  
The National Register of Citizens is a list of all Indian citizens

### IS THIS THE FIRST SUCH REGISTER?

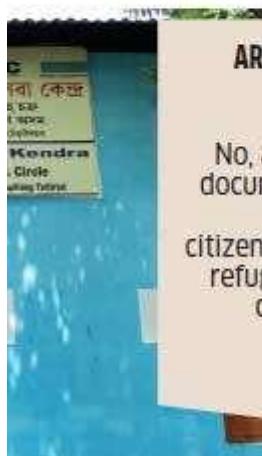
No, there was an NRC across the country in 1951, but that was based on the Census of that year, and this is the first time it is being revised and only in Assam, and it is not based on the Census

### WHAT IS THE NEED FOR THIS?

Assam has been wrecked by violent protests since the 1970s over the issue of illegal migrants, mostly from Bangladesh. The NRC is to be updated to comply with the demands in the Assam Accord, signed in 1985 by Rajiv Gandhi and leaders of the Assam Movement

**WHEN WILL THE CURRENT NRC BE COMPLETED?**  
By Jan 2016. The process is being monitored by the Supreme Court

**WHO WILL BE CONSIDERED INDIAN CITIZEN**  
Those whose names were in the 1951 NRC or in any of the electoral rolls up to the midnight of March 24, 1971, and their descendants



### ARE THESE THE ONLY ADMISSIBLE DOCUMENTS?

No, any of 12 other documents including land records, citizenship certificate, refugee registration certificate, birth certificate and educational certificate

### WHAT HAPPENS TO THOSE WHO CAME FROM NEIGHBOURING COUNTRIES AFTER MARCH 24, 1971?

While the demand has been that such people be sent back to the countries they came from, India needs to sign repatriation treaties with Bangladesh and Nepal for the same

### **About National Register of Citizens (NRC) of Assam:**

- The National Register of Citizens (NRC) is the list of Indian citizens of Assam. It was prepared in 1951, following the census of 1951.

### **For a person's name to be included in the updated NRC list of 2018, he/ she will have to furnish:**

1. Existence of name in the legacy data: The legacy data is the collective list of the NRC data of 1951 and the electoral rolls up to midnight of 24 March 1971.
2. Proving linkage with the person whose name appears in the legacy data.

### **Why was it updated?**

- The process of NRC update was taken up in Assam as per a Supreme Court order in 2013. In order to wean out cases of illegal migration from Bangladesh and other adjoining areas, NRC updation was carried out under The Citizenship Act, 1955, and according to rules framed in the Assam Accord.

### **Why is March 24, 1971 the cut-off date?**

- There have been several waves of migration to Assam from Bangladesh, but the biggest was in March 1971 when the Pakistan army crackdown forced many to flee to India. The Assam Accord of 1985 that ended the six-year anti-foreigners' agitation decided upon the midnight of March 24, 1971 as the cut-off date.

### **Who is a citizen in Assam?**

- The Citizenship Act of 1955 was amended after the Assam Accord for all Indian-origin people who came from Bangladesh before January 1, 1966 to be deemed as citizens. Those who came between January 1, 1966 and March 25, 1971 were eligible for citizenship after registering and living in the State for 10 years while those entering after March 25, 1971, were to be deported.

Sources: the hindu.

## **2. APPOINTMENT OF LOKPAL**

### **What to study?**

- For Prelims: Lokpal- powers, functions and appointment, features of Lokpal and Lokayukta Act.
- For Mains: Significance and issues associated.

**Context:** The name of former Supreme Court Judge Justice Pinaki Chandra Ghose has been cleared by the Lokpal Selection Committee headed by the Prime Minister.

### **Highlights of the Lokpal Act of 2013:**

- The Act allows setting up of anti-corruption ombudsman called Lokpal at the Centre and Lokayukta at the State-level.
- **Composition:** The Lokpal will consist of a chairperson and a maximum of eight members.
- **Applicability:** The Lokpal will cover all categories of public servants, including the Prime Minister. But the armed forces do not come under the ambit of Lokpal.
- **The Act also incorporates provisions for attachment and confiscation of property acquired by corrupt means**, even while the prosecution is pending.
- **The States will have to institute Lokayukta** within one year of the commencement of the Act.
- The Act also ensures that public servants who **act as whistleblowers are protected**.

### **Who can become the Chairperson?**

- **The person who is to be appointed as the chairperson of the Lokpal should be either of the following:** Either the former Chief Justice of India Or the former Judge of Supreme Court Or an eminent person with impeccable integrity and outstanding ability, having special knowledge and expertise of minimum 25 years in the matters relating to anti-corruption policy, public administration, vigilance, finance including insurance and banking, law and management.

### **Who can become a member?**

- Out of the maximum eight members, half will be judicial members. Minimum fifty per cent of the Members will be from SC / ST / OBC / Minorities and women. The judicial member of the Lokpal should be either a former Judge of the Supreme Court or a former Chief Justice of a High Court.
- The non-judicial member should be an eminent person with impeccable integrity and outstanding ability, having special knowledge and expertise of minimum 25 years in the matters relating to anti-corruption policy, public administration, vigilance, finance including insurance and banking, law and management.

### **Who cannot become the chairperson?**

- The following persons cannot become chairperson of Lokpal: MPs and MLAs Persons convicted of any offense involving moral turpitude Less than 45 years of age, Members of Panchayats or Municipality, A person who was removed or dismissed from the public service, A person who holds any office of trust / profit; if so, he would need to resign from Lokpal. A person who is affiliated to a political party Carries on some business / profession; if so, he would need to quit some business.

### **Term of Office:**

- The term of office for Lokpal Chairman and Members is 5 years or till attaining age of 70 years.
- The salary, allowances and other conditions of service of chairperson are equivalent to Chief Justice of India and members is equivalent to Judge of Supreme Court. If the person is already getting the pension (for being a former judge), the equivalent pension amount will be deducted from the salary.
- The source of salary for Lokpal and Members is Consolidated Fund of India.
- If the chairperson dies in office or has resigned from the post, President can authorise the senior-most Member to act as the Chairperson until new chairperson is appointed. If chairperson is not available for certain functions due to leave, his job will be done by senior most member.

### **Powers:**

- The Lokpal will have the power of superintendence and direction over any investigation agency including CBI for cases referred to them by the ombudsman.
- As per the Act, the Lokpal can summon or question any public servant if there exists a prima facie case against the person, even before an investigation agency (such as vigilance or CBI) has begun the probe. Any officer of the CBI investigating a case referred to it by the Lokpal, shall not be transferred without the approval of the Lokpal.
- An investigation must be completed within six months. However, the Lokpal or Lokayukta may allow extensions of six months at a time provided the reasons for the need of such extensions are given in writing.
- Special courts will be instituted to conduct trials on cases referred by Lokpal.

### **Ambit of the Lokpal:**

- For a wide range of public servants from the PM, ministers and MPs, to groups A, B, C and D employees of the central government various rules are in place.
- If a complaint is filed against the PM, the Act says, "Lokpal shall inquire or cause an inquiry to be conducted into any matter involved in, or arising from, or connected with, any allegation of corruption made in a complaint".
- However, certain conditions will apply. The Act does not allow a Lokpal inquiry if the allegation against the PM relates to international relations, external and internal security, public order, atomic energy and space.
- Also, complaints against the PM are not to be probed unless the full Lokpal bench considers the initiation of an inquiry and at least two-thirds of the members approve it.
- Such an inquiry against the Prime Minister (if conducted) is to be held in camera and if the Lokpal comes to the conclusion that the complaint deserves to be dismissed, the records of the inquiry are not to be published or made available to anyone.

### **Lokpal itself is also subjected to the Law:**

- The Act also includes the Lokpal's own members under the definition of "public servant".
- The Chairperson, Members, officers and other employees of the Lokpal shall be deemed, when acting or purporting to act in pursuance of any of the provisions of this Act to be public servants.
- It shall apply to public servants in and outside India.

- It clarifies that a complaint under this Act shall only relate to a period during which the public servant was holding or serving in that capacity.

## Along-drawn debate

A short history of the Lokpal Bill from the 1960s to the present

**1963:** The idea of an Ombudsman first came up in Parliament during a discussion on budget allocation for the Law Ministry

**1966:** The First Administrative Reforms Commission recommended two independent authorities – one at the Centre and one at the



State level – to probe complaints against public functionaries, including MPs

**1968:** Lokpal Bill introduced in Parliament, but was not passed. Eight attempts were made till 2011 to pass the Bill, but all in vain

**2002:** The Constitution review commission headed by M.N. Venkatachaliah recommended appointment of the Lokpal and the Lokayuktas. It also recommended that the Prime Minister be kept out of the Lokpal's ambit

**2005:** The second ARC recommended that a Lokpal be established without delay

**2013:** Lokpal Act, 2013, passed in Parliament

**2016:** Lok Sabha agreed to amend the 2013 Act

**2017:** The SC on April 27 clarified that the Lokpal appointment process need not be stalled merely due to the absence of the Leader of the Opposition, who is a member of the Lokpal selection committee as per the 2013 Act

**Mains Question:** Critically examine the issues involved in the functioning of Lokpal. Does it dispute with the mandate of elected representatives? Suggest methods to make Lokpal effective with least interference in the government affairs.

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

## GST COUNCIL

### What to study?

- For Prelims: About GST Council- composition, functions and related key facts, overview of GST.
- For Mains: Issues associated with GST, need for reforms and various measures announced in this regard.

### Why do we need a GST Council?

- The GST council is the **key decision-making body** that will take all important decisions regarding the GST. The GST Council dictates tax rate, tax exemption, the due date of forms, tax laws, and tax deadlines, keeping in mind special rates and provisions for some states. The predominant responsibility of the GST Council is to ensure to have one uniform tax rate for goods and services across the nation.

### How is the GST Council structured?

- The Goods and Services Tax (GST) is governed by the GST Council. **Article 279 (1) of the amended Indian Constitution states that the GST Council has to be constituted by the President within 60 days of the commencement of the Article 279A.**

**According to the article, GST Council will be a joint forum for the Centre and the States. It consists of the following members:**

- The Union Finance Minister will be the Chairperson.
- Member – the Union Minister of State in charge of Revenue or Finance.
- The Minister in charge of finance or taxation or any other Minister nominated by each State government, as members.

VOTING STRENGTH	GST COUNCIL
Centre <b>1/3 VOTE IN COUNCIL</b>	Chairperson <b>Union finance minister</b>
States <b>2/3 WEIGHT IN COUNCIL</b>	Other Member From Centre <b>Minister of state for finance</b>
<b>DECISIONS NEED 75% VOTE SUPPORT</b>	Vice-chairperson <b>One of the state finance ministers</b>
	Members <b>State finance ministers</b>

#### GST Council recommendations:

- Article 279A (4) specifies that the Council will make recommendations to the Union and the States on the important issues related to GST, like the goods and services that may be subjected or exempted from GST, model GST Laws, principles that govern Place of Supply, threshold limits etc.

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

## 1. NATIONAL MINERAL POLICY, 2019

#### What to study?

- For Prelims and Mains: Key features and significance of the policy.

**Context: National Mineral Policy, 2019** approved by Cabinet.

- Focus on transparency, better regulations & enforcement, balanced growth & sustainability, Grant of Industry status to Mining activity.

#### Benefits:

- The New National Mineral Policy will **ensure more effective regulation**.
- It will **lead to sustainable mining sector development** in future while addressing the issues of project affected persons especially those residing in tribal areas

#### Objective:

- The aim of National Mineral Policy 2019 is to have a more effective, meaningful and implementable policy that brings in further transparency, better regulation and enforcement, balanced social and economic growth as well as sustainable mining practices.

**The National Mineral Policy 2019 includes provisions which will give boost to mining sector. Some of the provisions are:**

1. Introduction of Right of First Refusal for RP/PL holders.
2. Encouraging the private sector to take up exploration.
3. Encouragement of merger and acquisition of mining entities.
4. Creation of dedicated mineral corridors to boost private sector mining areas.
5. The 2019 Policy proposes to grant status of industry to mining activity to boost financing of mining for private sector and for acquisitions of mineral assets in other countries by private sector.
6. It also mentions that Long term import export policy for mineral will help private sector in better planning and stability in business.
7. The Policy also mentions rationalize reserved areas given to PSUs which have not been used and to put these areas to auction, which will give more opportunity to private sector for participation.
8. The Policy also mentions to make efforts to harmonize taxes, levies & royalty with world benchmarks to help private sector.

- The Policy also introduces the concept of Inter-Generational Equity that deals with the well-being not only of the present generation but also of the generations to come and also proposes to constitute an inter-ministerial body to institutionalize the mechanism for ensuring sustainable development in mining.

#### **Background:**

- National Mineral Policy 2019 replaces the extant **National Mineral Policy 2008** ("NMP 2008"). The impetus to review NMP 2008 came about by way of a direction from the Supreme Court vide its judgment in **Common Cause v/s Union of India & Others**.
- Mains Question: In the light of pressing issues being faced by mining industry, examine the features of National Mineral Policy 2019.

## **2. AADHAAR AND OTHER LAWS (AMENDMENT) ORDINANCE, 2019**

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

- For Prelims: Features of the ordinance.
- For Mains: Need and concerns associated with the use of Aadhaar, issues of privacy.

**Context:** The Union Cabinet has approved the **promulgation of an Ordinance to make amendments to the Aadhaar Act 2016, Prevention of Money Laundering Act 2005 & Indian Telegraph Act 1885**.

#### **Impact:**

- The amendments would enable UIDAI to have a more robust mechanism to serve the public interest and restrain the misuse of Aadhaar.
- Subsequent to this amendment, no individual shall be compelled to provide proof of possession of Aadhaar number for the purpose of establishing his identity unless it is so provided by a law made by Parliament.

#### **The salient features of the amendments are as follows:**

- Provides for voluntary use of Aadhaar number in physical or electronic form by authentication or offline verification with the consent of Aadhaar number holder.
- Provides for use of twelve-digit Aadhaar number and its alternative virtual identity to conceal the actual Aadhaar number of an individual.
- Gives an option to children who are Aadhaar number holders to cancel their Aadhaar number on attaining the age of eighteen years.
- Permits the entities to perform authentication only when they are compliant with the standards of privacy and security specified by the Authority; and the authentication is permitted under any law made by Parliament or is prescribed to be in the interest of State by the Central Government.
- Allows the use of Aadhaar number for authentication on voluntary basis as acceptable KYC document under the Telegraph Act, 1885 and the Prevention of Money-laundering Act, 2002.
- Prevents denial of services for refusing to, or being unable to, undergo authentication.
- Provides for establishment of Unique Identification Authority of India Fund.
- Provides for civil penalties, its adjudication, appeal thereof in regard to violations of Aadhaar Act and provisions by entities in the Aadhaar ecosystem.

#### **Background:**

- The Supreme Court in its judgement had held **Aadhaar to be constitutionally valid**. However, **it read down/struck down few sections of the Aadhaar Act and Regulations and gave several other directions in the interest of protecting the fundamental rights to privacy**.
- Consequently it was proposed to amend the Aadhaar Act, Indian Telegraph Act and the Prevention of Money Laundering Act in line with the Supreme Court directives and the report of Justice **B.N.Srikrishna (Retd.) committee on data protection, in order to ensure that personal data of Aadhaar holder remains protected against any misuse and Aadhaar scheme remains in conformity with the Constitution**.
- Towards this, the Aadhaar and Other Laws (Amendment) Bill, 2018 was passed by the Lok Sabha in its sitting held on 4th January, 2019. However, before the same could be considered and passed in the Rajya Sabha, the Rajya Sabha was adjourned sine die.

### 3. NEW DELHI INTERNATIONAL ARBITRATION CENTRE ORDINANCE, 2019

#### What to study?

- For Prelims and Mains: Key features and significance of the Bill, need for and significance of arbitration.

**Context:** The Union Cabinet has approved promulgation of an Ordinance for establishing the **New Delhi International Arbitration Centre (NDIAC)** for the purpose of creating an independent and autonomous regime for institutionalised arbitration.

#### Benefits:

- The benefits of institutionalized arbitration will accrue to Government and its agency and to the parties to a dispute.
- This shall be to the advantage of the public and the public institutions in terms of quality of expertise and costs incurred and will facilitate India becoming a hub for Institutional Arbitration.

#### Salient Features:

- In order to facilitate the setting up of NDIAC, the Ordinance envisages the transfer and vesting of the undertakings of the ICADR in the Central Government. The Central Government will subsequently vest the undertakings in NDIAC.

#### Composition:

- New Delhi International Arbitration Centre (NDIAC) will be headed by a chairperson who has been a Judge of the Supreme Court or a Judge of a High Court or an eminent person, having special knowledge and experience in the conduct or administration of arbitration law or management, to be appointed by the Central Government in consultation with the Chief Justice of India.
- There will be two Full time or Part time Members from amongst eminent persons having substantial knowledge and experience in institutional arbitration, both domestic and international.
- Also, one representative of a recognised body of commerce and industry shall be chosen on rotational basis as Part time Member.
- Secretary, Department of Legal Affairs, Financial Adviser nominated by the Department of Expenditure and Chief Executive Officer, NDIAC shall be ex-officio Members.

#### What is Arbitration?

- Arbitration is a settlement of dispute between two parties to a contract by a neutral third party i.e. the arbitrator without resorting to court action. The process can be tailored to suit parties' particular needs.
- Arbitrators can be chosen for their expertise. It is confidential and can be speedier and cheaper than court. There are limited grounds of appeal. Arbitral awards are binding and enforceable through courts.

#### Significance of ADR:

- It is felt that a reliable and responsive alternative dispute resolution system is essential for rapidly developing countries like India. While business disputes need speedy resolution, litigation is the least favoured method for that.
- The Indian judicial system is marred by delays because of which businesses suffer as disputes are not resolved in a reasonable time period. Therefore, need for alternative dispute resolution processes like negotiation, mediation conciliation and arbitration is felt from time to time.

### 4. NATIONAL COMMON MOBILITY CARD (NCMC)

#### What to study?

- For Prelims: Key features of NCMC.
- For Mains: Significance of and the need for NCMC.

**Context:** Prime Minister Narendra Modi recently launched a **National Common Mobility Card (NCMC)**.

#### Key features:

- Dubbed as '**One Nation One Card**', the inter-operable transport card would allow the holders to pay for their bus travel, toll taxes, parking charges, retail shopping and even withdraw money.

- This card runs on RuPay card.** With the advent of this indigenously-developed and one-of-its-kind card, the country is no longer required to be dependent on foreign technology.
- The stored value on card supports offline transaction across all travel needs** with minimal financial risk to involved stakeholders.
- Ministry of housing & urban affairs** brought to the fore the National Common Mobility Card (NCMC) to enable seamless travel by different metros and other transport systems across the country besides retail shopping and purchases.

#### Need for and significance of NCMC:

- Public transport is extensively used across India as the economical and convenient mode of commuting for all classes of society. Cash continues to be the most preferred mode of fare payments across the public transport.
- However, there are multiple challenges associated with the cash payment such as cash handling, revenue leakages, cash reconciliation etc.**
- Various initiatives have been taken by transit operators to automate and digitize the fare collection using Automatic Fare Collection System (AFC).
- The introduction of closed loop cards issued by these operators helped to digitize the fare collection to a significant extent. **However, the restricted usability of these payment instruments limits the digital adoption by customers.**

## 5. NATIONAL SPORTS FEDERATION

**Context:** Ministry of Youth Affairs and Sports has granted provisional recognition to **Kudo International Federation India (KIFI) as National Sport Federation** with immediate effect.

- The recognition means granting a major role to KIFI Association for promotion and Development of Kudo sport in India.

#### About NSFs:

**National Sports Federations (NSFs) are autonomous bodies registered under the Societies Registration Act 1860.**

The Government does not interfere in their day to day affairs.

- However, Government has issued guidelines imposing age and tenure limits in respect of office bearers of NSFs, including those of the Indian Olympic Association (IOA).
- These have further been reiterated in the National Sports Development Code of India, 2011, which has been made effective from 31.1.2011.

As per the guidelines, the Government has, inter-alia, provided the following age and tenure limits in respect of office bearers of the NSFs:

- The President of any recognized National Sports Federation, including the IOA can hold office for a maximum period of twelve years with or without break.
- The Secretary (or by whatever other designation such as Secretary General or General Secretary by which he is referred to) and the Treasurer of any recognized National Sports Federation, including the IOA, may serve a maximum of two successive terms of four years each after which a minimum cooling off period of four years is required to seek fresh election to either post.
- The President, the Secretary and the Treasurer of any recognized NSF, including the IOA, shall cease to hold that post on attaining the age of 70 years.

## 6. ETHANOL PRODUCTION GETS A LEG-UP

#### What to study?

- For Prelims: Ethanol blended petrol programme, National Policy on Bio-fuels.
- For Mains: Ethanol blending- significance, potential, challenges and solutions.

**Context:** To boost sugar mills' ethanol-production capacity and help them pay off mounting arrears to cane farmers, the Union government has approved ₹3,355 crore in incentives.

- The CCEA has approved ₹2,790 crore for bank loan interest subvention to mills, and ₹565 crore for loan interest subvention to the molasses-based standalone distilleries.

### **Impact:**

- **Banks will be able to extend soft loans worth ₹15,500 crore to mills and distilleries under the scheme.** This is likely to benefit 268 mills and create an additional 300-400 crore litres of ethanol capacity, according to industry estimates.
- **The decision to encourage ethanol production would have a longer term impact, with the creation of 300-400 crore litres of ethanol capacity** in addition to the existing 355 crore litres. This will help the sugar industry reduce surplus production by diverting the surplus sugarcane for ethanol.

### **Benefits of ethanol blending:**

- Increased ethanol blending in petrol has many benefits including reduction in import dependency, support to agricultural sector, more environmental friendly fuel, lesser pollution and additional income to farmers.

### **Ethanol Blended Petrol (EBP) Programme:**

- It was launched by the Government in 2003 on pilot basis which has been subsequently extended to the Notified 21 States and 4 Union Territories to promote the use of alternative and environmental friendly fuels.
- It aims at blending ethanol with petrol, thereby bringing it under the category of biofuels and saving millions of dollars by cutting fuel imports.
- Ethanol Blended Petrol Programme is being implemented by the Ministry or Oil Marketing Companies (OMCs).
- This intervention also seeks to reduce import dependency for energy requirements and give boost to agriculture sector.

### **Demand:**

- **India is the third largest consumer of energy in the world after China and the US.** Currently, the country is dependent on imports for about 82.1% of its crude oil requirement and to the extent of about 44.4% in case of natural gas.
- India is expected to need 10 billion litres of ethanol annually to meet the 20% blending target in 2030 if petrol consumption continues to grow at the current pace. At present, the capacity stands at 1.55 billion litres a year.

### **Concerns and challenges:**

- There has been a consistent shortfall in supply of ethanol in the past, mainly on account of the cyclical nature of the sugarcane harvests in the country. There is “lack of an integrated approach in the EBP across its value chain.”

### **Way ahead:**

- The National Policy on Bio-fuels has set a target of 20% blending of biofuels, both for bio-diesel and bio-ethanol. This will require an integrated approach in the Ethanol Blending Programme (EBP). The time is ripe for a cogent and consistent policy and administrative framework in the program implementation for the success of EBP.

Sources: the hindu.

**Mains Question:** Critically examine the need for removal of restriction on direct sugar use as feedstock for ethanol production.

## **7. INDIA'S OFFICIAL SECRETS ACT, ITS HISTORY AND USE**

### **What to study?**

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

**Why in News?** Attorney-General's request for "criminal action" against those responsible for making "stolen documents" on the Rafale deal public, has brought the Official Secrets Act into focus.

### **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.

#### 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: Indian express.

**Mains Question:** It is often argued that the Official Secrets Act (OSA) which is of 1923 vintage and a complicated piece of legislation has no reason to remain on our statute books after the Right to Information Act of 2005. In the light of leak of important information from key ministries of the union government, critically comment.

## 8. HOME MIN ALLOWS STATES TO USE 9,400 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.

**Context:** The Centre has allowed State Governments to take some enemy properties for public use. *The guidelines for disposal of the Enemy Property Order, 2018 have been amended* to facilitate "usages of enemy property by the State Government exclusively for public use".

#### ENEMY PROPERTIES IN INDIA

State	Total no. of properties	Area in sq ft.	Gross total valuation
Uttar Pradesh	4991	386314942.95	824412367556.13
West Bengal	2735	39575670.86	8782575670.00
Delhi	487	1047487.60	8169049858.86
Goa	263	2481280.70	1000995833.25
Andhra Pradesh	159	51168011.20	116411910261.60
Gujarat	146	5171858.83	8445241392.31
Madhya Pradesh	88	4950254.36	17967143231.84
Bihar	79	672347.53	105807000.00
Chhattisgarh	78	564889.47	546248119.42
Maharashtra	48	1743038.67	5712968690.70

*Source: Office of the Custodian of Enemy Property for India*

#### What are enemy properties?

- When wars broke out between India and China in 1962, and India and Pakistan in 1965 and 1971, the central government took over properties of citizens of China and Pakistan in India under the Defence of India Acts. These Acts defined an 'enemy' as a country that committed an act of aggression against India, and its citizens.
- The properties of enemies in India were classified as enemy property.*** The properties included land, buildings, shares held in companies, gold and jewellery of the citizens of enemy countries. The responsibility of the administration of enemy properties was handed over to the Custodian of Enemy Property, an office under the central government.
- 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:**

1. 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.
2. 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.
3. **The government has vested these properties in the Custodian of Enemy Property for India**, an office instituted under the Central government.

## **9. THE MIZORAM MAINTENANCE OF HOUSEHOLD REGISTERS BILL, 2019**

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

- For Prelims: Key features and significance of the Bill, need for legislation on this.

**Context:** The Mizoram Assembly has unanimously passed the Mizoram Maintenance of Household Registers Bill, 2019.

#### **Key features:**

- It aims **to create registers containing the names, details and photographs of every resident of the state, on a household basis**, in an effort to detect illegal foreigners staying and "eating away" benefits of development schemes.
- As per the Bill, it shall be the responsibility of every householder as well as every member of household in the state **to furnish all such information, particulars and passport-size photographs of the members of the household as may be required by the registering authorities,**"
- Once the information prescribed by the state government is received, the concerned registering authority will compile the details in **two distinct registers- one for the citizen residents and another for non-citizen residents of a village/area/town.**
- Information furnished by individuals for the registers would be "**verified and counter-signed by the president of the local branch of the state-level NGOs as may be designated by the state government from time to time**".
- The Bill says that **all government departments and police may use the household registers for administrative purposes**, during implementation of development schemes and law enforcement.
- **It defines "citizens"** as a person registered as such, or having requisite qualification as prescribed under the Citizenship Act, 1955.

#### **What necessitated this?**

- Influx of foreigners into Mizoram through its porous borders has remained a serious concern for several decades. In many cases the benefit of development and welfare programmes are found eaten away to a large extent by such foreigners who clandestinely stayed back and got assimilated in the people of the state by taking advantage of the mistaken identity and of difficulties in detecting them.
- Large scale influx of foreigners and their malafide assimilation with the permanent residents in the villages of Mizoram has led to an "abnormal increase in the population" and poses a law and order threat.

Sources: the hindu.

## **10. REAL ESTATE INVESTMENT TRUST**

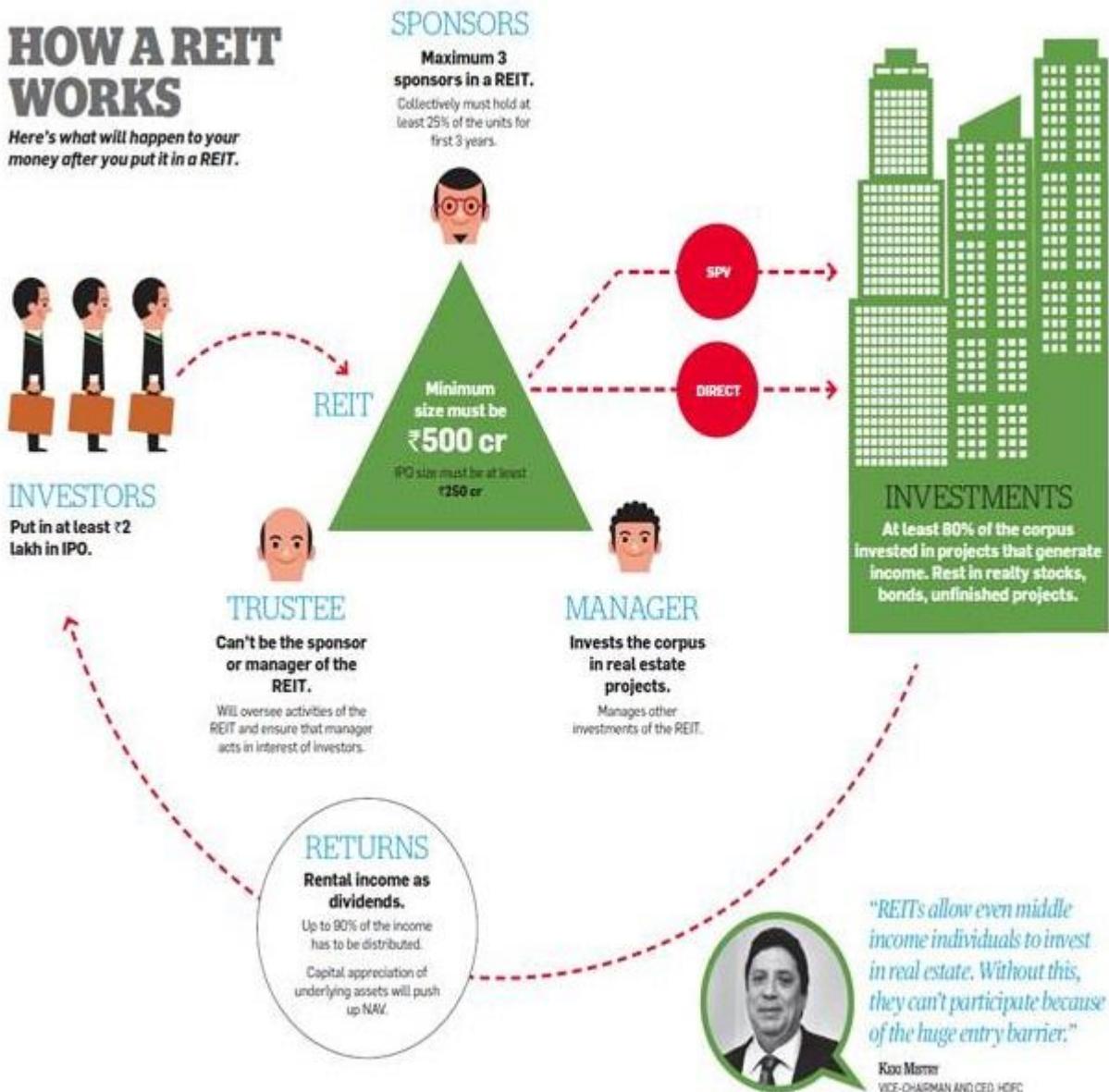
#### **What to study?**

- For Prelims and Mains: REITs- what are they, significance, potential and concerns associated?

**Context:** The recent initial public offering (IPO) of **India's first Real Estate Investment Trust (Embassy REIT)** was subscribed 2.5 times, with the share sale generating a demand of over Rs 5,300 crore.

# HOW A REIT WORKS

Here's what will happen to your money after you put it in a REIT.



## How does an REIT work?

- REITs raise funds from a large number of investors and directly invest that sum in income-generating real estate properties (which could be offices, residential apartments, shopping centres, hotels and warehouses).
- The trusts are listed in stock exchanges so that investors can buy units in the trust. REITs are structured as trusts. Thus, the assets of an REIT are held by an independent trustee on behalf of unit holders.

## Why is it important?

1. The Indian real estate sector has been facing a liquidity crunch on account of unsold inventory and low demand. REITs can help cash-strapped developers to monetise their existing property.
2. In real estate sector, both rent and capital appreciation from property depend on the location, infrastructure and industrial development around that area. REITs juggle these risks through a diversified portfolio of properties.

## What are REITs?

- REITs are similar to mutual funds. While mutual funds provide for an opportunity to invest in equity stocks, REITs allow one to invest in income-generating real estate assets.
- ***They are collective investment vehicles that operate and manage property portfolios and give returns to investors.*** Securities and Exchange Board of India (SEBI) mandated that ***all REITS be listed on exchanges and make an initial public offer to raise money.***

***There are three types of REIT available:*** equity REITs which purchase, own and manage income-generating properties; mortgage REITs which lend money directly or indirectly to real estate owners; and hybrid REITs which are a combination of the first two.

- REITs can reduce the risk related to your property investments as 80 per cent of the value of the REIT should be in completed and rent-generating assets. They are required to be run by professional managements with specified years of experience notified by SEBI.

Sources: the hindu.

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

## 1. PRADHAN MANTRI SHRAM YOGI MAAN-DHAN YOJANA

### What to study?

- For Prelims and Mains: The scheme- features, significance, need and potential, what are CSCs?

**Context:** Cabinet approves inclusion of **Common Services Centres** under MEITY as Enrolment Agency for PM-SYM.

### Benefits:

- Minimum Assured Pension:** Each subscriber under the scheme will receive minimum assured pension of Rs 3000 per month after attaining the age of 60 years.
- In case of death during receipt of pension:** If the subscriber dies during the receipt of pension, his or her spouse will be entitled to receive 50 percent of the pension as family pension. This family pension is applicable only to spouse.
- In case of death before the age of 60 years:** If a beneficiary has given regular contribution and dies before attaining the age of 60 years, his or her spouse will be entitled to continue the scheme subsequently by payment of regular contribution or may even exit the scheme.

### Contribution to the scheme:

- Contribution by the Subscriber:** The subscriber is required to contribute the prescribed contribution amount from the age of joining the scheme till the age of 60 years.
- Medium of contribution:** The subscriber can contribute to the PM-SYM through 'auto-debit' facility from his or her savings bank account or from his or her Jan- Dhan account.
- Equal contribution by the Central Government:** Under the PM-SYM, the prescribed age-specific contribution by the beneficiary and the matching contribution by the Central Government will be made on a '50:50 basis'.

### What are CSCs?

- Common Services Centers (CSCs)** are a strategic cornerstone of the Digital India programme. They are the **access points for delivery of various electronic services to villages in India, thereby contributing to a digitally and financially inclusive society**.
- They are **multiple-services-single-point model for providing facilities for multiple transactions at a single geographical location**. They are the access points for delivery of essential public utility services, social welfare schemes, healthcare, financial, education and agriculture services, apart from host of B2C services to citizens in rural and remote areas of the country.

### CSCs enable the three vision areas of the Digital India programme:

- Digital infrastructure as a core utility to every citizen.
- Governance and services on demand.
- Digital empowerment of citizens.

### Significance of CSCs:

- CSCs are more than service delivery points in rural India. They are positioned as change agents, promoting rural entrepreneurship and building rural capacities and livelihoods. They are enablers of community

### Pradhan Mantri Shram Yogi Maan-Dhan Yojana:

- PM-SYM is a **voluntary and contributory pension scheme** that will engage as many as 42 crore workers in the unorganised sector.

### Eligibility:

- The **unorganised sector workers**, with income of less than Rs 15,000 per month and who belong to the entry age group of **18-40 years**, will be eligible for the scheme.
- Those **workers should not be covered** under **New Pension Scheme (NPS), Employees' State Insurance Corporation (ESIC) scheme or Employees' Provident Fund Organisation (EPFO)**.
- He or she should not be an **income tax payer**.

participation and collective action for engendering social change through a bottom-up approach with key focus on the rural citizen.

#### Key facts:

1. The CSC project, which forms a strategic component of the National eGovernance Plan was approved by the Government in May 2006, as part of its commitment in the National Common Minimum Programme to introduce e-governance on a massive scale.
2. It is also one of the approved projects under the Integrated Mission Mode Projects of the National eGovernance Plan.

#### CSC 2.0 Scheme:

- Based on the assessment of CSC scheme, the Government launched the CSC 2.0 scheme in 2015 to expand the outreach of CSCs to all Gram Panchayats across the country.
- ***Under CSC 2.0 scheme, at least one CSC will be set up in each of the 2.5 lakh GPs across the country by 2019.*** CSCs functioning under the existing scheme will also be strengthened and integrated with additional 1.5 lakh CSCs across the country.

**Mains Question:** Union Budget 2019 contained many measures for socio economic improvement including direct income transfers which can likely affect fiscal prudence. Examine.

## 2. DEENDAYAL DISABLED REHABILITATION SCHEME

#### What to study?

- For Prelims: Key features and significance of the scheme.

**Context:** A National Conference on "***Deendayal Disabled Rehabilitation Scheme (DDRS)***" was recently inaugurated at New Delhi.

- The ***Conference was organised by the Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment.***
- The objective of the conference was ***to sensitize the stakeholders of the scheme i.e. Programme Implementing Agencies (PIAs), District level officers & State Government officers.***

#### About Deendayal Disabled Rehabilitation Scheme (DDRS):

- "Scheme to Promote Voluntary Action for Persons with Disabilities" was revised and renamed as the "Deendayal Disabled Rehabilitation Scheme (DDRS)".

#### The objectives of the scheme are:

1. To create an enabling environment to ensure equal opportunities, equity, social justice and empowerment of persons with disabilities.
2. To encourage voluntary action for ensuring effective implementation of the People with Disabilities (Equal Opportunities and Protection of Rights) Act of 1995.

#### Approach and Strategy:

- The approach of this Scheme is ***to provide financial assistance to voluntary organizations to make available the whole range of services necessary for rehabilitation of persons with disabilities*** including early intervention, development of daily living skills, education, skill-development oriented towards employability, training and awareness generation.
- With a view to inclusion of persons with disabilities in the mainstream of society and actualizing their potential, ***the thrust would be on education and training programmes.***

## 3. JANAUSHADHI DIWAS

#### What to study?

- For Prelims: Features of PMBJP and Janaushadhi Suvidha.
- For Mains: Health facilities for the underprivileged- need and efforts by the government, generic medicines and their increasing popularity worldwide.

**Context:** 7th March 2019 to be celebrated as 'Janaushadhi Diwas' across India.

- As part of the celebrations, PM will interact with owners of Janaushadhi Kendras and beneficiaries of Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) across the country.

#### SALIENT FEATURES OF THE SCHEME:

- Ensure access to quality medicines.
- Extend coverage of quality generic medicines so as to reduce the out of pocket expenditure on medicines and thereby redefine the unit cost of treatment per person.
- Create awareness about generic medicines through education and publicity so that quality is not synonymous with only high price.
- A public programme involving Government, PSUs, Private Sector, NGO, Societies, Co-operative Bodies and other Institutions.
- Create demand for generic medicines by improving access to better healthcare through low treatment cost and easy availability wherever needed in all therapeutic categories.

#### 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.

#### Outreach of generic medicines:

- With developments like more and more doctors prescribing generic medicines and opening of over 5050 Janaushadhi stores across 652 districts, awareness and availability of high quality affordable generic medicines has increased in the country. About 10-15 lakh people benefit from Janaushadhi medicines per day and the market share of generic medicines has grown over three fold from 2% to 7% in last 3 years.
- The Janaushadhi medicines have played a big role in bringing down the out of pocket expenditure of patients suffering from life threatening diseases in India. The PMBJP scheme has led to total savings of approximately Rs.1000 crores for common citizens, as these medicines are cheaper by 50% to 90% of average market price.
- The PMBJP is also providing a good source of self-employment with self-sustainable and regular earnings.

#### Conclusion:

- No poor person should die due to non-availability of good quality affordable medicines in the country. Therefore, making quality healthcare affordable for all should be the ultimate objective of the government.

**Mains Question:** The central government has taken an initiative 'Jan Aushadhi' to avail citizens of low-cost medicines. What will be the benefits of the scheme to the people and the pharmaceutical companies? Critically examine.

## 4. NATIONAL RURAL ECONOMIC TRANSFORMATION PROJECT

#### What to study?

- For Prelims and Mains: Key features and significance of the proposed project.

**Context:** India has signed a \$250 million loan agreement with the World Bank for the **National Rural Economic Transformation Project (NRETP)** that aims to help women in rural households shift to a new generation of economic initiatives by developing viable enterprise for farm and non-farm products.

#### National Rural Economic Transformation project:

- The National Rural Economic Transformation project is additional financing to the \$500 million **National Rural Livelihoods Project (NRLP)** approved by the World Bank in July 2011.

#### About PMBJP:

- 'Pradhan Mantri Bhartiya Janaushadhi Pariyojana' is a campaign launched by the Department of Pharmaceuticals, Govt. Of India, to provide quality medicines at affordable prices to the masses through special kendra's known as Pradhan Mantri Bhartiya Jan Aushadhi Kendra.
- Pradhan Mantri Bhartiya Jan Aushadhi Kendra (PMBJK)** have been set up to provide generic drugs, which are available at lesser prices but are equivalent in quality and efficacy as expensive branded drugs.
- Bureau of Pharma PSUs of India (BPPI)** is the implementing agency of PMBJP. BPPI (Bureau of Pharma Public Sector Undertakings of India) has been established under the Department of Pharmaceuticals, Govt. of India, with the support of all the CPSUs.

- The project will **support enterprise development programs for rural poor women and youth** by creating a platform to access finance including start-up financing options to build their individual or collectively owned and managed enterprises.
- The project will **involve developing financial products using digital financial services to help small producer collectives scale-up and engage with the market.**
- It will also support youth skills development**, in coordination with the Deen Dayal Upadhyaya Grameen Kaushalya Yojana.

Sources: the hindu.

## 5. PMUY

### What to study?

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

**Context:** The Centre has disbursed over seven crore LPG connections under the Pradhan Mantri Ujjwala Yojana (PMUY). The target has been achieved within 34 months of the scheme's launch.

### 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.
- 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.

**Mains Question:** Examine the objectives, merits and demerits of the Pradhan Mantri Ujjwala Yojana

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

## 1. RARE DISEASES DAY

### What to study?

- For Prelims: What are rare diseases?
- For Mains: Need for awareness, international cooperation in this regard, need for a policy on this.

**Context:** **28 February, 2019, Rare Disease Day** is an observance held on the last day of February to raise awareness for rare diseases and improve access to treatment and medical representation for individuals with rare diseases and their families.

### What is a rare disease?

A rare disease, also referred to as **an orphan disease**, is any disease that affects a small percentage of the population.

- Most rare diseases are genetic, and are present throughout a person's entire life, even if symptoms do not immediately appear. In Europe a disease or disorder is defined as rare when it affects less than 1 in 2000 citizens.
- Rare diseases are characterised by a wide diversity of symptoms and signs that vary not only from disease to disease but also from patient to patient suffering from the same disease. Relatively common symptoms can hide underlying rare diseases, leading to misdiagnosis.
- **The most common rare diseases recorded in India** are Haemophilia, Thalassemia, sickle-cell anaemia and primary immuno deficiency in children, auto-immune diseases, Lysosomal storage disorders such as Pompe disease, Hirschsprung disease, Gaucher's disease, Cystic Fibrosis, Hemangiomas and certain forms of muscular dystrophies.

### Need of nationwide policy:

- State has responsibility for providing affordable, accessible and reliable health-care services to every citizen. In fact constitution also mentions importance of health-care services under articles like 21, 38 and 47 and thus state cannot evade this responsibility under the pretext of non-justifiability of articles.
- Given the low volumes at which the drugs needed to treat such diseases would be consumed, pharmaceutical companies have little commercial incentive to produce them. Thus, a nationwide policy on orphan drugs could incentivize these players.
- Even if pharmaceutical companies are incentivized to develop drugs to treat rare diseases, pharmaceutical companies remain beholden to the laws of economics and, given the low demand for orphan drugs, price these drugs as high as they choose to. Hence there has to be regulation of the government in restricting the exorbitant prices of the drugs.
- Although proportion of rare diseases is much less than the other diseases, it does not reduce the importance of the life of person affected by rare diseases. Thus national policy would remove this adverse distinction and would make government committed equally to all people.

Sources: down to earth.

## 2. QUALITY ASSURANCE SCHEME

### What to study?

- For Prelims and Mains: Key features and significance of the scheme and the need for quality assurance.

**Context:** NABL launches Quality Assurance Scheme for Basic Composite Medical Laboratories.

#### Key features of the scheme:

2. It is a **voluntary scheme**.
3. The laboratories performing only basic routine tests like blood glucose, blood counts, rapid tests for common infections, liver & kidney function tests and routine tests of urine will be eligible to apply under this scheme.
4. The scheme requires minimal documentation and a nominal fee has been prescribed for availing the scheme. Components of competence assessment have been added for assuring quality and validity of test results.
5. Successful laboratories will be issued a certificate of compliance to QAS BC scheme by NABL and they will be allowed to use a distinct symbol on the test reports as a mark of endorsement to the basic standard for a defined time frame before which they will have to transition to full accreditation as per ISO 15189.
6. Through this scheme, patients availing services of small labs in primary health centers, community health centers, doctor's clinic, standalone small labs, labs in small nursing homes will also have access to quality lab results.

#### Significance of the scheme:

- The scheme will help to bring quality at the grass root level of India's health system where laboratories follow the imperatives of quality in all their processes. This will inculcate the habit of quality and facilitate the laboratories to achieve benchmark accreditation of ISO 15189 over a period of time.

#### About National Accreditation Board for Testing and Calibration Laboratories (NABL):

1. NABL is a constituent board of Quality Council of India (QCI) under the Ministry of Commerce and Industry.
2. NABL is Mutual Recognition Arrangement (MRA) signatory to International bodies like International Laboratory Accreditation Co-operation (ILAC) and Asia Pacific Accreditation Co-operation (APAC) for accreditation of Testing including Medical and Calibration laboratories.
3. NABL is also having APAC Mutual Recognition Arrangement (MRA) for Proficiency Testing Provider (PTP) & Reference Materials Producers (RMP). MRA are based on evaluation by peer Accreditation Bodies and facilitates acceptance of test/ calibration results between countries which MRA partners represent.

## 3. PULSE POLIO PROGRAM 2019

#### What to study?

- For Prelims: What is IPV and its significance, about polio.
- For Mains: Pulse Polio Programme- significance and the need.

**Context:** In order to sustain polio eradication drive from the country, government has launched **Pulse Polio programme for 2019**.

- The programme aims **to protect children from the polio disease by conducting two nationwide mass polio vaccination campaigns and two to three sub-national campaigns each year**.
- More than 17 crore children of less than five years across the country will be given polio drops as part of the drive.

To provide additional protection to children Government has also introduced the **injectable Inactivated Polio Vaccine into its routine immunization program**.

#### About IPV:

- **IPV is produced from wild-type poliovirus strains of each serotype that have been inactivated (killed) with formalin.**
- As an **injectable vaccine**, it can be administered alone or in combination with other vaccines.
- **Significance:** IPV is an evidence-based intervention that not only ensures continued protection of children against all types of polio viruses, but also helps save vaccine — a move bound to positively impact global vaccine supply in the coming years. **IPV provides serum immunity to all three types of poliovirus**, resulting in protection against paralytic poliomyelitis.
- **India became the first country globally to introduce fractional doses of IPV in childhood immunisation programme** in eight states and Union territories in early 2016.

#### Facts for Prelims:

- India was declared polio-free country in the year 2014.
- India's last reported cases of wild polio were in West Bengal and Gujarat on 13 January 2011.

#### About POLIO:

- Polio (also called **poliomyelitis**) is a **contagious**, historically devastating disease that was virtually eliminated from the Western hemisphere in the second half of the 20th century. Although polio has been around since ancient times, its most extensive outbreak occurred in the first half of the 1900s until the polio vaccine was introduced in 1955.
- **It is a highly infectious viral disease, which mainly affects young children.** The virus is transmitted by person-to-person spread mainly through the faecal-oral route or, less frequently, by a common vehicle (e.g. contaminated water or food) and multiplies in the intestine, from where it can invade the nervous system and can cause paralysis.

#### Symptoms and Cure:

- Although approximately 90% of polio infections cause no symptoms at all, affected individuals can exhibit a range of symptoms if the virus enters the blood stream. In about 1% of cases, the virus enters the central nervous system, preferentially infecting and destroying motor neurons, leading to muscle weakness and acute flaccid paralysis.
- Initial symptoms of polio include fever, fatigue, headache, vomiting, stiffness in the neck, and pain in the limbs. In a small proportion of cases, the disease causes paralysis, which is often permanent. There is no cure for polio, it can only be prevented by immunization.
- **The focus of modern treatment has been on providing relief of symptoms, speeding recovery and preventing complications.** Supportive measures include antibiotics to prevent infections in weakened muscles, analgesics for pain, moderate exercise and a nutritious diet. Treatment of polio often requires long-term rehabilitation, including occupational therapy, physical therapy, braces, corrective shoes and, in some cases, orthopedic surgery.

**Mains Question:** It has been argued that Inactivated Polio Vaccine needs to be compulsorily introduced in India. Examine.

## 4. WHO STRATEGY TO FIGHT FLU PANDEMICS

#### What to study?

- For Prelims and Mains: Key features of the strategy, flu pandemics- concerns, need for coordinated approach.

**Context:** The World Health Organization has launched a **strategy to protect people worldwide over the next decade against the threat of influenza, warning that new pandemics are "inevitable".**

- The **strategy meets one of WHO's mandates to improve core capacities for public health, and increase global preparedness** and was developed through a consultative process with input from Member States, academia, civil society, industry, and internal and external experts.

#### Need:

- **Influenza epidemics, largely seasonal**, affect around one billion people and kill hundreds of thousands annually. WHO describes it as one of the world's greatest public health challenges.
- Through the implementation of the new WHO global influenza strategy, the world will be closer to reducing the impact of influenza every year and be more prepared for an influenza pandemic and other public health emergencies.

#### The strategy:

1. WHO's new strategy, for 2019 through 2030, aims to prevent seasonal influenza, control the virus's spread from animals to humans and prepare for the next pandemic.
2. It calls for every country to strengthen routine health programmes and to develop tailor-made influenza programmes that strengthen disease surveillance, response, prevention, control, and preparedness.
3. It recommends annual flu vaccines as the most effective way to prevent the spread of the disease, especially for healthcare workers and people at higher risk of influenza complications.

4. It also calls for the development of more effective and more accessible vaccines and antiviral treatments.

#### **Significance:**

The new strategy is the most comprehensive and far-reaching that WHO has ever developed for influenza. It outlines a path to protect populations every year and helps prepare for a pandemic through strengthening routine programmes. It has two overarching goals:

1. Build stronger country capacities for disease surveillance and response, prevention and control, and preparedness. To achieve this, it calls for every country to have a tailored influenza programme that contributes to national and global preparedness and health security.
2. Develop better tools to prevent, detect, control and treat influenza, such as more effective vaccines, antivirals and treatments, with the goal of making these accessible for all countries.

#### **Way ahead:**

- The on-going risk of a new influenza virus transmitting from animals to humans and potentially causing a pandemic is real. The question is not if we will have another pandemic, but when. We must be vigilant and prepared – the cost of a major influenza outbreak will far outweigh the price of prevention.

#### **Pandemic influenza:**

- **An influenza pandemic is a global epidemic caused by a new influenza virus to which there is little or no pre-existing immunity in the human population.** Influenza pandemics are impossible to predict; and they may be mild, or cause severe disease or death. Severe disease may occur in certain risk groups, which may correspond to those at risk of severe disease due to seasonal influenza. However, healthy persons are also likely to experience more serious disease than that caused by seasonal influenza.
- The most recent pandemic occurred in 2009 and was caused by an influenza A (H1N1) virus. It is estimated to have caused between 100 000 and 400 000 deaths globally in the first year alone.

#### **Preparedness and response:**

- Influenza pandemics, whether mild, moderate or severe, affect a large proportion of the population, which puts significant strains on health and other essential services and may result in significant economic losses.
- As an influenza pandemic may last months or even years, this requires a sustained response in the health sector but also in other sectors providing essential services, such as energy and food production. For this reason, countries develop multi-sectoral preparedness plans describing their strategies and operational plans for responding to a pandemic.

Sources: the hindu.

## **5. WEST NILE VIRUS (WNV)**

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

- For Prelims and Mains: WNV- causes, spread, transmission, symptoms, prevention and treatment.

**Context:** Health Ministry takes stock of the public health measures for controlling West Nile Virus. A section of the media has reported that a seven year old boy from Malappuram District of Kerala is suffering from a West Nile Virus (WNV).

#### **About WNW:**

- **West Nile Virus (WNV) is a member of the flavivirus genus and belongs to the Japanese encephalitis antigenic complex of the family Flaviviridae.**
- West Nile Virus (WNV) can cause neurological disease and death in people. WNV is commonly found in Africa, Europe, the Middle East, North America and West Asia.
- WNV is maintained in nature in a cycle involving transmission between birds and mosquitoes. Humans, horses and other mammals can be infected.

#### **Transmission:**

- **Human infection is most often the result of bites from infected mosquitoes.** Mosquitoes become infected when they feed on infected birds, which circulate the virus in their blood for a few days. The virus eventually

gets into the mosquito's salivary glands. During later blood meals (when mosquitoes bite), the virus may be injected into humans and animals, where it can multiply and possibly cause illness.

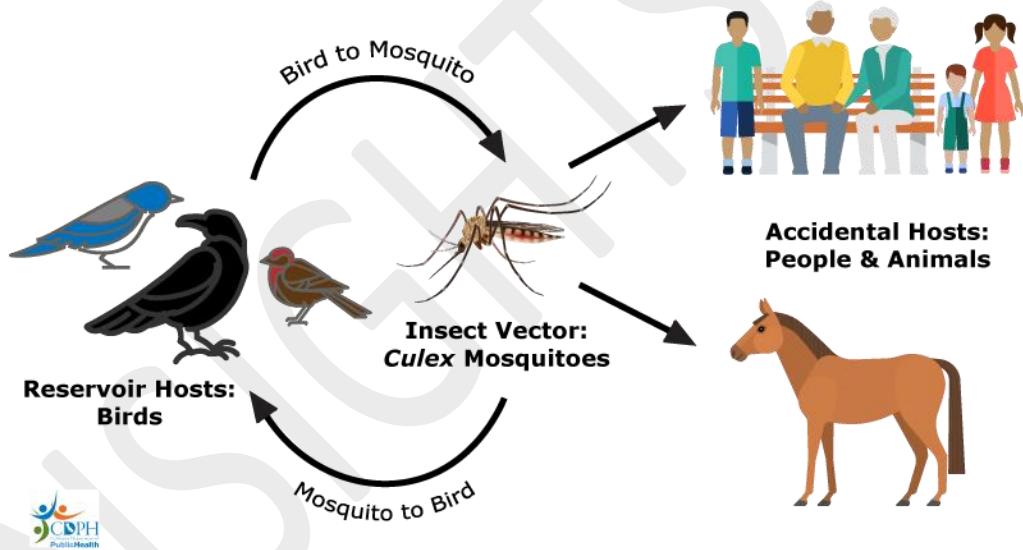
- **The virus may also be transmitted through contact with other infected animals, their blood, or other tissues.** A very small proportion of human infections have occurred through organ transplant, blood transfusions and breast milk. There is one reported case of transplacental (mother-to-child) WNV transmission.
- **Horses, just like humans, are "dead-end" hosts,** meaning that while they become infected, they do not spread the infection. Symptomatic infections in horses are also rare and generally mild, but can cause neurologic disease, including fatal encephalomyelitis.

#### Signs and symptoms:

- Infection with WNV is either asymptomatic (no symptoms) in around 80% of infected people, or can lead to West Nile fever or severe West Nile disease.
- About 20% of people who become infected with WNV will develop West Nile fever. Symptoms include fever, headache, tiredness, and body aches, nausea, vomiting, occasionally with a skin rash (on the trunk of the body) and swollen lymph glands.

*The symptoms of severe disease (also called neuroinvasive disease, such as West Nile encephalitis or meningitis or West Nile poliomyelitis) include* headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, and paralysis.

### West Nile Virus Transmission Cycle



#### Treatment and vaccine:

- Treatment is supportive for patients with neuro-invasive West Nile virus, often involving hospitalization, intravenous fluids, respiratory support, and prevention of secondary infections.
- **No vaccine is available for humans.**

## 6. INTEGRATE TB SERVICES WITH PRIMARY HEALTH SYSTEM: LANCET

#### What to study?

- For Prelims and Mains: TB related facts, concerns for India and what needs to be done to achieve the proposed target ?

**Context:** Lancet study on TB.

#### Key findings:

1. Compared with 2015 data, 57% reduction in incidence and 72% reduction in mortality will be seen only by 2035 in three countries including India.

2. Strengthening the care cascade could reduce cumulative TB incidence by 38% in the case of India.
3. India has to adopt measures to prevent TB on a population level to eliminate the disease in the coming decades.
4. Diagnosis and treatment for drug-sensitive and drug-resistant TB need improvement.
5. Modelling suggests that lives of eight million (28%) people with TB can be saved over the next 30 years if tests are subsidised and patients are supported to complete the treatment.
6. India should scale up access to TB services for all those seeking them, optimise engagement of private sector providers and guarantee universal access to drug susceptibility testing and second line TB drugs.

#### **Background:**

- Of the 10 million new tuberculosis (TB) cases reported globally in 2017 by the World Health Organisation, 74 million were from India, showing a marginal reduction from 2.79 million in 2016.
- Despite TB incidence in the country being 204 cases per 1,00,000 in 2017, the government has set a highly ambitious target of “eliminating TB by 2025”, five years ahead of the Sustainable Development Goals (SDGs) target.

#### **Challenges:**

- ***India has set an ambitious goal of eliminating TB by 2025***, but integration of TB services with the primary health system to reduce diagnostic delays is not happening.
- Patients are not diagnosed and treated at the primary level, which is the first point of contact. Only this will lead to early diagnosis and help cut the transmission cycle.

#### **Why is Tuberculosis a major cause of concern?**

- TB is one of the leading causes of death worldwide and the leading cause from a single infectious agent, ranking above HIV/AIDS.
- TB is an infectious disease caused by the bacillus *Mycobacterium tuberculosis*.
- It typically affects the lungs (pulmonary TB) but can also affect other sites.
- The disease is spread when people who are sick with pulmonary TB expel bacteria into the air, for example by coughing.
- Broader influences on the TB epidemic include levels of poverty, HIV infection, under nutrition and smoking.
- Diagnostic tests for TB disease include – Rapid molecular test, Sputum smear microscopy, Culture-based methods
- Without treatment, the mortality rate from TB is high.

#### **SDG:**

- ***The consolidated goal on health is SDG 3***. One of these targets, (Target 3.3), explicitly mentions TB.
- ***SDG 3 also includes a target (Target 3.8) related to universal health coverage (UHC)*** in which TB is explicitly mentioned. This includes an indicator on the coverage of essential prevention, treatment and care interventions.

Sources: the hindu.

## **7. KYASANUR FOREST DISEASE**

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

- For Prelims and Mains: The disease- symptoms, causes, spread, treatment and prevention.

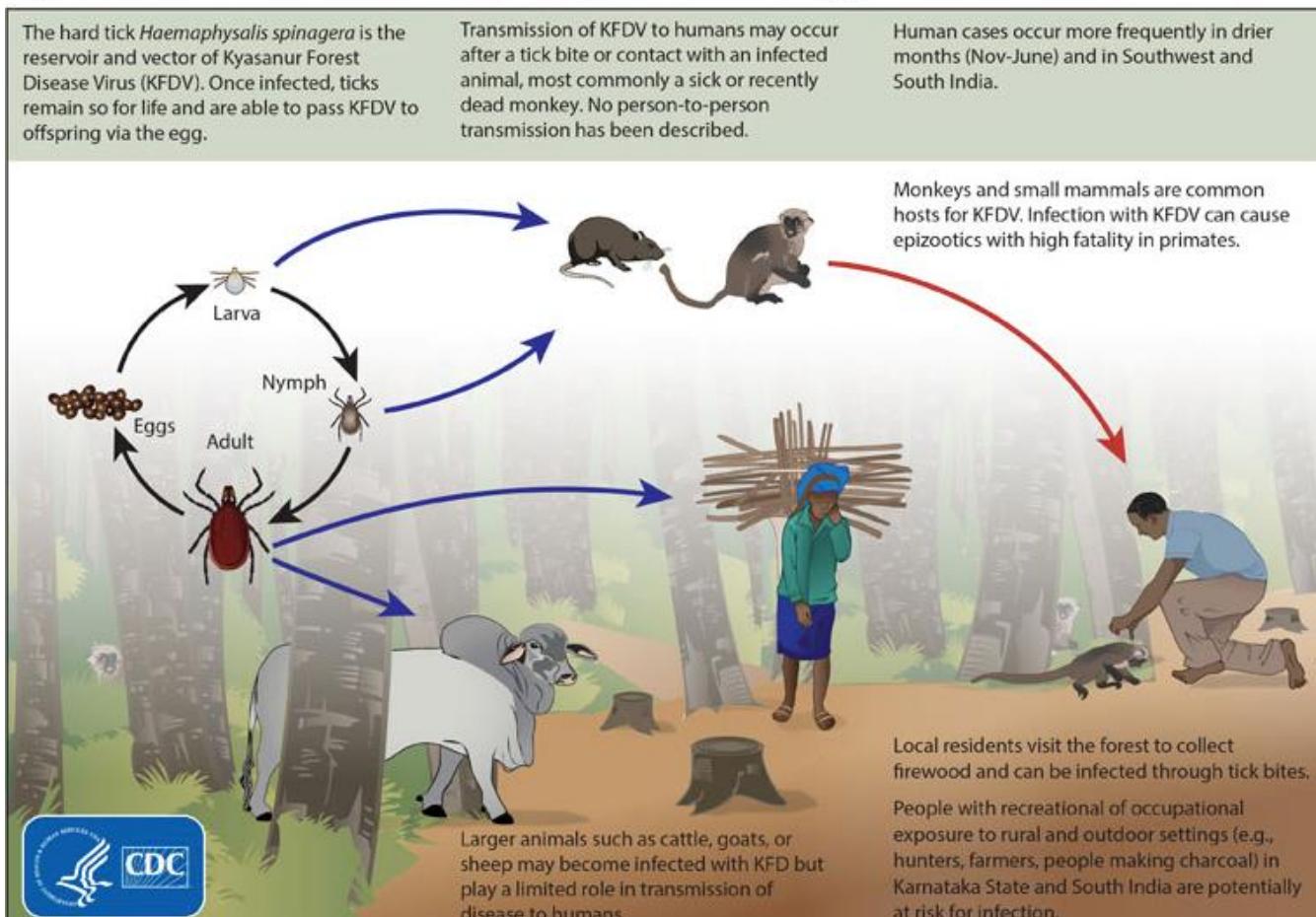
#### **About the Disease:**

- KFD is caused by the Kyasanur Forest Disease Virus (KFDV). The virus was identified in 1957 when it was isolated from a sick monkey from the Kyasanur Forest. Since then, between 400-500 humans cases per year have been reported.
- ***Hard ticks (*Hemaphysalis spinigera*) are the reservoir of the KFD virus*** and once infected, remain so for life.
- ***Rodents, shrews, and monkeys are common hosts*** for KFDV after being bitten by an infected tick. KFDV can cause epizootics with high fatality in primates.

## Transmission:

- **Transmission to humans may occur after a tick bite or contact with an infected animal**, most importantly a sick or recently dead monkey. No person-to-person transmission has been described.
- The disease as of now is stated to be transmitted through monkeys. Large animals such as goats, cows, and sheep may become infected with KFD but play a limited role in the transmission of the disease.
- These animals provide the blood meals for ticks and it is possible for infected animals with viremia to infect other ticks, but transmission of KFDV to humans from these larger animals is extremely rare. Furthermore, there is no evidence of disease transmission via the unpasteurised milk of any of these animals.

## Kyasanur Forest Disease (KFD) Virus Ecology



## Symptoms:

- After an incubation period of 3-8 days, the symptoms of KFD begin suddenly with chills, fever, and headache. Severe muscle pain with vomiting, gastrointestinal symptoms and bleeding problems may occur 3-4 days after initial symptom onset. Patients may experience abnormally low blood pressure, and low platelet, red blood cell, and white blood cell counts.
- After 1-2 weeks of symptoms, some patients recover without complication. However, the illness is biphasic for a subset of patients (10-20 %) who experience a second wave of symptoms at the beginning of the third week. These symptoms include fever and signs of neurological manifestations, such as severe headache, mental disturbances, tremors, and vision deficits.

## Vulnerable Group:

- People with recreational or occupational exposure to rural or outdoor settings (e.g., hunters, herders, forest workers, farmers) are potentially at risk for infection by contact with infected ticks.
- Seasonality is another important risk factor as more cases are reported during the dry season, from November through June.

### Diagnosis:

- Diagnosis can be made in the early stage of illness by molecular detection by PCR or virus isolation from blood. Later, serologic testing using enzyme-linked immunosorbent serologic assay (ELISA) can be performed.

### Prevention:

- Doctors say there is no specific treatment for KFD, but early hospitalisation and supportive therapy is important. Supportive therapy includes the maintenance of hydration and the usual precautions for patients with bleeding disorders.
- A vaccine does exist for KFD and is used in endemic areas of India. Additional preventative measures include insect repellents and wearing protective clothing in areas where ticks are endemic.

Sources: the hindu.

## 8. GLOBAL MPI 2018

### What to study?

- For Prelims: Key features of MPI.
- For Mains: Highlights, key findings and significance of the report, concerns for India and measures needed to reduce the poverty.

**In News:** Global MPI 2018 Report prepared by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative.

## 2018 Global Multidimensional Poverty Index (MPI)

### The 2018 global MPI estimations show:



Today, there are **1.3 billion** MPI poor people.

**83%**

of the MPI poor live in Sub-Saharan Africa and South Asia.



Half of MPI poor people are children.

**90%**

of all children are MPI poor in South Sudan and Niger.

**35** countries

at least half of all children are MPI poor.

### Where Do 1.3 billion MPI Poor People Live?



Two-thirds of all multidimensionally poor people live in middle-income countries.

**46%**

of those who are multidimensionally poor live in severe poverty, meaning they are deprived in at least half of the weighted indicators in health, education and living standards.

### Countries with the largest number of people living in multidimensional poverty



INDIA  
(364 million)



NIGERIA  
(97 million)



ETHIOPIA  
(86 million)



PAKISTAN  
(85 million)



BANGLADESH  
(67 million)

\*Preliminary estimates, does not include data for Brazil.

The global MPI helps to end poverty in all its forms and dimensions.

#MultidimensionalPovertyIndex #MPI4SDGs

For more information please visit [ophi.org.uk](http://ophi.org.uk)

**Definition of MPI poor:** The report measures multidimensional poverty index, which it says can be broken down to show “who is poor” and “how they are poor”. This factors in two measures, poverty rate as a percentage of

the population, and intensity as the average share of deprivations that poor people experience. The product of these two is MPI. If someone is deprived in a third or more of 10 weighted indicators, the global index identifies them as “MPI poor”.

**Context:** The report, covering 105 countries, dedicates a chapter to India because of this remarkable progress. However, India still had 364 million poor in 2015-16, the largest for any country, although it is down from 635 million in 2005-06.

#### Key observations:

- *In India, poverty reduction among children, the poorest states, Scheduled Tribes, and Muslims was fastest.*
- Although *Muslims and STs reduced poverty the most over the 10 years, these two groups still had the highest rates of poverty.*
- *Bihar was the poorest state in 2015-16*, with more than half its population in poverty. *The four poorest states —Bihar, Jharkhand, Uttar Pradesh, and Madhya Pradesh* — were still home to 196 million MPI poor people, which was over half of all the MPI poor people in India.
- *Jharkhand had the greatest improvement*, followed by Arunachal Pradesh, Bihar, Chhattisgarh, and Nagaland.

Sources: ie.

## 9. GOVT. NOTIFIES NEW RULES FOR DRUGS, CLINICAL TRIALS

**Context:** The Union Health Ministry has notified *the Drugs and Clinical Trials Rules, 2019*. The move is aimed at promoting clinical research in the country.

- The rules will apply to *all new drugs, investigational new drugs for human use, clinical trials, bio-equivalence studies and ethics committees.*
- The aim is *to promote clinical research in India, have predictable, transparent and effective regulations for such trials and also make faster accessibility of new drugs to Indian population.*

#### The rules include:

- Reduction in time for approving applications, which has now come down to 30 days for drugs manufactured in India and 90 days for those developed outside the country.
- Compensation in cases of death and permanent disability or other injury to a trial subject will be decided by the Drug Controller General
- As per the new rule, the requirement of a local clinical trial may be waived for approval of a new drug if it is approved and marketed in any of the countries (EU, U.K., Australia, Japan and U.S.) specified by the Drugs Controller General with the approval of the government.
- The new rules will ensure patient safety and an ethics committee will monitor the trials and decide on the amount of compensation in cases of adverse events. Also, in case of no communication from Drugs Controller General of India, the application will be deemed to have been approved.

#### What are Clinical Trials?

- Clinical trials are research studies that explore whether a medical strategy, treatment, or device is safe and effective for humans. Before a drug is launched in market, it has to be tested for its safety and efficacy. This is done in stages, with a large pool of patients after which the data from the trials is assessed.
- In India, *Central drug Standard Control Organisation (CDSCO) regulates under Drugs and cosmetics Act.*

#### Ethical considerations to be followed while conducting clinical trials:

- Informed consent and Voluntary Agreement of the participant.
- Maintain privacy of the participant.
- Accountability and transparency while conducting trials.
- Research and trial details should be in public domain.

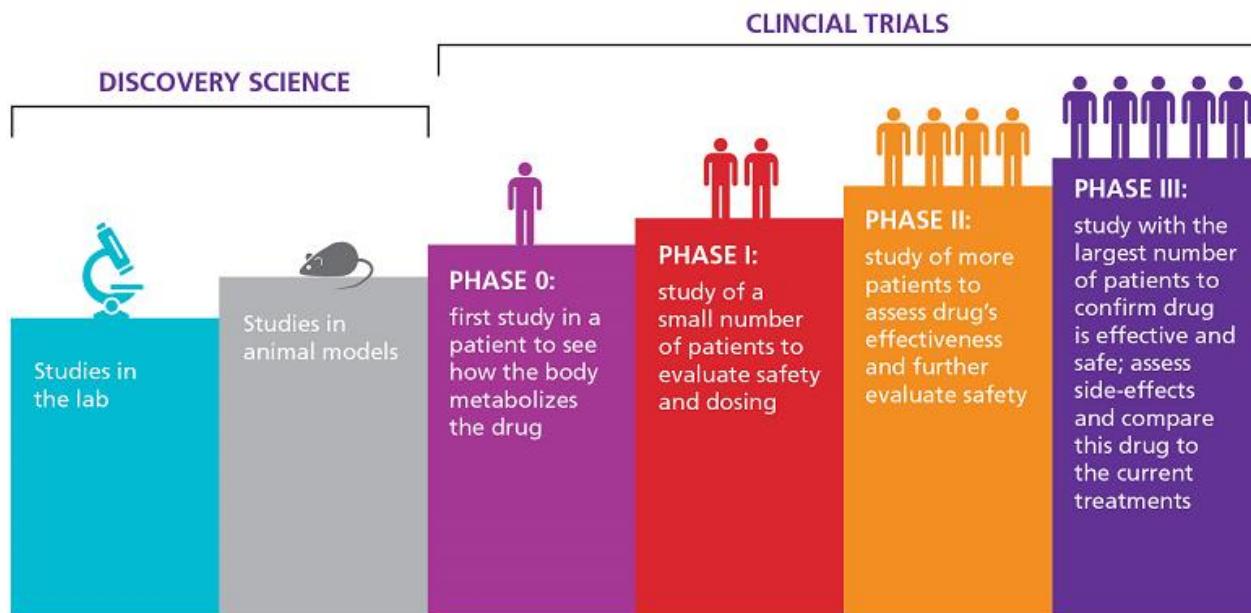
#### Prevailing Issue in India:

The major issues w.r.t Clinical trials in India *are Regulatory failures, Unethical clinical trials, spurious drugs, Collusion between drug companies and doctors.*

- Landmark amendments to the Drugs and Cosmetics Act in 2013 led to better protection of vulnerable groups such as illiterate people, but more regulation is needed to ensure truly ethical research.

- Clinical research organisations (CROs) have argued that more rules will stifle the industry; the truth is that ethical science is often better science. The big problem plaguing clinical research is an over-representation of low-income groups among trial subjects.
- Sometimes CROs recruit them selectively, exploiting financial need and medical ignorance; at other times people over-volunteer for the money.
- Because these subjects are well-paid, and get no therapeutic benefit, their only reward from the trial is financial. This results in an incentive to lie about one's medical history or enrol in multiple trials to maximise one's income.

#### Phases of Clinical Trials:



#### Need for local clinical trials:

- Epidemiological transition, in recent decades, compounded with the burgeoning population as well as widespread malnutrition and poverty, have resulted in the steep rise in both communicable and non-communicable diseases in the country, across all age groups. To counter this rising burden of disease, there is a compelling need for local clinical trials.
- After a peak in 2009-2010, the clinical research sector in India is continually contracting. India represents 17.5% of the world's population but conducts only 1.4% of global clinical research. This is unfortunate, considering we have all the requisite factors, such as English-speaking health-care professionals, a large number of experts, steady economic growth, access to world-class technologies, strong IT- and data-management infrastructure, access to ethnically diverse patient populations and competitive operational costs. All these factors present clear advantages for clinical research.

#### Need of the hour:

- To reap the benefits of clinical trials, our objective should be to bring about more clinical research in the country while maintaining high standards to ensure patient safety and accuracy of data.

## 10. SMART INDIA HACKTHON 2019

#### What to study?

- For Prelims: Smart India Hackathon- features and significance.

**Context:** Smart India Hackathon 2019 is **a nationwide initiative to provide students a platform to solve some of pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mindset of problem solving.**

### Main feature of the latest edition:

- In SIH 2019, the students would also have the opportunity to work on **challenges faced within the private sector organisations and create world class solutions for some of the top companies in the world**, thus helping the Private sector hire the best minds from across the nation.

### What is SIH2019?

1. An initiative by Ministry of HRD, AICTE, Persistent Systems, i4c and Rambhau Mhalgi Prabodhini.
2. Involves 1 Lakh+ technical students, 3000+ technical institutions, 200+ organizations from across India.
3. World's biggest Software and Hardware hackathon.
4. 3rd edition of highly successful Smart India Hackathon initiative.
5. Technology Students across India compete to creatively solve problems and offer technical solutions.
6. Harness expertise of students from IISc, IITs, NITs and AICTE/UGC approved institutions.

## 11. ATAL INNOVATION MISSION (AIM)

### What to study?

- For Prelims: Features of Atal Innovation Mission, ATLs.
- For Mains: Promotion of innovation at global level and efforts by India in this regard.

**Context:** Cabinet approves Continuation of **Atal Innovation Mission**.

### About Atal Innovation Mission (AIM):

- **Atal Innovation Mission (AIM)** including Self-Employment and Talent Utilization (SETU) is Government of India's endeavour to promote a culture of innovation and entrepreneurship.
- Its objective is **to serve as a platform for promotion of world-class Innovation Hubs, Grand Challenges, Start-up businesses and other self-employment activities**, particularly in technology driven areas.

### The Atal Innovation Mission shall have two core functions:

- Entrepreneurship promotion through **Self-Employment and Talent Utilization**, wherein innovators would be supported and mentored to become successful entrepreneurs.
- **Innovation promotion:** to provide a platform where innovative ideas are generated.

### Impact:

1. The Mission has undertaken many bold and forward-looking initiatives such as Atal Tinkering Labs (ATL) and Atal Incubation Centres (AIC), which have received great traction;
2. Many Ministries/Departments of Government of India have initiated innovation related activities with the help and technical support of AIM.
3. Under the ATL program, more than 10,000 schools are expected to establish these labs by 2020.
4. More than 100 Atal Incubation Centres (AICs) are likely to be established around the country, supporting at least 50-60 startups each over the first five years.
5. More than 100 innovators/startups are expected to receive some support for productizing their innovations.
6. Each incubator is expected to foster 50-60 technology driven innovative Startups every four years.
7. The potential for employment generation from these innovations driven Startups is quite high.

## 12. NATIONAL KNOWLEDGE NETWORK

### What to study?

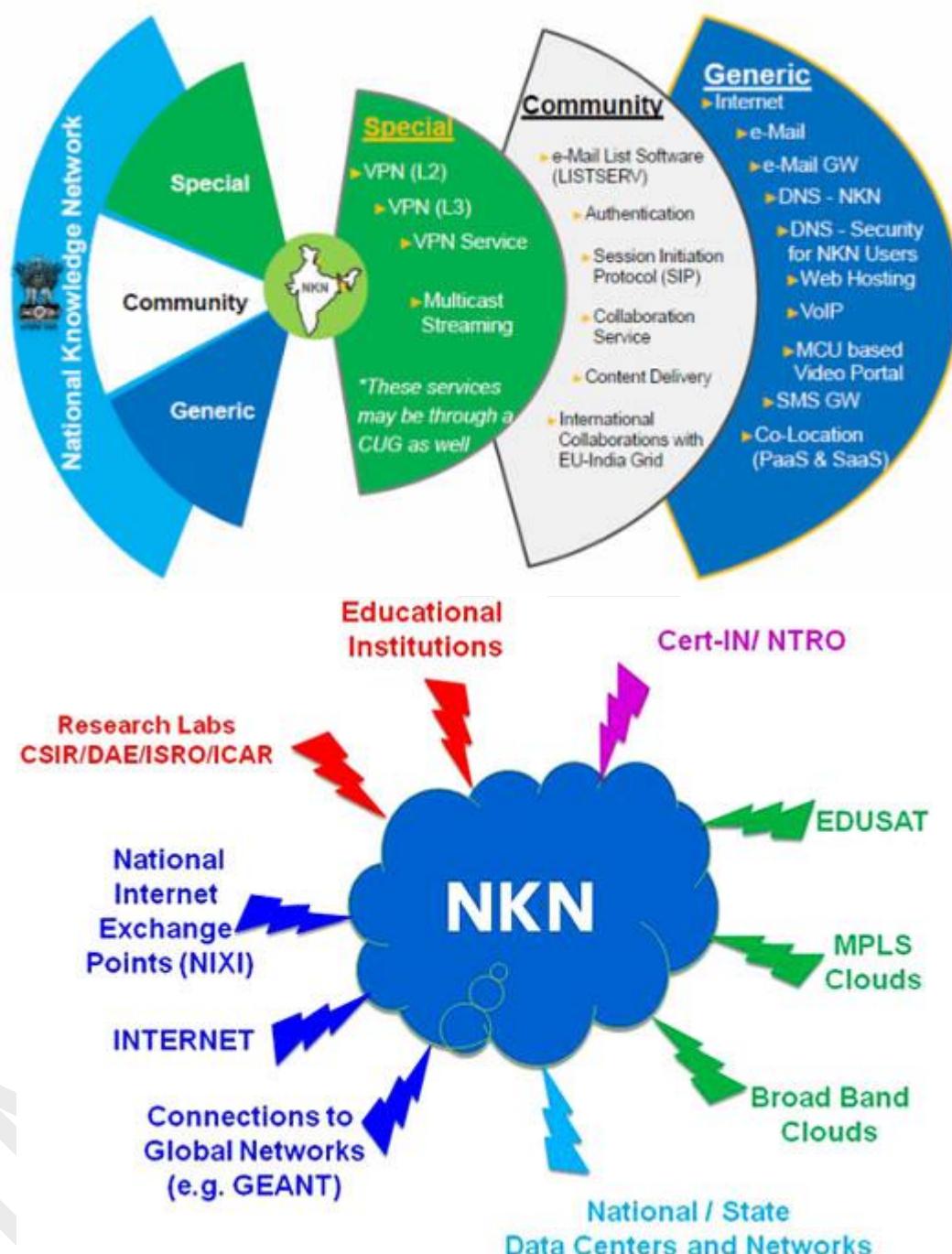
- For Prelims and Mains: What is NKN? – objectives, features and significance.

**Context:** India has decided to extend its **National Knowledge Network to Bangladesh**.

### About NKK:

- **What is it?** NKN is a multi-gigabit pan-India network which facilitates the development of India's communications infrastructure, stimulates research and creates next generation applications and services.
- **Aim:** With its multi-gigabit capability, NKN aims to connect all universities, research institutions, libraries, laboratories, healthcare and agricultural institutions across the country to address such paradigm shift.

- **What it does?** It enables collaboration among researchers from different educational networks such as TEIN4, GARUDA, CERN and Internet2. It also enables sharing of scientific databases and remote access to advanced research facilities. The leading mission oriented agencies in the fields of nuclear, space and defence research are also part of NKN.



#### Role of NKN:

- Establishing a high-speed backbone connectivity which will enable knowledge and information sharing amongst NKN connected institutes.
- Enabling collaborative research, development and innovation amongst NKN connected institutes.
- Facilitating advanced distance education in specialized fields like engineering, science, medicine etc.
- Facilitating an ultra-high speed e-governance backbone.
- Facilitating connection between different sectoral networks in the field of research

## 13. FESTIVAL OF INNOVATION AND ENTREPRENEURSHIP 2019

### What to study?

- For Prelims: About the festival and its key features.
- For Mains: Significance of the festival, key challenges faced by entrepreneurs in the country and measures to address them.

**Context:** Festival of Innovation and Entrepreneurship is being held in Gandhinagar, Gujarat.

### About Festival of Innovation & Entrepreneurship (FINE):

FINE is an initiative being organised by Rashtrapati Bhavan in association with the Department of Science and Technology, Government of India and the National Innovation Foundation-India.

- It will recognise, respect, showcase, reward innovations and to foster a supportive ecosystem for innovators.
- FINE will provide a platform for innovators for building linkages with potential stakeholders to develop their ideas into implementable projects for the larger social good.
- It will provide a window to showcase creative and innovative solutions for social development through innovation emerging from grassroots, student ideas and other technologies.

## 14. WORLD HAPPINESS REPORT

### What to study?

- For Prelims: Highlights, key findings and significance of the report.
- For Mains: How is happiness related to governance, what needs to be done to increase the level of happiness among citizens?

**Context:** The United Nations has released the World Happiness Report- 2019.

### Key findings:

- The list is topped by Finland for the second year in a row.
- The US ranks at 19th place despite being one of the richest countries in the world.
- India figures at 140th place, seven spots down from last year.
- People in war-torn South Sudan are the most unhappy with their lives.

### About World Happiness Report:

The World Happiness Report is a landmark survey of the state of global happiness that ranks 156 countries by how happy their citizens perceive themselves to be.

- It is released by the Sustainable Development Solutions Network for the United Nations by the UN General Assembly.
- It ranks the countries of the world on the basis of questions primarily from the Gallup World Poll.

### How is it measured?

- It is based on a questionnaire which measures 14 areas within its core questions: (1) business & economic, (2) citizen engagement, (3) communications & technology, (4) diversity (social issues), (5) education & families, (6) emotions (well-being), (7) environment & energy, (8) food & shelter, (9) government and politics, (10) law & order (safety), (11) health, (12) religion and ethics, (13) transportation, and (14) work. The results are then correlated with other factors, including GDP and social security.

### Significance:

- Happiness has come to be accepted as a goal of public policy. And this discourse has given a fillip to a new narrative where the interconnections between law, governance and happiness are being searched.
- Experiences from several nations confirm that the countries with higher GDP and higher per capita income are not necessarily the happiest countries and there exists a link between the state of happiness and rule of law.

Sources: the hindu.

## 15. YOUNG SCIENTIST PROGRAMME (YUVIKA)

### What to study?

- For Prelims and Mains: Key features and significance of ISRO's Young Scientist programme.

### What is it?

- ISRO has launched a special programme for school children called Yuva Vigyani Karyakram or Young Scientist Programme.

### Highlights of the programme:

- The programme aims at **imparting basic knowledge on space technology, space science and space applications to the younger ones** with the intent of arousing their interest in the emerging areas of space activities.
- Under the programme, **three students each will be selected to participate in it every year from each state and union territory**, covering CBSE, ICSE and state syllabus.
- The eligibility for being chosen for the programme includes those students who have finished 8th standard and are currently studying in the 9th standard.**
- The selection will be based on the academic performance and extracurricular activities of the students, as per the selection criteria already circulated to the chief secretaries of the states and administrators of Union Territories.
- The students belonging to rural areas have been given special weightage under the selection criteria set by ISRO.

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

## 1. MODEL CODE OF CONDUCT

### What to study?

- For Prelims: Features of MCC, constitutional status.
- For Mains: Significance, need for reforms of MCC, committee constituted in this regard.

**Context:** With the Election Commission of India announcing the polling dates for the 2019 Lok Sabha Elections, the Model Code of Conduct has come into force.

### Model Code of Conduct (MCC):

- What is MCC?** These are the guidelines issued by the Election Commission of India for conduct of political parties and candidates during elections mainly with respect to speeches, polling day, polling booths, election manifestos, processions and general conduct.
- Aim:** To ensure free and fair elections.
- When it comes into force?** So far, the Model Code of Conduct came into force immediately on announcement of the election schedule by the commission. The Code remains in force till the end of the electoral process.
- Status:** The need for such code is in the interest of free and fair elections. However, the code does not have any specific statutory basis. It has only a persuasive effect. It contains what is known as "rules of electoral morality". But this lack of statutory backing does not prevent the Commission from enforcing it.
- Evolution:** The Commission issued the code for the first time in 1971 (5th Election) and revised it from time to time. This set of norms has been evolved with the consensus of political parties who have consented to abide by the principles embodied in the said code and also binds them to respect and observe it in its letter and spirit.
- What it contains?** The salient features of the Model Code of Conduct lay down how political parties, contesting candidates and party(s) in power should conduct themselves during the process of elections i.e. on their general conduct during electioneering, holding meetings and processions, poll day activities and functioning of the party in power etc.
- Drawbacks:** The biggest drawback of the MCC is lack of statutory backing. This imposes limitations on Election Commission to proceed against those violating the norms of MCC. Hence Election Commission is bound to use moral sanction or censure for its enforcement.

### What restrictions does the Model Code of Conduct impose?

- The MCC contains eight provisions dealing with general conduct, meetings, processions, polling day, polling booths, observers, the party in power, and election manifestos.
- **As soon as the code kicks in, the party in power — whether at the Centre or in the States — should ensure that it does not use its official position for campaigning.** Hence, no policy, project or scheme can be announced that can influence the voting behaviour. The party must also avoid advertising at the cost of the public exchequer or using official mass media for publicity on achievements to improve chances of victory in the elections.
- **The code also states that the ministers must not combine official visits with election work or use official machinery for the same.** The ruling party also cannot use government transport or machinery for campaigning. It should also ensure that public places such as maidans etc., for holding election meetings, and facilities like the use of helipads are provided to the opposition parties on the same terms and conditions on which they are used by the party in power.
- **The issue of advertisement at the cost of public exchequer in the newspapers and other media is also considered an offence.** The ruling government cannot make any ad-hoc appointments in Government, Public Undertakings etc. which may influence the voters.
- **Political parties or candidates can be criticised based only on their work record and no caste and communal sentiments can be used to lure voters.** Mosques, Churches, Temples or any other places of worship should not be used for election propaganda. Bribery, intimidating or impersonation of voters is also barred.
- **Holding public meetings during the 48-hour period before the hour fixed for the closing of the poll is also prohibited.** The 48-hour period is known as “election silence”. The idea is to allow a voter a campaign-free environment to reflect on events before casting her vote.

## 2. ALL ABOUT FORM 26

### What to study?

- For Prelims and Mains: What is Form 26, why was it introduced, its relevance and significance.

**Context:** Recently, the Law Ministry made it mandatory for election candidates to reveal their income-tax returns of the last five years, as well as the details of their offshore assets. **This was done by amending Form 26**, after the Election Commission of India wrote to the Ministry on February 13.

### What is Form 26?

- **A candidate in an election is required to file an affidavit called Form 26 that furnishes information on her assets, liabilities, educational qualifications, criminal antecedents (convictions and all pending cases) and public dues, if any.** The affidavit has to be filed along with the nomination papers and should be sworn before an Oath Commissioner or Magistrate of the First Class or before a Notary Public.
- **The objective behind introducing Form 26 was that it would help voters make an informed decision.** The affidavit would make them aware of the criminal activities of a candidate, which could help prevent people with questionable backgrounds from being elected to an Assembly or Parliament.

### When and how was it introduced?

- Like most recent electoral reforms in India, Form 26 was introduced following a court order. The genesis of the affidavit can be traced to the 170<sup>th</sup> Report of the Law Commission, submitted in May 1999, which suggested steps for preventing criminals from entering electoral politics. One of the suggestions was to disclose the criminal antecedents as well as the assets of a candidate before accepting her nomination.

### What has changed?

- Earlier, a candidate had to only declare the last I-T return (for self, spouse and dependents). Details of foreign assets were not sought. Offshore assets, as per the February 26 notification, means **“details of all deposits or investments in foreign banks and any other body or institution abroad and details of all assets and liabilities in foreign countries”**.
- It is now **mandatory for candidates to reveal their own income-tax returns of the last five years rather than only one, and the details of offshore assets, as well as the same details for their spouse, members of the Hindu Undivided Family** (if the candidate is a karta or coparcener), and dependents.

Sources: Indian express.

### 3. FIRST-PAST-THE-POST SYSTEM

#### What is FPTP system?

- The first-past-the-post (FPTP) system is also known as the simple majority system. In this voting method, the candidate with the highest number of votes in a constituency is declared the winner. This system is used in India in direct elections to the Lok Sabha and State Legislative Assemblies.

#### Problems with FPTP:

1. While FPTP is relatively simple, it does not always allow for a truly representative mandate, as the candidate could win despite securing less than half the votes in a contest. Also, smaller parties representing specific groups have a lower chance of being elected in FPTP.
2. Under the existing system, representatives may be elected by a minority of votes, but their party grabs the majority of seats in the legislature.
3. Also the existing system also encourages parties to target vote-banks, enter divisive electoral strategies and field tainted candidates.

#### How Proportional Representation (PR) is better than FPTP?

1. PR system will allow parties to have their presence in the legislatures according to their vote share instead of being wiped out completely even after getting a sizeable vote share.
2. PR systems would allow for representation of minorities and smaller parties in the legislatures which are not represented adequately now.
3. PR would also bring the nation closer and will complete the total integration of India. It will put an end to extreme regionalism and divisive caste and communal politics.
4. PR would also put a stop to the exaggeration of regional differences as it allows all of the parties with significant levels of support to gain seats across the country.
5. It would also put a stop to the inflated seat count of the Blocs controlled by smaller parties who generally receive even less than 10% the total votes polled across India, but a much greater percentage of the seats and a disproportionate bargaining power at the Centre.

#### Problems with PR system:

1. PR system carries the threat of further dividing society on caste, religious and other lines. When parties are promised seats in proportion to their votes, politicians will find innovative ways means of forming newer parties.
2. It would make our MPs and MLAs even less responsive to people's needs.
3. PR would place India's democracy squarely in the hands of party bosses. When candidates win by being on the party's list, they must woo their bosses and represent their parties, not the people. This can only intensify partisanship in India's Parliament and state legislatures.
4. PR would revive India's problem with unstable governments. When parties are guaranteed representation on the basis of percentage of votes received, they would have little interest in forming or sustaining coalitions. Their ideological or other vote-bank would be present even if a government falls.
5. The constant politicking caused by PR would make it impossible for governments to take bold or transformative decisions. Corruption would grow, for people wouldn't be able to oust a dishonest representative individually.
6. PR is a recipe for instability as exemplified by the current political deadlock in Nepal, which has adopted the PR system.

### 4. 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:** Govt. defends electoral bonds scheme in SC.

### 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."

## How An Electoral Bond Works

01

Notified banks are chosen

02

The notified bank issues electoral bonds

03

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

04

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

05

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

### 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.

### 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 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.

#### **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 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.

Sources: the hindu.

**Mains Question:** Critically examine the effectiveness of electoral bonds in ensuring transparent political funding and suggest alternatives?

## **5. REGISTRATION OF POLITICAL PARTIES UNDER SECTION 29A OF THE RP ACT, 1951**

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

- For Prelims and Mains: Registration of political parties and provisions governing them, benefits of registration.

**Context:** The commission has announced the elections for the Lok Sabha and Assemblies to Andhra Pradesh, Orissa, Arunachal Pradesh on 10th March, 2019. Therefore, in view of the current elections, the Commission has given one time relaxation and has reduced the notice period from 30 days to 7 days for the parties who have published their public notice by 10th March, 2019 i.e. date of announcement of election.

#### **What the rules say?**

- As per existing guidelines, the applicant association is inter-alia asked to publish proposed Name of the party in two national daily news papers and two local daily newspapers, on two days in same news papers, for inviting objections, if any, with regard to the proposed registration of the party before the Commission within a 30 days from such publication.

#### **Registration of political parties:**

- Registration of Political parties is governed by the provisions of Section 29A of the Representation of the People Act, 1951.*
- A party seeking registration under the said Section with the Commission has to submit an application to the Commission within a period of 30 days following the date of its formation as per guidelines prescribed by *the Election Commission of India in exercise of the powers conferred by Article 324 of the Commission of India and Section 29A of the Representation of the People Act, 1951.*

**To be eligible for a 'National Political Party of India,' the Election Commission has set the following criteria:**

- It secures at least six percent of the valid votes polled in any four or more states, at a general election to the House of the People or, to the State Legislative Assembly; and
- In addition, it wins at least four seats in the House of the People from any State or States. OR
- It wins at least two percent seats in the House of the People (i.e., 11 seats in the existing House having 543 members), and these members are elected from at least three different States.

**To be eligible for a ‘State Political Party,’ the Election Commission has set the following criteria:**

1. It secures at least six percent of the valid votes polled in the State at a general election, either to the House of the People or to the Legislative Assembly of the State concerned; and
2. In addition, it wins at least two seats in the Legislative Assembly of the State concerned. OR
3. It wins at least three percent (3%) of the total number of seats in the Legislative Assembly of the State, or at least three seats in the Assembly, whichever is more.

**Benefits:**

1. If a party is recognised as a State Party’, ***it is entitled for exclusive allotment of its reserved symbol to the candidates*** set up by it in the State in which it is so recognised, and if a party is recognised as a ‘National Party’ it is entitled for exclusive allotment of its reserved symbol to the candidates set up by it throughout India.
2. Recognised ‘State’ and ‘National’ parties need only one proposer for filing the nomination and are also ***entitled for two sets of electoral rolls free of cost*** at the time of revision of rolls and their candidates get one copy of electoral roll free of cost during General Elections.
3. ***They also get broadcast/telecast facilities over Akashvani/Doordarshan*** during general elections.
4. ***Political parties are entitled to nominate “Star Campaigners” during General Elections.*** A recognized National or State party can have a maximum of 40 “Star campaigners” and a registered un-recognised party can nominate a maximum of 20 ‘Star Campaigners’.
5. ***The travel expenses of star campaigners are not to be accounted for in the election expense accounts*** of candidates of their party.

## 6. SECTION 33(7) OF THE REPRESENTATION OF PEOPLE’S ACT

**What to study?**

- For Prelims: Section 33(7) of RPA.
- For Mains: One candidate one seat- need, issues, challenges and solutions.

**Context:** Odisha CM Naveen Patnaik to contest from two assembly constituencies.

**Provisions in this regard- Section 33(7) of RPA:**

- ***Section 33(7) of the Representation of People’s Act*** permits a candidate to contest any election (Parliamentary, State Assembly, Biennial Council, or bye-elections) from up to two constituencies.
- The provision was introduced in 1996 prior to which there was no bar on the number of constituencies from which a candidate could contest.

**Why candidates should be barred from contesting from more than one seat?**

- **One person, one vote & one candidate, one constituency is the dictum of democracy.** However, as per the law, as it stands today, a person can contest the election for the same office from two constituencies simultaneously.
- When a candidate contests from two seats, it is imperative that he has to vacate one of the two seats if he wins both. This, apart from the consequent unavoidable financial burden on the public exchequer, government manpower and other resources for holding bye-election is also an injustice to the voters of the constituency which the candidate is quitting from.

**Alternative suggested by the Election commission:**

- The ECI has alternatively suggested that ***if existing provisions are retained then the candidate contesting from two seats should bear the cost of the bye-election to the seat that the contestant decides to vacate in the event of his/her winning both seats.*** The amount in such an event could be Rs 5 lakh for assembly election and Rs 10 lakh for parliament election.

**SC’s views:**

- The Supreme Court had in December 2017 issued notices seeking replies from the Election Commission and the Centre on the issue. At the time, the Supreme Court had said the practice of one candidate contesting multiple seats was a drain on the exchequer since it necessitated bypolls.
- A petition has also been filed in the Supreme Court challenging Section 33(7).

Sources: the hindu.

## 7. ANTI- DEFECTON LAW

**Why in News?** Two of the three Maharashtra Gomantak Party MLAs in Goa have joined the BJP and merged the party's legislative wing with BJP, which now has 14 legislators in the 36-member state assembly. The MGP has been an alliance partner of the BJP in Goa since 2012.

- Now, as two out of the three MLAs have merged the legislative wing, they are saved from inviting **the anti-defection law**.

**What is the anti-defection law?**

- The **Tenth Schedule was inserted in the Constitution in 1985 by the 52nd Amendment Act**. It lays down **the process by which legislators may be disqualified on grounds of defection by the Presiding Officer of a legislature based on a petition by any other member of the House**.
- The decision on question as to disqualification on ground of defection is referred to the **Chairman or the Speaker of such House, and his decision is final**. The law **applies to both Parliament and state assemblies**.

**Disqualification:**

If a member of a house belonging to a political party:

- Voluntarily gives up the membership of his political party, or
- Votes, or does not vote in the legislature, contrary to the directions of his political party. However, if the member has taken prior permission, or is condoned by the party within 15 days from such voting or abstention, the member shall not be disqualified.
- If an independent candidate joins a political party after the election.
- If a nominated member joins a party six months after he becomes a member of the legislature.

**Exceptions under the law:**

- Legislators may change their party without the risk of disqualification in certain circumstances. The law allows **a party to merge with or into another party provided that at least two-thirds of its legislators are in favour of the merger**. In such a scenario, neither the members who decide to merge, nor the ones who stay with the original party will face disqualification.

**Decision of the Presiding Officer is subject to judicial review:**

- The law initially stated that the decision of the Presiding Officer is not subject to judicial review. This condition was struck down by the Supreme Court in 1992, thereby allowing appeals against the Presiding Officer's decision in the High Court and Supreme Court. However, it held that there may not be any judicial intervention until the Presiding Officer gives his order.

**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. EASE (ENHANCED ACCESS AND SERVICE EXCELLENCE) REFORM INDEX

**What to study?**

- For Prelims: EASE reform index- key indicators and related facts.
- For Mains: Significance and challenges highlighted by the report.

**Context:** Government's **EASE (Enhanced Access and Service Excellence) reform index** has been released.

**Key facts:**

- EASE index is prepared by the Indian Banking Association (IBA) and Boston Consulting Group.**
- It is **commissioned by the Finance Ministry**.
- It is **a framework that was adopted last year to strengthen public sector banks, and rank them on metrics** such as responsible banking, financial inclusion, credit offtake and digitisation.

### **Findings of the report:**

1. **Punjab National Bank has topped the list.** It is followed by Bank of Baroda, State Bank of India (SBI), and Oriental Bank of Commerce.
2. **The EASE Index report also noted PSU banks' strengthening of the bad-loan recovery process,** pointing to the success of the Insolvency and Bankruptcy Code (IBC) in fast-tracking the resolution process.

Sources: *toi*.

## **2. IRCTC LAUNCHES PAYMENT AGGREGATOR IPAY**

### **What to study?**

- For Prelims and Mains: iPay- features and significance.

**Context:** In a bid to promote digital transactions, the *Indian Rail Catering and Tourism Corporation (IRCTC)* has launched its much awaited **payment aggregator system 'IRCTC iPay'**.

### **About 'IRCTC iPay':**

- The exclusive digital payment gateway will provide better digital experience and improved online digital payment convenience to rail passengers availing online travel-related services through the website.
- With the launch of IRCTC iPay, the passengers will not need any third-party platforms.

## **3. WORLD CONSUMERS DAY**

### **What to study?**

- For Prelims and Mains: WCD- significance, theme, features and CPA.

**What is it? 15 March is World Consumer Rights Day (WCRD)**, an annual occasion for celebration and solidarity within the international consumer movement. It marks the date in 1962 President John F Kennedy first outlined the definition of Consumer Rights.

- **Significance of the day:** It is an opportunity to promote the basic rights of all consumers, for demanding that those rights are respected and protected, and for protesting the market abuses and social injustices which undermine them.
- **Theme:** Trusted Smart Products.

### **Key facts:**

- WCRD was first observed on 15 March 1983, and has since become an important occasion for mobilising citizen action.
- Consumers International (CI), which was founded in 1960 organises WCRD. It is the only independent and authoritative global voice for consumers and has over 220 member organisations in 115 countries around the world.
- Consumer Rights Day — India December 24<sup>th</sup>. On this day the Consumer Protection Act, 1986 had received the assent of the President.

### **Consumer protection act:**

- **India adopted the Consumer Protection Act**, later in 1986, thus providing a legal face to the Indian consumers. One of the strongest campaigns for protection of consumer rights in India, is "Jago Grahak Jago" which literally translates into, "wake up consumers"! This multimedia campaign from Ministry of Consumer Affairs, Government of India is aimed at creating an aware consumer.

## **4. SOCIAL MEDIA PLATFORMS PRESENT VOLUNTARY CODE OF ETHICS**

### **What to study?**

- For Prelims: Highlights of Voluntary Code of Ethics.
- For Mains: Why is the spread of fake news on rise these days, how to contain it, legislative measures necessary, challenges and need for multi- stakeholder approach, how it affects voting behaviour?

**Context:** Social media platforms and the Internet and Mobile Association of India (IAMAI) have presented a **'Voluntary Code of Ethics for the General Election 2019 to the Election Commission of India'**.

- Participants including BIGO, ByteDance, Facebook, Google, Sharechat and Twitter have agreed to take action on the content reported by the nodal officer, expeditiously, in accordance with the law.

#### **Key highlights:**

- The code aims to identify measures that the platforms can take to increase confidence in the electoral process to safeguard against misuse that vitiates the free and fair character.
- The Social media platforms will deploy appropriate policies and processes to facilitate access to information on electoral matters where appropriate and keeping in mind the principle of freedom of expression.
- The platforms have voluntarily undertaken to establish a high-priority communication channel with the nodal officers designated by the ECI.
- The Election commission together with platforms has developed a notification mechanism by which the electoral body can notify them of potential violations under Section 126 of the Representation of the People Act and on other matters.
- As per the code, the platforms will acknowledge these notifications within three hours of receipt and will act upon expeditiously based on the nature of the reported violation.
- Platforms will ensure that political advertisements by parties or their candidates are pre-certified.

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

- Fake news affects voting behaviour in a big way and right now, the only mechanism is Section 126 and EC instructions on paid news. We have to ***bring in a robust mechanism for conduct on social media platforms.***

#### **What is fake news?**

- Fake news is ***a type of yellow journalism that consists of deliberate misinformation or hoaxes spread via the traditional print, broadcasting news media, or via Internet-based social media.*** Fake news is written and published with the intent to mislead in order to gain financially or politically, often with sensationalist, exaggerated, or patently false headlines that grab attention.

#### **The main driving force behind fake news remains:**

- Getting easy viewership through sensational news-e.g. dubbing foreign prisoners as spies or terrorists without any proof
- Directed towards a particular organization or person with an intention to either glorify it or to bring malice.e.g. a news channel was established to defend the accused in Jessica Lal murder case.

#### **Nature of fake news:**

- Social media in campaign-*** used to promote electoral programme and encourage anti-liberal sentiments as seen in Trump campaign. They offer a quick way to convey one-sided information or opinion, without the option or capability to verify the authenticity of this information or to present the opposite opinion for the sake of balance.
- Fake news creating Bubble phenomenon-*** users with matching political views exchange one-sided information and opinions that suit their own convictions, reinforcing them even further, even if those were based on false information.
- Social media distancing people***— It deprives people of human contact and the accompanying intimacy and exchange of opinions, which could lead to changing a wrong impression or correcting an inaccurate belief.
- Evergreening of fake news websites*** – tens of thousands of “fake news” websites have emerged, offering false information to an audience that is used to traditional media doing the fact-checking for it and that believes anything that appears on a presentable webpage.
- Igniting extremist sentiments*** – ‘fake news’ perpetuates, previously locally found, extremist ideas and groups together dangerously minded people eg- Neo-nazis in Germany, Separatists in Kashmir.

#### **Dangers of fake news:**

- Political:*** Swaying or polarising public opinion. Example Recent American election, UP elections where certain facts are quoted out of context/partially. Significant impact on the nature of polity.
- Religious:*** Promoting religious ideologies. Glorifying one religion while despising others Ex. Right wing violence meted out by Gau rakshaks leads to religious polarisation and communal unrests.

- **Criminal:** Sensationalising crimes by blowing them out of proportion. Misleads people rather than making them aware. Instils irrational fears.
- **Fake news has also been used to dupe gullible people financially.** The reach of news has given chit fund schemes an altogether new arena as well as has introduced the concept of online fraud through spam mails.
- **It hampers spirit of common brotherhood and raises intolerance.** Eg. 2012 mass exodus of North-Eastern people from Bangalore on false online threats.
- **Over the time it shapes the thinking of society at large.** Portrayal of India as an unsafe destination for women by international media has created a false image of a nation.

**What is needed?**

- **Independent, trusted and effective press regulation.**
- **Mainstream media must use social media tools** intensively in order to defend the truth, present the correct information and balance opinions.
- **Curb media ownership.** We need an open debate on the impact of media concentration on our democracy and wider culture. There should be clear limits on media ownership so that powerful proprietors with vested interests are not allowed to dominate the news agenda.
- **Define fake news legally.** Heavy punitive measures for whosoever violates the said definition.
- **There should be grievance redressal mechanisms** and arbitration spaces to resolve issues.
- **Digital media literacy** among people to increase scrutiny and feedbacks of the content.
- **Technical solutions** that assess the credibility of information circulating online are also needed.

**Mains Questions:** Legal tools are ill-suited to tackle the problem of fake news. Critically analyse.

**Topics: India and its neighbourhood- relations.**

## 1. INDIA LAUNCHES THIRD IT CORRIDOR IN CHINA

**What to study?**

- For Prelims: Various IT corridors launched.
- For Mains: Significance and the need for such corridors.

**Context:** India has launched its **third IT corridor in China**. The corridor will facilitate partnerships between Indian and Chinese companies.

- The **National Association of Software and Services Companies (NASSCOM) entered into a partnership with China's Xuzhou city from Jiangsu Province** in China to help develop the IT corridor.
- The primary aim of this IT corridor will be **to facilitate partnerships between Indian and Chinese companies**.

**Background:**

- The IT industry body has already **launched such corridors at Dalian and Guiyang cities** to cash in on the burgeoning Chinese IT industry market. Through its previous similar initiatives in China, NASSCOM has brought to the fore opportunities with over 300 companies where more than 10 Indian SME companies have signed deals worth 31 Million RMB (USD 4.5 million).

**Outcomes:**

- Through this partnership, the platform will be launched that will facilitate match-making between Indian companies wanting to collaborate with companies in Huai Hai economic zone looking to adopt digital transformation from verticals such as manufacturing, retail, automotive, healthcare and utilities and help them create innovative products and solutions in the co-create mode.

**Way ahead:**

- India is a world leader in the area of Information Technology and IT-enabled services with annual revenue of over \$164 billion and exports of over \$120 billion. The country has been demanding China to provide market access to Indian IT and pharmaceutical firms for several years to reduce bilateral trade deficit.
- For India, getting access to China's IT market, valued at over \$493 billion in 2013 by the ministry of industry and information technology of China, is important to address the massive trade deficit which has now spiralled to over \$51 billion. The Chinese IT market grew exponentially since then.

## 2. HAMBANTOTA OIL REFINERY PROJECT

### What to study?

- For Prelims: Key features of the project and the location of Hambantota.
- For Mains: Significance of the project for India and why is India worried about Chinese presence there?

**Context:** India's Accord Group and Oman's Ministry of Oil and Gas has begun construction of an oil refinery in Sri Lanka'.

### Significance of Hambantota:

- Hambantota is right in the middle of vital energy supply lines in the Indian Ocean, connecting the Middle East and East Asia
- Hambantota is the main town in Hambantota District, Southern Province, Sri Lanka. This underdeveloped area was hit hard by the 2004 Indian Ocean tsunami and is underwent a number of major development projects including the construction of a new sea port and international airport.

### Why is India worried?

- India's apprehensions about the apparently growing Chinese presence in the island are well known, given the two countries' competing strategic interests in the island. The Hambantota port is part of China's Belt and Road Initiative.
- Chinese control of Hambantota, which is part of its modern-day "Silk Route" across Asia and beyond, as well as a plan to acquire 15,000 acres (23 sq miles) to develop an industrial zone next door, had raised fears that it could also be used for Chinese naval vessels.

Source: the hindu.

## 3. NOTE VERBALE

### What to study?

- For Prelims and Mains: Various means of diplomatic communication and their significance.

**Why in News?** India has raised with Pakistan the alleged abduction of two minor Hindu girls in that country and their alleged conversion to Islam. The government raised the matter through a note verbale sent to the Pakistan Foreign Ministry.

### What is it?

- A note verbale is **a diplomatic communication from one government to another, delivered through each other's diplomatic representatives**. Like many other diplomatic terms, note verbale is French, and literally means a verbal note, because it was meant to be delivered orally to the recipient. In modern times, it is a written note.
- Notes verbale are the commonest method of formal diplomatic communication. They are **used to convey information or requests of all kinds**.

### Features of Note Verbale:

1. A note verbale is written on the sending entity's letterhead, and stamped with that entity's seal, but **not signed**.
2. It is written in the **third person**.

### Other formal types of diplomatic communication:

1. **A demarche** is a more formal type of communication of one government's official position, views, or wishes on a given subject to an appropriate official in another government. Demarches generally seek to persuade, inform, or gather information from a foreign government. Governments may also use a demarche to protest or object to actions by a foreign government.
2. **A demi official (DO)** is a first person communication that begins with a "Dear..." and is signed by the writer, usually a high representative of the sending entity. DOs are used only when the addressee and the representative know each other extremely well and occupy high office.

### less formal kinds of communication between governments:

**Non-papers and aide-memoires**, which are summaries of discussions between two countries.

- A non-paper is written on a blank sheet of paper with no signatures and is addressed to no one, giving those party to the discussions deniability; an aide-memoire has to have an addressee, and indicates the sender's identity, usually with an initial.

Sources: ie.

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

## 1. INDO-PACIFIC REGIONAL DIALOGUE

**What to study?**

- For Prelims: About IPRD, overview of regions and countries in Indo- pacific region, important straits.
- For Mains: Significance and potential of the region, need for international cooperation to main peace and order in the region.

**Context:** In continuation of the process of engaging the global strategic community in an annual review of India's opportunities and challenges in the Indo-Pacific region, ***the second edition of Indo-Pacific Regional Dialogue (IPRD) – 2019 will be held in New Delhi.***

**Aim:** To provide a platform for substantive and insightful discussions pertaining to the geopolitical developments affecting the maritime domain of the Indo-Pacific, and provide policy-relevant inputs to the policy-makers and the public at large.

**About IPRD- Indo- Pacific Regional Dialogue:**

- The idea of an Indo-Pacific Regional Dialogue (IPRD) was first conceptualised and conducted in 2018, ***as the apex level conference of the Indian Navy, organised by the National Maritime Foundation as the Navy's Knowledge Partner.***
- The ***permanent theme of this annual dialogue is a review of India's opportunities and challenges in the Indo-Pacific region.***
- The ***aim is to focus attention on the Indo-Pacific, as a maritime geographical-entity,*** while deliberating aspects of great relevance to regional geopolitics.

**Significance:**

- Indo-Pacific is a multipolar region that is contributing more than half of world GDP and population. Countries falling in the direct catchment of the vast Indian and Pacific oceans can be termed as Indo-Pacific countries.

**Mains Question:** What stakes does India have in the larger Indo-Pacific region? Critically examine if India is moving in right trajectory to play major role in the Indo-Pacific region.

## 2. TIR CONVENTION

**What to study?**

- For Prelims and Mains: Key features, significance and benefits of the convention.

**Context:** The first shipment under the ***United Nations 'Transports Internationaux Routiers' (TIR) convention*** arrived in India from Afghanistan through Iran's Chabahar Port.

**What you need to know about the TIR convention?**

- The ***Customs Convention on International Transport of Goods under cover of TIR Carnets, 1975 (TIR Convention),*** is an ***international transit system under the auspices of the United Nations Economic Commission for Europe (UNECE) to facilitate the seamless movement of goods within and amongst the Parties to the Convention.***
- ***The 1975 convention replaced the TIR Convention of 1959,*** which itself replaced the 1949 TIR Agreement between a number of European countries.
- ***The TIR system not only covers customs transit by road but a combination is possible with other modes of transport*** (e.g., rail, inland waterway, and even maritime transport), as long as at least one part of the total transport is made by road.

### Benefits of TIR convention for India:

1. It has far reaching benefits for trade and will save significant time and money by streamlining procedures at borders, reducing administration and cutting border waiting times.
2. The TIR Convention will also facilitate India's current national and multilateral connectivity-related initiatives to improve cross border road transport, facilitating overland trade integration with both eastern and western neighbours.
3. It will also help India in implementing the World Trade Organization's Trade Facilitation Agreement, which entered into force this year.
4. The Convention will help Indian traders to have access to fast, easy, reliable and hassle free international system for movement of goods by road or multi-modal means across the territories of other contracting parties.
5. With this convention, the need for inspection of goods at intermediate borders as well as physical escorts en route shall be obviated due to reciprocal recognition of Customs controls.

Sources: the hindu.

## 3. KALADAN PROJECT

### What to study?

- For Prelims and Mains: Features and significance of the project, overview of Sittwe port, Operation Sunrise.

**Context:** The Indian and Myanmar's armies have, in a coordinated operation, destroyed at least 10 camps belonging to an insurgent group in Myanmar, which had become a threat to India's mega **Kaladan Project** in the neighbouring country. The operation was also undertaken keeping in view the safety of Indian workers engaged in the project. **The military action carried out was codenamed Operation Sunrise.**



### About Kaladan project:

- The Kaladan project connects **Sittwe Port in Myanmar to the India-Myanmar border**.
- The project was jointly initiated by India and Myanmar **to create a multi-modal platform for cargo shipments from the eastern ports to Myanmar and to the North-eastern parts of the country through Myanmar**.
- **Significance:** It is expected to open up sea routes and promote economic development in the North-eastern states, and also add value to the economic, commercial and strategic ties between India and Myanmar. **This**

**project will reduce distance from Kolkata to Sittwe by approximately 1328 km and will reduce the need to transport good through the narrow Siliguri corridor, also known as Chicken's Neck.**

#### Where is Sittwe located?

- Sittwe is the capital of Rakhine State (which has been in the news for the plight of Rohingya Muslims) in south-western Myanmar. It is located at the mouth of the Kaladan river, which flows into Mizoram in north-eastern India.

#### Significance of this port for India:

- India has for years sought transit access through Bangladesh to ship goods to the landlocked north-eastern States. At present, the only route to this region from the rest of India is a rather circuitous one through a narrow strip of Indian territory nicknamed the Chicken's Neck in West Bengal, sandwiched between Bhutan and Bangladesh. The new route through Sittwe would significantly lower the cost and distance of movement from Kolkata to Mizoram and beyond.

Sources: the hindu.

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

## 1. TRENDS IN INTERNATIONAL ARMS TRANSFERS-2018

#### What to study?

- For Prelims and Mains: Highlights and significance of the report, concerns over increased arms trade and need for their regulation.

**Context: The Stockholm International Peace Research Institute (SIPRI) has released the Trends in International Arms Transfers 2018 Report.** The assessment was done for a five-year period (2014-2018).

#### Highlights of the report:

- **India was the world's second largest importer** of major arms in 2014-18 and accounted for 9.5% of the global total.
- After eight years of holding the position of the largest importer of weapons, India has been superseded by Saudi Arabia and dropped down to become the second largest importer of weapons in the world. Last year (for the period 2013-17), India accounted for 13% of all imports and was the world's largest importer.
- **Reasons for gradual lowering of imports by India:** Imports decreased by 24% between 2009-13 and 2014-18 (two five-year blocks), partly due to delays in deliveries of arms produced under licence from foreign suppliers, such as combat aircraft ordered from Russia in 2001 and submarines ordered from France in 2008.
- **The five biggest exporters in five-year block period 2011-2015 were the US, Russia, France, Germany and China.** The US and Russia remain by far the largest exporters, accounting for 36% and 21%, respectively, of the total global trade.
- **China, which is now the fifth largest exporter of weapons,** has been aiding Pakistan and Bangladesh in stepping up their military prowess in the region. The two countries accounted for 53% of Beijing's exports from 2014-2018. On the other hand, Beijing is also an importer. China is the world's sixth largest arms importer in 2014-18 and accounted for 4.2% of the global total.
- Pakistan recorded a 39% dip in arms imports in 2014-18 compared to 2009-13, with the US becoming "increasingly reluctant" to provide military aid or sell arms to Pakistan.
- US arms exports to Pakistan fell 81% between 2009-13 and 2014-18. Pakistan has instead turned to other suppliers. For example, in 2018 it ordered four frigates and 30 combat helicopters from Turkey.

#### Stockholm International Peace Research Institute:

- Stockholm International Peace Research Institute (SIPRI) established in 1966 is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.
- Based in Stockholm the Institute provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.

Sources: the hindu.

**Mains Question:** Critically analyse how India's acute dependence on imported arms and ammunition eroded combat readiness of its armed forces and its stature as net security provider in the region.

## 2. CABINET APPROVES PROPOSAL TO ALIGN WITH GLOBAL TRADEMARK SYSTEM

### What to study?

- For Prelims and Mains: Agreements- objectives, features, significance and benefits for India.

**Context:** Cabinet approves proposal for accession of India to:

- The **Nice Agreement** on the International classification of goods and services for the purposes of registration of marks.
- The **Vienna Agreement** for setting up an International classification of the figurative elements of marks.
- The **Locarno Agreement** for establishing an International classification for industrial designs.

### Significance and benefits for India:

- Accession to the Nice, Vienna and Locarno Agreements will help *the Intellectual Property Office in India to harmonise the classification systems for examinational of trademark and design applications, in line with the classification systems followed globally.*
- It would give *an opportunity to include Indian designs, figurative elements and goods in the international classification systems.*
- The accession is expected *to instil confidence in foreign investors in relation to protection of IPs in India.*
- The accession would also *facilitate in exercising rights in decision making processes regarding review and revision of the classifications under the agreement.*

The following agreements *are open to States party to the Paris Convention for the Protection of Industrial Property (1883)*. Instruments of ratification or accession must be deposited with the Director General of WIPO.

#### 1. Nice Agreement:

- The Nice Agreement, concluded at Nice in 1957, revised at Stockholm in 1967 and at Geneva in 1977, and amended in 1979, establishes *a classification of goods and services for the purposes of registering trademarks and service marks (the Nice Classification).*

#### 2. The Vienna Agreement for setting up an International classification of the figurative elements of marks:

- The Vienna Agreement, concluded in Vienna in 1973 and amended in 1985, establishes *a classification (the Vienna Classification) for marks that consist of, or contain, figurative elements.*

#### 3. The Locarno Agreement for establishing an International classification for industrial designs:

- The Locarno Agreement, concluded at Locarno in 1968 and amended in 1979, establishes *a classification for industrial designs (the Locarno Classification).*

### Key facts- the three agreements:

- Create *a Union, which has an Assembly. Every State that is a member of the Union is a member of the Assembly.*
- Among the most important tasks of the Assembly is *the adoption of the biennial program and budget of the Union.*
- Set up *a Committee of Experts in which all members of the Union are represented.* The main task of the Committee is the periodical revision of the Classification.

## 3. THE SIGNIFICANCE OF THE GOLAN HEIGHTS

**Context:** US President Donald Trump has backed Israeli sovereignty over the Golan Heights, seized from Syria in 1967. The **Golan announcement** is likely to further complicate Trump's long-awaited plan to resolve the Israeli-Palestinian conflict.

### Why is this area contentious?

- The Golan Heights were part of Syria until 1967, when Israel captured most of the area in the Six Day War, occupying it and annexing it in 1981.* That unilateral annexation was not recognised internationally, and Syria demands the return of the territory.

- Syria tried to regain the Heights in the 1973 Middle East war, but was thwarted. Israel and Syria signed an armistice in 1974 and the Golan had been relatively quiet since.
- In 2000, Israel and Syria held their highest-level talks over a possible return of the Golan and a peace agreement. But the negotiations collapsed and subsequent talks also failed.

### Why does Israel want the Golan?

**Security:** Israel says that the civil war in Syria demonstrates the need to keep the plateau as a buffer zone between Israeli towns and the instability of its neighbour.

- ***Israel's government says it also fears that Iran, an ally of Syrian President Bashar al-Assad, is seeking to establish itself permanently on the Syrian side of the border*** in order to launch attacks on Israel.
- Both sides covet the Golan's water resources and naturally fertile soil.
- Syria insists that the part of the Golan held by Israel remains occupied territory and has demanded its return.

### Who lives there?

- More than 40,000 people live on the Israeli-occupied Golan, more than half of them Druze residents.
- ***The Druze are an Arab minority who practice an offshoot of Islam and many of its adherents in Syria have long been loyal to the Assad regime.***
- After annexing the Golan, Israel gave the Druze the option of citizenship, but most rejected it and still identify as Syrian. About another 20,000 Israeli settlers also live there, many of them working in farming and tourism.

### What separates the two sides on the Golan?

- ***A United Nations Disengagement Observer Force (UNDOF) is stationed in camps and observation posts along the Golan, supported by military observers of the United Nations Truce Supervision Organization (UNTSO).***
- Between the Israeli and Syrian armies is a 400-square-km “***Area of Separation***” – often called a demilitarized zone – in which the two countries’ military forces are not permitted under the ceasefire arrangement.
- ***The Separation of Forces Agreement of May 31, 1974 created an Alpha Line to the west of the area of separation***, behind which Israeli military forces must remain, and a Bravo Line to the east behind which Syrian military forces must remain.
- Extending 25 km beyond the “Area of Separation” on both sides is an “***Area of Limitation***” in which there are restrictions on the number of troops and number and kinds of weapons that both sides can have there.
- ***There is one crossing point between the Israeli and Syrian sides***, which until the Syrian civil war broke out in 2011 was used mainly by United Nations forces, a limited number of Druze civilians and for the transportation of agricultural produce.

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

## 1. IEA BIOENERGY TCP

### What to study?

- For Prelims: IEA Bioenergy TCP- composition, objectives and functions.
- For Mains: Benefits of membership for India, what is bioenergy?

**Context:** Cabinet approves joining of ***IEA Bioenergy TCP by Ministry of Petroleum and Natural Gas as its 25th member.***

- ***The other members are*** Australia, Austria, Belgium, Brazil, Canada, Croatia, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, the Republic of Korea, the Netherlands, New Zealand, Norway, South Africa, Sweden, Switzerland, the United Kingdom, the United States, and the European Commission.

### About IEA Bioenergy TCP:

- International Energy Agency’s Technology Collaboration Programme on Bioenergy (IEA Bioenergy TCP) is ***an international platform for co-operation among countries with the aim of improving cooperation and information exchange between countries that have national programmes in bioenergy research, development and deployment.***

- IEA Bioenergy TCP works under the *framework of International Energy Agency (IEA)* to which India has “Association” status since 30th March, 2017.

**The collaboration offers many benefits at both the policy and technical level including the ability to:**

- Strengthen national R&D capabilities.
- Enhance the quality of R&D outputs.
- Disseminate information on technology capabilities.
- Accelerate the deployment of new technologies.
- Contribute to energy policy development.

**What is bioenergy?**

- Bioenergy is defined as *material which is directly or indirectly produced by photosynthesis and which is utilised as a feedstock in the manufacture of fuels and substitutes for petrochemical and other energy intensive products.*

**Potential of bioenergy:**

- Bioenergy is already making a substantial contribution to supplying global energy demand, and can make an even larger contribution, providing greenhouse gas savings and other environmental benefits, as well as contributing to energy security, improving trade balances, providing opportunities for social and economic development in rural communities, and helping with the management of wastes, so improving resource management.
- *Estimates indicate that bioenergy could sustainably contribute between 25% and 33% to the future global primary energy supply (up to 250 EJ) in 2050.* It is the only renewable source that can replace fossil fuels in all energy markets – in the production of heat, electricity, and fuels for transport.

**Challenges therein:**

- Increasing deployment of bioenergy also poses some challenges. The potential for *competition for land and for raw material with other biomass uses must be carefully managed.* Bioenergy must compete with other energy sources and options.
- *Logistics and infrastructure issues must be managed, and there is need for further technological innovation leading to more efficient and cleaner conversion* of a more diverse range of feedstocks. Policy makers and the public at large will need to be confident that expansion of bioenergy is sustainable.

**Mains Question:** Bioenergy is the largest used renewable energy source in the world. Discuss the progress made in the use of bioenergy and challenges presented by bioenergy to food security.

## 2. REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP (RCEP)

**What to study?**

- For Prelims: RCEP- objectives and composition.
- For Mains: Significance, concerns by India and challenges involved.

**Context:** *7th RCEP Inter-Sessional Ministerial Meeting* is being held in Cambodia.

**What you need to know about RCEP?**

- RCEP is proposed between the ten member states of the Association of Southeast Asian Nations (ASEAN) (Brunei, Burma (Myanmar), Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, Vietnam) and the six states with which ASEAN has existing FTAs (Australia, China, India, Japan, South Korea and New Zealand).
- RCEP negotiations were formally *launched in November 2012 at the ASEAN Summit in Cambodia.*
- **Aim:** RCEP aims to boost goods trade by eliminating most tariff and non-tariff barriers — a move that is expected to provide the region’s consumers greater choice of quality products at affordable rates. It also seeks to liberalise investment norms and do away with services trade restrictions.

**Why has it assumed so much significance in recent times?**

- When inked, it would become the world’s biggest free trade pact. This is because the 16 nations account for a total GDP of about \$50 trillion and house close to 3.5 billion people. India (GDP-PPP worth \$9.5 trillion and

population of 1.3 billion) and China (GDP-PPP of \$23.2 trillion and population of 1.4 billion) together comprise the RCEP's biggest component in terms of market size.

#### Why is India concerned?

- **Greater access to Chinese goods may have impact on the Indian manufacturing sector.** India has got massive trade deficit with China. Under these circumstances, India proposed differential market access strategy for China.
- **There are demands by other RCEP countries for lowering customs duties** on a number of products and greater access to the market than India has been willing to provide.

#### Why India should not miss RCEP?

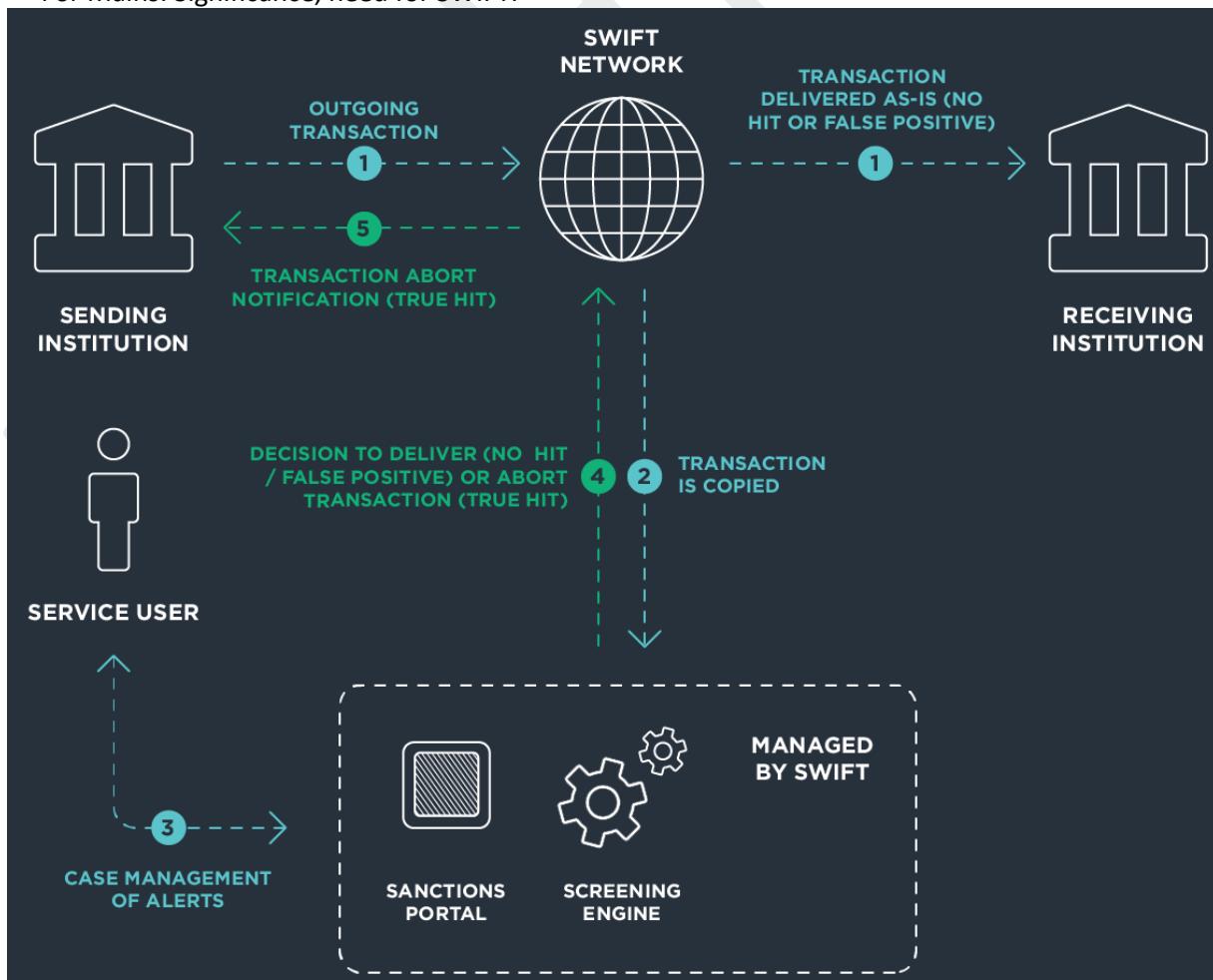
- If India is out of the RCEP, **it would make its exports price uncompetitive with other RCEP members' exports in each RCEP market**, and the ensuing export-losses contributing to foreign exchange shortages and the subsequent extent of depreciation of the rupee can only be left to imagination. Some of the sectors that have been identified as potential sources of India's export growth impulses under RCEP to the tune of approximately \$200 billion.
- **There are more compelling trade and economic reasons for RCEP to become India-led in future, than otherwise.** India would get greater market access in other countries not only in terms of goods, but in services and investments also.

**Mains Question:** India should not allow the RCEP trade deal to fail. Do you agree? Comment.

### 3. SOCIETY FOR WORLDWIDE INTERBANK FINANCIAL TELECOMMUNICATION (SWIFT)

#### What to study?

- For Prelims: SWIFT- objectives, features and significance.
- For Mains: Significance, need for SWIFT.



**Context:** Half a dozen public and private sector banks have been slapped with monetary penalties by the Reserve Bank of India for non-compliance of directions in the **Swift (Society for Worldwide Interbank Financial Telecommunications) messaging system** used by banks worldwide for foreign currency transfers.

#### What is SWIFT?

It is **a messaging network that financial institutions use to securely transmit information and instructions through a standardized system of codes**. Under SWIFT, each financial organization has a unique code which is used to send and receive payments.

- **SWIFT does not facilitate funds transfer:** rather, it sends payment orders, which must be settled by correspondent accounts that the institutions have with each other.
- **The SWIFT is a secure financial message carrier** — in other words, it transports messages from one bank to its intended bank recipient.
- **Its core role is to provide a secure transmission channel** so that Bank A knows that its message to Bank B goes to Bank B and no one else. Bank B, in turn, knows that Bank A, and no one other than Bank A, sent, read or altered the message en route. Banks, of course, need to have checks in place before actually sending messages.

#### Facts for Prelims:

- **SWIFT India is a joint venture of top Indian public and private sector banks and SWIFT (Society for Worldwide Interbank Financial Telecommunication).**
- The company was created to deliver high quality domestic financial messaging services to the Indian financial community. It has a huge potential to contribute significantly to the financial community in many domains.

#### Significance of SWIFT:

- Messages sent by SWIFT's customers are authenticated using its specialised security and identification technology.
- Encryption is added as the messages leave the customer environment and enter the SWIFT Environment.
- Messages remain in the protected SWIFT environment, subject to all its confidentiality and integrity commitments, throughout the transmission process while they are transmitted to the operating centres (OPCs) where they are processed — until they are safely delivered to the receiver.

Sources: the hindu.

## 4. UN SECURITY COUNCIL

#### What to study?

- For Prelims: About UNSC- composition, objectives and functions.
- For Mains: Role and significance of UNSC, need for UNSC reforms, why India should be given permanent membership?

**Context:** France, which assumed the Presidency of the United Nations Security Council for the month of March, has reiterated its support for India as the permanent member of the powerful UN body. The nation also reiterated its support for Germany and Japan as permanent members of an expanded UNSC.

#### About UNSC:

#### What is it?

- The United Nations Security Council (UNSC) is one of the organs of the United Nations and is charged with the maintenance of international peace and security. Its powers include the establishment of peacekeeping operations, the establishment of international sanctions, and the authorization of military action through Security Council resolutions; it is the only UN body with the authority to issue binding resolutions to member states.

#### Members:

- **The Security Council consists of fifteen members.** Russia, the United Kingdom, France, China, and the United States—serve as the body's **five permanent members**. These permanent members can veto any substantive Security Council resolution, including those on the admission of new member states or candidates for Secretary-General.

- **The Security Council also has 10 non-permanent members**, elected on a regional basis to serve two-year terms. The body's presidency rotates monthly among its members.

#### **Proposed reforms:**

- **Reform of the United Nations Security Council (UNSC) encompasses five key issues:** categories of membership, the question of the veto held by the five permanent members, regional representation, the size of an enlarged Council and its working methods, and the Security Council-General Assembly relationship. There is also a proposal to admit more permanent members.

#### **India's demands:**

- India has been calling for the reform of the UN Security Council along with Brazil, Germany and Japan for long, emphasising that it rightly deserves a place at the UN high table as a permanent member.

#### **Why India should be given a permanent seat in the council ?**

1. India was among the founding members of United Nations.
2. It is the second largest and a one of the largest constant contributor of troops to United Nations Peacekeeping missions.
3. Today, India has over 8,500 peacekeepers in the field, more than twice as many as the UN's five big powers combined.
4. India, since long time, has been demanding expansion of UNSC and its inclusion as permanent member in it. It has been a member of UNSC for 7 terms and a member of G-77 and G-4, so permanent membership is a logical extension.

Sources: the hindu.

## **5. GENERALISED SYSTEM OF PREFERENCES**

**Context:** United States has decided to "terminate" India's designation as a beneficiary of its Generalised System of Preferences (GSP).

#### **What made US announce this?**

- The US observed that India has implemented a wide array of trade barriers that create serious negative effects on United States commerce. Despite intensive engagement, India has failed to take the necessary steps to meet the GSP criterion.

#### **Background:**

- The US had launched an eligibility review of India's compliance with the GSP market access criterion in April 2018, following concerns raised by its medical devices and dairy industry. The Indian government's attempts to arrive at a "balanced" package that would address the US's concerns and protect the Indian public's welfare were not successful.
- In 2017, India had capped prices of cardiac stents and knee implants, slashing these over 70% and 60% respectively. The move impacted US giants like Abbott, Medtronic, Boston Scientific and Stryker.

#### **Concerns:**

- This could be a big blow for India's competitiveness in items groups such as garments, engineering, and intermediary goods in the American market.
- This could impact India's competitiveness in items groups such as raw materials in the organic chemicals sector and intermediary goods in the US market, alongside items such as iron or steel, furniture, aluminum and electrical machinery.

#### **How India benefitted from GSP?**

- India has been the biggest beneficiary of the GSP regime and accounted for over a quarter of the goods that got duty-free access into the US in 2017.
- Exports to the US from India under GSP — at \$5.58 billion — was over 12 per cent of India's total goods exports of \$45.2 billion to the US that year.
- The US goods trade deficit with India was \$22.9 billion in 2017.

### **What is GSP?**

- The GSP, the largest and oldest US trade preference programme, is designed to promote economic development by allowing duty-free entry for thousands of products from designated beneficiary countries.
- It aims 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.
- It was instituted on January 1, 1976, and authorised under the US Trade Act of 1974.

### **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. GSP provide opportunities for many of the world's poorest countries to use trade to grow their economies and climb out of poverty.

### **Possible impact:**

- India's Department of Commerce feels the impact is "minimal", given that Indian exporters were only receiving duty-free benefits of \$190 million on the country's overall GSP-related trade of \$5.6 billion.
- Some experts feel the move will not have a major impact on India also because it has been diversifying its market in the Latin American and the African region and its trade with countries of the Global South has also been expanding at a "very competitive pace".
- At the same time, the move could hit Indian exporters if it gives an edge to competitors in its top export categories to the US.

## **6. UNODC**

### **What to study?**

- For Prelims: Highlights of the report, about UNODC.
- For Mains: Significance of the report and concerns raised, need for comprehensive measures.

**Context:** The latest report released by United Nations Office of Drugs and Crime (UNODC) says that **India is one of the major hubs of illicit drug trade ranging from age-old cannabis to newer prescription drugs like tramadol, and designer drugs like methamphetamine.**

### **Key findings:**

- While the global trend of purchasing drugs over the internet, **particularly on darknet trading platforms using cryptocurrencies has already spread across South Asia, it is particularly rampant in India.**
- **India is also a transit country for illicitly produced opiates, in particular heroin.** The route used by traffickers to smuggle opiates through South Asia is an alternative part of the so-called "**southern route**", which runs through Pakistan or the Islamic Republic of Iran, via the Gulf countries, continues to East Africa and on to destination countries.
- **Also, India, Australia, France and Turkey accounted for 83% of global production of morphine-rich opiate raw materials in 2017.** The stocks were considered sufficient to cover 19 months of expected global demand by manufacturers at the 2018 level of demand.

### **About UNODC:**

- **Established in 1997 through a merger between the United Nations Drug Control Programme and the Centre for International Crime Prevention,** UNODC is a global leader in the fight against illicit drugs and international crime.
- **UNODC relies on voluntary contributions,** mainly from Governments, for 90% of its budget.
- UNODC is mandated to **assist Member States in their struggle against illicit drugs, crime and terrorism.**

### **The three pillars of the UNODC work programme are:**

1. Field-based technical cooperation projects to enhance the capacity of Member States to counteract illicit drugs, crime and terrorism.
2. Research and analytical work to increase knowledge and understanding of drugs and crime issues and expand the evidence base for policy and operational decisions.

- Normative work to assist States in the ratification and implementation of the relevant international treaties, the development of domestic legislation on drugs, crime and terrorism, and the provision of secretariat and substantive services to the treaty-based and governing bodies.

Sources: the hindu.

## 7. INTERNATIONAL CRIMINAL COURT (ICC)

### What to study?

- For Prelims and Mains: ICC and issues related to its functioning.

**Context:** Malaysia has ratified the Rome Statute making it the 124th State party to the International Criminal Court (ICC).

### About ICC:

- The International Criminal Court (ICC), **located in The Hague, is the court of last resort for prosecution of genocide, war crimes, and crimes against humanity.**
- It is the first permanent, treaty based, international criminal court** established to help end impunity for the perpetrators of the most serious crimes of concern to the international community.
- Its founding treaty, **the Rome Statute, entered into force on July 1, 2002.**
- Funding:** Although the Court's expenses are funded primarily by States Parties, it also receives voluntary contributions from governments, international organisations, individuals, corporations and other entities.

### ICJ vs. ICC

	International Court of Justice (ICJ) La Cour Internationale de Justice (CIJ)	International Criminal Court (ICC) La Cour pénale internationale (CPI)
<b>Year Court Established</b>	1946	2002
<b>UN-Relationship</b>	Official court of the U.N., commonly referred to as the "World Court."	Independent. May receive case referrals from the UN Security Council.
<b>Location</b>	The Hague, The Netherlands	The Hague, The Netherlands
<b>Types of Cases</b>	Contentious between parties & Advisory opinions	Criminal prosecution of individuals
<b>Subject Matter</b>	Sovereignty, boundary, & maritime disputes, trade, natural resources, human rights, treaty violations, treaty interpretation, and more.	Genocide, crimes against humanity, war crimes, crimes of aggression
<b>Funding</b>	UN-funded.	Assessed contribution from state parties to the Rome Statute; voluntary contributions from the U.N.; voluntary contributions from governments, international organizations, individuals, corporations and other entities.

### Composition and voting power:

- The Court's management oversight and legislative body, the Assembly of States Parties, consists of one representative from each state party.
- Each state party has one vote and "every effort" has to be made to reach decisions by consensus.** If consensus cannot be reached, decisions are made by vote. The Assembly is presided over by a president and two vice-presidents, who are elected by the members to three-year terms.

### Jurisdiction:

- The ICC has the jurisdiction to prosecute individuals for the international crimes of genocide, crimes against humanity, and war crimes.
- The ICC is intended to complement existing national judicial systems and it may therefore only exercise its jurisdiction when certain conditions are met, such as when national courts are unwilling or unable to

prosecute criminals or when the United Nations Security Councilor individual states refer situations to the Court.

#### Criticism:

- ***It does not have the capacity to arrest suspects and depends on member states for their cooperation.***
- ***Critics of the Court argue that there are insufficient checks and balances on the authority of the ICC prosecutor and judges and insufficient protection against politicized prosecutions*** or other abuses.
- ***The ICC has been accused of bias and as being a tool of Western imperialism***, only punishing leaders from small, weak states while ignoring crimes committed by richer and more powerful states.
- ***ICC cannot mount successful cases without state cooperation is problematic for several reasons.*** It means that the ICC acts inconsistently in its selection of cases, is prevented from taking on hard cases and loses legitimacy. It also gives the ICC less deterrent value, as potential perpetrators of war crimes know that they can avoid ICC judgment by taking over government and refusing to cooperate.

Sources: the hindu.

## 8. INTERNATIONAL FINANCE CORPORATION (IFC)

#### What to study?

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

**Context:** Insolvency and Bankruptcy Board of India signs a Cooperation Agreement with the ***International Finance Corporation*** to further build the capacity of the Insolvency Professionals, and Insolvency Professional Agencies for the purposes of the effective implementation of the Insolvency and Bankruptcy Code, 2016 among others.

#### 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.

## 9. INTERNATIONAL AIR TRANSPORT ASSOCIATION

#### What to study?

- For Prelims and Mains: IATA- composition, functions and functions.

**Context:** SpiceJet has announced its membership of global airlines' grouping '***International Air Transport Association' (IATA)***. SpiceJet is the first Indian low-budget carrier to join the IATA.

#### Significance:

- The membership will allow SpiceJet to explore and grow its collaborations with international member airlines of the IATA grouping through interlining and code shares.
- It will also enable the low cost carrier in seamlessly expanding its network options for its passengers in future.

#### About IATA:

- **What is it?** The International Air Transport Association (IATA) is the trade association for the world's airlines, representing some 280 airlines or 83% of total air traffic. Formed in April 1945, it is the successor to the International Air Traffic Association, which was formed in 1919.
- **What it does?** IATA supports airline activity and helps formulate industry policy and standards. It also provides consulting and training services in many areas crucial to aviation.
- **Headquarters:** It is headquartered in Montreal, Quebec, Canada with Executive Offices in Geneva, Switzerland.

Sources: the hindu.

## 10. WORLD GOLD COUNCIL (WGC)

#### What to study?

- For Prelims and Mains: WGC- composition, functions and significance, demand for gold- concerns and demands.

**Context:** **World Gold Council (WGC)** has released a report on gold holdings of various countries.

#### Key facts:

- India, which is the world's largest consumer of gold, has the 11th largest gold reserve, with the current holding pegged at 607 tonnes.
- International Monetary Fund (IMF) is third on the list with total gold reserves of 2,814 tonnes.
- Top slot is occupied by the U.S., which boasts of gold reserves of 8,133.5 tonnes, followed by Germany with 3,369.7 tonnes.
- Among Asian countries, China and Japan have more reserves of the precious metal when compared to India.
- Pakistan, with its gold reserves of 64.6 tonnes, occupies the 45th position.

#### About World Gold Council:

- The World Gold Council is the market development organisation for the gold industry. It works across all parts of the industry, from gold mining to investment, and their aim is to stimulate and sustain demand for gold.
- The World Gold Council is an association whose members comprise the world's leading gold mining companies. It helps to support its members to mine in a responsible way and developed the Conflict Free Gold Standard.
- Headquartered in the UK, they have offices in India, China, Singapore, Japan and the United States.

Sources: the hindu.

#### Gold cache

Rank	Possessor	Tonnes
1	U.S.	8,133.5
2	Germany	3,369.7
3	IMF	2,814.0
4	Italy	2,451.8
5	France	2,436.0
6	Russia	2,119.2
7	Mainland China	1,864.3
8	Switzerland	1,040.0
9	Japan	765.2
10	Netherlands	612.5
11	India	607.0
12	ECB	504.8
13	Taiwan	423.6
14	Portugal	382.5
15	Kazakhstan	353.3

SOURCE:  
WGC



## 11. 'BELT AND ROAD' INITIATIVE

#### 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:** **Italy set to become first G7 country to join 'Belt and Road' initiative.**

#### Outcomes:

- **Italy's decision to get closer to Beijing has caused concern amongst its Western allies** — notably in Washington, where the White House National Security Council urged Rome not to give "legitimacy to China's infrastructure vanity project".
- **Critics of the BRI say it is designed to bolster China's political and military influence**, bringing little reward to other nations, and warn that it could be used to spread technologies capable of spying on Western interests.

## 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



## 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.

Sources: the hindu.

**Mains Question:** Do you think China's motives behind the Belt and Road Initiative (BRI) truly benign? Critically comment

## 12. WORLD FOOD PROGRAMME

### What to study?

- For Prelims and Mains: Key facts on WFP and its programmes.

**Context:** Japan has donated \$69 million to the **United Nations World Food Programme** to provide vital aid to 28 countries in the Middle East, Africa, and Asia, with the biggest shares of the money being earmarked for Yemen and Iraq.

#### About WFP:

- **The World Food Programme (WFP) is the food assistance branch of the United Nations and the world's largest humanitarian organization** addressing hunger and promoting food security.
- The WFP strives **to eradicate hunger and malnutrition**, with the ultimate goal in mind of eliminating the need for food aid itself.
- **It is a member of the United Nations Development Group and part of its Executive Committee.**
- Born in 1961, WFP pursues a vision of the world in which every man, woman and child has access at all times to the food needed for an active and healthy life. The WFP is **governed by an Executive Board which consists of representatives from member states.**
- **The WFP operations are funded by voluntary donations from world governments, corporations and private donors.** WFP food aid is also directed to fight micronutrient deficiencies, reduce child mortality, improve maternal health, and combat disease, including HIV and AIDS.

#### The objectives of the World Food Programme are:

1. Save lives and protect livelihoods in emergencies.
2. Support food security and nutrition and (re)build livelihoods in fragile settings and following emergencies.
3. Reduce risk and enable people, communities and countries to meet their own food and nutrition needs.
4. Reduce under-nutrition and break the inter-generational cycle of hunger.
5. Zero Hunger in 2030.

Sources: toi.

## What is the WFP?

- UN division for the provision of food aid to those unable to provide enough food to feed themselves and their family
- Largest humanitarian organisation in the world
- Headquarters in Rome
- Provides food to 86.1 million people in 80 countries



## 13. WORLD METEOROLOGICAL ORGANISATION (WMO)

#### What to study?

- For Prelims and Mains: WMO- objectives, functions, reports and significance.

**Context:** Every year, on March 23, the World Meteorological Organisation (WMO) commemorates its founding by observing World Meteorological Day. This year, the organisation is celebrating its 69th anniversary.

- **Theme:** "The Sun, the Earth and the weather". This year's theme also sits in perfectly with **the next cycle of the Sun's activity starting in 2020, also known as the Solar Cycle 25.**

#### What does WMO do?

- WMO coordinates the activities of National Meteorological and Hydrological Services in 191 States and Territories so that basic weather, climate and water services are made available to anyone who needs them, when they need them.

#### About WMO:

- The World Meteorological Organization (WMO) is a specialized agency of the United Nations dedicated to meteorology (weather), climatology (climate), operational hydrology (water) and other related geophysical sciences such as oceanography and atmospheric chemistry.
- **Predessor organization** — International Meteorological Organization (IMO) — founded in 1873.

#### Reports:

1. Greenhouse Gas Bulletin.
2. Status of the World Climate.

- WMO guarantees the publication of observations and statistics and furthers the application of meteorology and hydrology (including the monitoring and predictions of climate change and ozone) to all aspects of human activities such as aviation, shipping, water management and agriculture.
- WMO also encourages research and training in meteorology and hydrology and their related applications and contributes towards reducing the impact of weather- and climate-related hazards. This is accomplished through regular, reliable forecasts and early warnings on flooding, drought, tropical cyclones, tornadoes and other extreme events.
- Predictions concerning locust swarms and the transport of pollutants (nuclear and toxic substances, volcanic ash) are also provided by WMO Members.

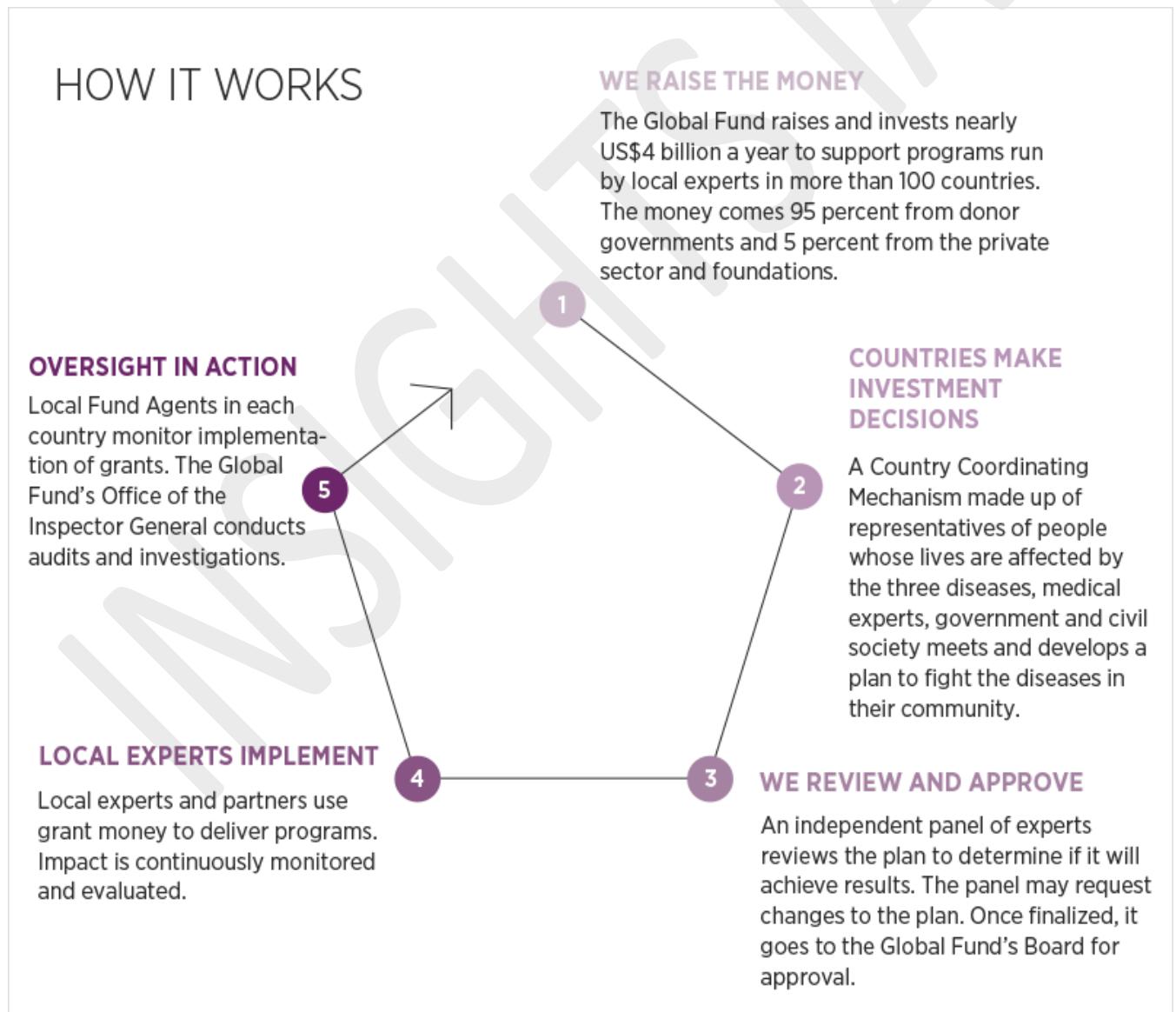
Sources: down to earth.

## 14. THE GLOBAL FUND TO FIGHT AIDS, TUBERCULOSIS AND MALARIA

### What to study?

- For Prelims and Mains: The Fund, its objectives, need for funding, significance and challenges.

**Context:** Hyderabad-based pharma company Laurus Labs Limited has announced that it has entered into a strategic partnership agreement with Global Fund for a period of 3.5 years. Through this agreement Laurus Labs will have the volume commitments from the Global Fund for the treatment of HIV/AIDS.



### What is it?

- The **Global Fund to Fight AIDS, Tuberculosis and Malaria (or simply the Global Fund)** is an international financing organization that **aims to “attract, leverage and invest additional resources to end the epidemics**

*of HIV/AIDS, tuberculosis and malaria to support attainment of the Sustainable Development Goals established by the United Nations."*

- Founded in 2002, the Global Fund is **a partnership between governments, civil society, the private sector and people affected by the diseases.**
- The organization maintains its **secretariat in Geneva, Switzerland.**

#### **Historical background:**

- The Global Fund was formed as an independent, non-profit foundation under Swiss law and hosted by the World Health Organization in January 2002.
- In January 2009, the organization became an administratively autonomous organization, terminating its administrative services agreement with the World Health Organization.

## **15. AFRICAN UNION (AU)**

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

- For Prelims and Mains: AU- objectives, composition, functions and significance.

**Context:** India and the African Union have signed a Memorandum of Understanding to establish an India-Africa health sciences collaborative platform.

#### **Key facts:**

- The ICMR had taken up the mandate to initiate and strengthen the cooperation in the health sector in a structured and organised manner by establishing an India-Africa Health Sciences Collaborative Platform.
- The agreement aims to formalise this partnership by establishing a framework. It will pave the way for cooperation in research and development, capacity building, health services, pharmaceutical trade and manufacturing capabilities for drugs and diagnostics.
- The programme would focus on training and strengthening capacity of health professionals, researchers, regulators and industry staff, support research collaborations for developing preventive tools and improved diagnostics for diseases which are regional priorities in India and Africa.

#### **About AU:**

The African Union (AU) *is a continental union consisting of 55 countries of the continent of Africa, with exception of various territories of European possessions located in Africa.*

- The bloc was founded on 26 May 2001 in Addis Ababa, Ethiopia and launched on 9 July 2002 in South Africa.
- The intention of the AU is to replace the Organisation of African Unity (OAU), established on 25 May 1963 in Addis Ababa by 32 signatory governments.
- The most important decisions of the AU are made by the Assembly of the African Union, a semi-annual meeting of the heads of state and government of its member states.
- The AU's secretariat, the African Union Commission, is based in Addis Ababa.

**Key objectives:** To achieve greater unity and solidarity between the African countries and Africans. To defend the sovereignty, territorial integrity and independence of its Member States. To accelerate the political and social-economic integration of the continent.

# GENERAL STUDIES - III

*Topics: Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.*

## 1. DOMESTIC SYSTEMICALLY IMPORTANT BANK

### What to study?

- For Prelims and Mains: D-SIB- meaning, concerns, need and management.

**Context:** RBI categorises IDBI Bank as Private Sector Bank; SBI, ICICI and HDFC remain Systemically Important Banks.

### What is a domestic systemically important bank and why is it important?

- D-SIB means that the bank is too big to fail.** According to the RBI, some banks become systemically important due to their size, cross-jurisdictional activities, complexity and lack of substitute and interconnection. **Banks whose assets exceed 2% of GDP are considered part of this group.**

### Significance:

- Should such a bank fail, there would be significant disruption to the essential services they provide to the banking system and the overall economy.
- The too-big-to-fail tag also indicates that in case of distress, the government is expected to support these banks. Due to this perception, these banks enjoy certain advantages in funding. It also means that these banks have a different set of policy measures regarding systemic risks and moral hazard issues.

### Classification:

- RBI has to disclose names of banks designated as D-SIB. It classifies the banks under five buckets depending on order of importance.
- Based on the bucket in which a D-SIB is, an additional common equity requirement applies. Banks in bucket one need to maintain a 0.15% incremental tier-I capital from April 2018. Banks in bucket three have to maintain an additional 0.45%.
- All the banks under D-SIB are required to maintain higher share of risk-weighted assets as tier-I equity.

### Need:

- It was observed during the global financial crisis that problems faced by certain large and highly interconnected financial institutions hampered the orderly functioning of the financial system, which in turn, negatively impacted the real economy.
- Government intervention was considered necessary to ensure financial stability in many jurisdictions. Cost of public sector intervention and consequential increase in moral hazard required that future regulatory policies should aim at reducing the probability of failure of SIBs and the impact of the failure of these banks.

Sources: the hindu.

**Mains Question:** What prompted RBI to classify some banks in India such as SBI and ICICI as systemically important? Also examine implications of this move.

## 2. USHA THORAT PANEL ON OFFSHORE RUPEE MARKETS

**Context:** The Reserve Bank of India (RBI) has constituted a panel under the former deputy governor Usha Thorat to examine issues related to offshore rupee markets and recommend policy measures to ensure the stability of the external value of the domestic currency.

### Mandate for the Panel:

- Study the causes behind the development of the offshore rupee market and examine the effects of the offshore markets on the rupee exchange rate and market liquidity in the domestic market.
- Recommend measures to address concerns, if any, arising out of offshore rupee trading besides proposing measures to generate incentives for non-residents to access the domestic market.

3. Recommend measures to generate incentives for non-residents to access the domestic market and examine the role if any, International Financial Services Centres (IFSCs) can play in addressing these concerns.

### 3. GUIDELINES FOR WHITE LABEL ATMS

#### What to study?

- For Prelims and Mains: What are white label atms, significance, need and different types of atms?

**Context:** The Reserve Bank Of India (RBI) has come up with *a review of operations of White Label ATMs (WLAs)* in the country.

As per the new guidelines, it has been decided to allow:

- The WLA Operators to *buy wholesale cash, above a threshold of 1 lakh pieces (and in multiples thereof) of any denomination, directly from the Reserve Bank (Issue Offices) and Currency Chests* against full payment.
- The operators to *source cash from any scheduled bank, including Cooperative Banks and Regional Rural Banks.*
- The operators to *offer bill payment and Interoperable Cash Deposit services, subject to technical feasibility and certification by National Payments Corporation of India (NPCI).*
- *The display advertisements pertaining to non-financial products / services anywhere within the WLA premises, including the WLA screen, except the main signboard.* However, it shall be ensured that the advertisements running on the screen disappear once the customer commences a transaction.
- *Banks to issue co-branded ATM cards in partnership with the authorised WLA Operators and may extend the benefit of 'on-us' transactions to their WLAs as well.*
- All guidelines, safeguards, standards and control measures applicable to banks relating to currency handling, and cyber-security framework for ATMs, shall also be applicable to the WLA Operators.

#### What is White label-ATM?

- Automated Teller Machines (ATMs) set up, owned and operated by non-bank entities are called “White Label ATMs” (WLAs). They provide the banking services to the customers of banks in India, based on the cards (debit/credit/prepaid) issued by banks.

#### What was the need to allow non-bank entities for setting up of WLAs?

- Keeping the fact in view that banks won't be able to provide their ATM facilities in each and every place, non-bank entities were allowed by the RBI to set up White Label ATMs. This was done to increase the geographical spread of ATMs and enhance the customer service.

#### Key facts related:

- Non-bank entities shall commence setting up and operating WLAs only after it has been authorised to do so by the RBI under the Payment and Settlement Systems Act, 2007.
- Taking over of ATMs operated by banks would not be permitted. Entities may ensure to draw a strategic plan for installation of such WLAs based on the criteria set during authorization. White Label ATM Operators (WLAO) may also indicate the value added services it proposes to offer at the WLA while seeking authorisation.
- WLAO is permitted to have more than one Sponsor Bank. All the transactions of WLAs serviced by this Sponsor Bank would be settled through it.
- Cash Management at the WLAs will be the responsibility of the Sponsor Bank, who may if required, make necessary arrangements with other banks for servicing cash requirements at various places.
- WLAO may establish connectivity with any of the authorised ATM Network Operators/ Card Payment Network Operators and ensure that the settlement of all the transactions at the WLAs shall be done only in the books of the Sponsor Bank through the ATM Network Operators/ Card Payment Network Operators with whom the WLAO has established connectivity.
- Maintenance and servicing of the WLAs shall be the sole responsibility of the WLAO.

In addition to cash dispensing, ATMs / WLAs may offer many other services / facilities to customers. Some of these services include:

- Account Information.
- Cash Deposit (not permitted at WLAs).
- Regular Bills Payment (not permitted at WLAs).
- Purchase of Re-load Vouchers for Mobiles (not permitted at WLAs).
- Mini / Short Statement Generation.
- PIN change.
- Request for Cheque Book.

## Types of ATM



- White Label ATM is owned and operated by a non-banking entity while cash is provided by sponsored bank.



- Brown Label ATM is owned by the bank but its operation and maintenance is outsourced to third entity.



- Green Label ATM is used for Agricultural transactions.



- Orange Label ATM is used for transacting shares.



- Yellow Label ATM is used for E-commerce.



- Pink Label ATM is used for women banking.

Sources: the hindu.

## 4. FINANCIAL STABILITY AND DEVELOPMENT COUNCIL (FSDC)

### What to study?

- For Prelims and Mains: Composition, role, objectives and significance of FSDC.

**Context:** FSDC meeting held recently was chaired by the Union Finance Minister.

### About FSDC:

- The Financial Stability and Development Council (FSDC) was constituted in December, 2010. The FSDC was set up **to strengthen and institutionalise the mechanism for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development.**
- **An apex-level FSDC is not a statutory body.**

### Composition:

- **The Council is chaired by the Union Finance Minister** and its members are Governor, Reserve Bank of India; Finance Secretary and/or Secretary, Department of Economic Affairs; Secretary, Department of Financial Services; Chief Economic Adviser, Ministry of Finance; Chairman, Securities and Exchange Board of India; Chairman, Insurance Regulatory and Development Authority and Chairman, Pension Fund Regulatory and Development Authority. It also includes the chairman of the Insolvency and Bankruptcy Board (IBBI).
- Recently, the government through a gazette notification, had included ministry of electronics and information technology (MeitY) secretary in the FSDC in view of the increased focus of the government on digital economy.

## Financial Stability and Development Council

The FSDC, set up in 2010, is a body consisting all regulators and the Ministry of Finance. It is the highest forum in matters relating to financial stability. The Council is chaired by the Union Finance Minister



### What it does?

- The Council deals, inter-alia, with issues relating to financial stability, financial sector development, inter-regulatory coordination, financial literacy, financial inclusion and macro prudential supervision of the economy including the functioning of large financial conglomerates. No funds are separately allocated to the Council for undertaking its activities..;

## 5. INDIAN ACCOUNTING STANDARDS (IND AS)

### What to study?

- For Prelims and Mains: Ind AS- features, significance and need.

**Context:** The Reserve Bank of India (RBI) has deferred the implementation of new accounting rules, Indian Accounting Standards (Ind AS) for banks till further notice. This is the second extension provided by the RBI. Earlier in April 2018, RBI had postponed the implementation of Ind AS by the banks by one year.

### WHAT IS IND AS...

These are new set of accounting standards notified and issued by Central Government through Companies (Indian Accounting Standards) Rules 2015

These are applicable only for specified class or classes of companies

These standards are Prepared from International Financial Reporting Standards (IFRS) & International Accounting Standards (IAS) as Converged Indian Accounting Standards (Ind AS)

IND AS 101 to 115  
Converged from  
IFRS 1 to 15

IND AS 1 to 41  
Converged from IAS  
1 to 41

- The new rules — based on the IFRS9 standards created in the aftermath of the financial crisis — were supposed to kick in at the start of the new fiscal year that starts on April 1, after being delayed last year.

According to Fitch Ratings' local unit, India's state-run lenders would have had to increase provisions by as much as 1.1 trillion rupees (\$16 billion) in the fiscal first quarter ending June 30 if the rules had gone ahead.

- That would have forced public sector lenders to raise "substantial" amounts of extra capital, beyond the estimated 1.9 trillion rupee infusion already committed by the government.

#### What is it?

- Ind AS or Indian Accounting Standards govern the accounting and recording of financial transactions as well as the presentation of statements such as profit and loss account and balance sheet of a company. Ind AS has been evolved as *a compromise formula that tries to harmonise Indian accounting rules with the IFRS*.

#### Facts for Prelims:

- The implementation of IndAS for public sector banks requires an amendment to the Banking Regulation Act.** The schedule in BR Act relating to financial statement disclosures needs to be changed to the IndAS format.
- Section 29 of the BR Act** deals with the accounts and balance sheets of public sector banks. Private sector banks are covered by the Companies Act, which is based on the new accounting standards.

Sources: the hindu.

## 6. CENTRE MUST NOT LOOK UPON THE RESERVE BANK AS A CASH COW

**Context:** A former member of RBI's central board has cautioned the Centre on being fully dependent fiscally on RBI.

#### Why it is undesirable?

- The RBI has paid Rs ₹68,000 crore to the government in the form of dividend or interim dividend since July 2018. It forms 92% of the Centre's entire income from dividends from all public sector financial institutions. *This is very bad, as it makes the government fiscally dependent on the RBI.*
- It means the Centre would then look upon the RBI as a cash cow and start questioning every rupee that the central bank spends.*

#### Why RBI should be given freedom to spend?

What the central bank does is foundational for the nation, and hence it must have the freedom to choose its areas of expenditure, including choice of employees. They need good training, remuneration, pension and housing. *If the government constrains this, it is the people of India who will suffer.*

- The RBI cannot be treated on par with a department of the Government of India. It is very separate, special. RBI is among the leanest and most efficient organisations in the country, with a headcount of about 15,000 executing myriad functions.
- The RBI's monetary policy is formulated keeping in mind the fiscal policy of the government. So, the RBI should be free to be critical of the government's fiscal policy.

## 7. IS THE INDIAN ECONOMY SLOWING DOWN?

#### What to study?

- For Prelims and Mains: Slowing economy- concerns, causes and what needs to be done?

#### Signs to suggest that the Indian economy slowing down:

- Sales of Maruti Suzuki, the largest carmaker, and Tractor sales for Mahindra have declined in December 2018. Two-wheeler sales too started crawling since December.
- There are signs of a consumption slowdown spreading to non-discretionary items such as food items. Thus far, it was feared to have impacted only discretionary expenditure – in products such as cars and consumer durables.
- Macro indicators too aren't presenting any encouraging signs either. First, eight core segments — steel, cement, fertilisers, coal, electricity, crude oil, natural gas and refinery products, which together make up about 40% of industrial production – grew at 1.8 per cent in January this year, compared with 2.8 per cent in the previous month.

- The growth in industrial output itself dropped to 1.7% in January 2019 against a growth of 2.6% in December 2018. In the corresponding month i.e. January 2018, it had grown 7.5%.
- The GDP growth rate in the first three quarters (April-June 2018, July-September 2018 and October-December 2018) of the current financial year ending March 2019, the Central Statistics Office estimates, was 8 per cent, 7 per cent and 6.6 per cent, respectively. This clearly shows a trend of sequential slowing down and these numbers corroborate the signals that have been visible on the ground.

#### **Why is it slowing down?**

- The demand for passenger vehicles slowed down during the second half (beginning September 2018) of this financial year because of many reasons — high interest rates, higher fuel prices and lack of credit. However, many in the industry say consumers have only postponed the decision to purchase vehicles, suggesting that there is no permanent destruction of this demand.
- At a very broad level, demonetisation — a radical policy decision — and introduction of Goods and Services Tax — a structural reform — naturally had an adverse impact on the economy.
- Over the last two years, bank credit slowed down dramatically because banks had to make higher provisions for bad loans. With six public sector banks under the central bank's prompt corrective action framework, and some others voluntarily having pressed the pause button on lending, retail and businesses found it quite difficult to access credit.
- Poor bank credit, liquidity crisis and high interest rates all created a huge drag on the economy.

#### **Concerns:**

- A slowing economy always hurts. It affects income of people, and does not create jobs.

Sources: ie.

## **8. THE SHAPE OF AN URBAN EMPLOYMENT GUARANTEE**

#### **Need for an urban employment programme:**

- According to the PLFS report, the ***unemployment problem is especially aggravated in India's cities and towns.***
- In urban India the ***majority of the population continues to work in the informal sector.*** Hence, India cannot ignore the crisis of urban employment.
- India's small and medium towns are particularly ignored in the State's urban imagination.*** National-level urban programmes such as the Smart Cities Mission and the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) only benefit a fraction of them.
- Most ULBs are struggling to carry out basic functions because of a lack of financial and human capacity. Further, ***with untrammeled urbanisation, they are facing more challenges due to the degradation of urban ecological commons.***
- In the context of the present employment crises, it is worthwhile considering to introduce ***an employment guarantee programme in urban areas.***

#### **Significance:**

- Along with addressing the concerns of underemployment and unemployment, such a programme can bring in ***much-needed public investment in towns to improve the quality of urban infrastructure and services, restoring urban commons, skilling urban youth and increasing the capacity of ULBs.***
- Such a programme would give urban residents a statutory right to work and thereby ensure the right to life guaranteed under ***Article 21 of the Constitution.***

#### **Things to be considered:**

- To make it truly demand-driven, we have proposed that the ULB receives funds from the Centre and the State at the beginning of each financial year so that funds are available locally.
- Wages would be disbursed in a decentralised manner at the local ULB.
- Given the State's relative neglect of small and medium towns and to avoid migration to big cities, such a programme can cover all ULBs with a population less than 1 million.

- Since it is an urban programme, it should have a wider scope than the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA); this would provide employment for a variety of works for people with a range of skills and education levels
- It can have a new set of “green jobs” which include the creation, restoration/rejuvenation, and maintenance of urban commons such as green spaces and parks, forested or woody areas, degraded or waste land, and water bodies.

#### **Conclusion:**

- An urban employment guarantee programme not only improves incomes of workers but also has multiplier effects on the economy.
- It will also boost local demand in small towns, improve public infrastructure and services, spur entrepreneurship, build skills of workers and create a shared sense of public goods. Hence, the time is ripe for an employment guarantee programme in urban India.

## **9. FISCAL COUNCIL TO ENFORCE RULES**

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

- For Prelims and Mains: Need for fiscal council, significance and various recommendations in this regard.

**Why in News?** Stressing on the need to have uniform rules for fiscal consolidation of States and Centre, 15th Finance Commission’s Chairman NK Singh has called for institutional mechanism like a ‘Fiscal Council’ to enforce fiscal rules and keep a check on Centre’s fiscal consolidation.

#### **Why do we need a fiscal council?**

- **Various cesses and surcharges are becoming disproportionate proportion of overall divisible revenue.** There should be some mechanism to ensure that the basic spirit of the devolution process should not be undercut by clever financial engineering or taking recourse to traditions.
- **There is a need for coordination between the finance commission as well as the GST Council.** GST Council has no clue of what the Finance Commission is doing and Finance Commission has even lesser clue of what the GST Council is doing.
- Also, **for state government liabilities, Article 293 (3) provides a constitutional check over borrowings. But there is no such restriction on the Centre.**
- Therefore, it is time to have an alternative institutional mechanism like Fiscal Council to enforce fiscal rules and keep a check on Centre’s fiscal consolidation.

#### **Expert committee recommendations:**

- In India, two expert committees have advocated the institution of such a council in recent years.
- **In 2017, the N.K. Singh committee on the review of fiscal rules** set up by the finance ministry suggested the creation of an independent fiscal council that would provide forecasts and advise the government on whether conditions exist for deviation from the mandated fiscal rules.
- **In 2018, the D.K. Srivastava committee on fiscal statistics** established by the National Statistical Commission (NSC) also suggested the establishment of a fiscal council that could co-ordinate with all levels of government to provide harmonized fiscal statistics across governmental levels and provide an annual assessment of overall public sector borrowing requirements.
- **These recommendations follow similar recommendations from the 13th and 14th finance commissions,** which also advocated the establishment of independent fiscal agencies to review the government’s adherence to fiscal rules, and to provide independent assessments of budget proposals.

#### **Way ahead:**

- With a complex polity and manifold development challenges, India need institutional mechanisms for prudent fiscal practices.
- An independent fiscal council can bring about much needed transparency and accountability in fiscal processes across the federal polity. International experience suggests that a fiscal council improves the quality of debate on public finance, and that, in turn, helps build public opinion favourable to fiscal discipline.

Sources: the hindu.

## 10. INTEREST RATE DERIVATIVES

### What to study?

- For Prelims and Mains: Meaning of Interest Rate Derivatives and swap- their significance.

**Context:** The Reserve Bank of India (RBI) has allowed non-residents to participate in the rupee interest rate derivatives market. This decision was taken with a view to deepening the rupee interest rate swap (IRS) market.

- With this decision, non-residents of India can undertake rupee interest rate derivative transactions on recognised stock exchanges, electronic trading platforms and over the counter markets (OTCs).

### What is an Interest-Rate Derivative?

- An interest-rate derivative is a financial instrument with a value that increases and decreases based on movements in interest rates. Interest-rate derivatives are often used as hedges by institutional investors, banks, companies and individuals to protect themselves against changes in market interest rates, but they can also be used to increase or refine the holder's risk profile.

### What is an Interest Rate Swap?

- An interest rate swap is a forward contract in which one stream of future interest payments is exchanged for another based on a specified principal amount. Interest rate swaps usually involve the exchange of a fixed interest rate for a floating rate, or vice versa, to reduce or increase exposure to fluctuations in interest rates or to obtain a marginally lower interest rate than would have been possible without the swap.

Sources: the hindu.

*Topics: Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.*

## COUNTRY-BY-COUNTRY (CbC) REPORTS

### What to study?

- For Prelims and Mains: What are CbC reports- brief background, need and their significance.

**Context: India and the US can now exchange country-by-country (CbC) reports** filed by the ultimate parent corporations based in either of the countries.

### Significance and impact:

- This will reduce the compliance burden on their subsidiaries operating out of these countries.
- The agreement would enable both the countries to exchange CbC reports filed by the ultimate parent entities of international groups in the respective jurisdictions, pertaining to the financial years commencing on or after January 1, 2016.

### Provisions wrt CbC reports:

- The Income Tax Act requires Indian subsidiaries of multinational companies to provide details of key financial statements from other jurisdictions where they operate.*** This provides the IT department with better operational view of such companies, primarily with regards to revenue and income tax paid.
- The provision was a part of the base erosion and profit shifting action plan,*** and later incorporated in IT Act also.

### BEPS Action 13 report:

- The BEPS Action 13 report (Transfer Pricing Documentation and Country-by-Country Reporting) provides a template for multinational enterprises (MNEs) to report annually and for each tax jurisdiction in which they do business the information set out therein. This report is called the ***Country-by-Country (CbC) Report.***

*Topics: Inclusive growth and issues arising from it.*

## 1. NATIONAL HOUSING BANK

### What to study?

- For Prelims and Mains: Role, objectives and significance of NHB.

**Context:** The Cabinet has approved payment of the face value of the subscribed share capital of Rs.1450 crore in **National Housing Bank (NHB)** to Reserve Bank of India (RBI) consequent to amendments made to the NHB Act, 1987 in 2018.

### Impact:

- The wholesale financing role of NHB will get strengthened with the transfer of ownership to Government, thereby making possible augmented funding support to housing finance companies.
- The change in ownership from RBI to GOI will also segregate RBI's role as banking regulator and as owner of NHB.

### 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.

## 2. PSBLOANSIN59MINUTES.COM

### What to study?

- For Prelims and Mains: Key features and significance of the portal.

**Context:** **PSBLoansin59minutes.com** launched three months ago has emerged as the **largest online lending platform**, according to a report by global financial firm Credit Suisse.

### About the Portal “PSBLoansin59min”:

- The portal was launched in November **to provide credit of up to Rs 1 crore to micro, small and medium enterprises (MSMEs) in just 59 minutes**.
- It is one of its kind platforms in MSME segment which **integrates advanced fintech to ensure seamless loan approval and management**. The loans are undertaken without human intervention till sanction and or disbursement stage.

### How it works?

- The Portal sets a new benchmark in loan processing and reduces the turnaround time from 20-25 days to 59 minutes. Subsequent to this in principle approval, the loan will be disbursed in 7-8 working days.
- The solution uses sophisticated algorithms to read and analyse data points from various sources such as IT returns, GST data, bank statements, MCA21 etc. in less than an hour while capturing the applicant's basic details.
- The system simplifies the decision making process for a loan officer as the final output provides a summary of credit, valuation and verification on a user-friendly dashboard in real time.

## 3. MONSTER SALARY INDEX REPORT

### What to study?

- For Prelims: Highlights of the report.
- For Mains: Concerns raised, challenges and the need for comprehensive reform policy.

**Context:** **Monster Salary Index survey** has been released. The survey is titled '**Women of India Inc'**.

- It was prepared by **Monster India in collaboration with Paycheck.in with IIM-Ahmedabad as a research partner**.

### **Important findings:**

- Women in India earn 19% less than their male counterparts and 60% working women in India feel that discrimination at work.
- The median gross hourly salary for men was Rs 242.49—earned Rs 46.19—more in comparison to women who earned Rs 196.3 in 2018.
- Sector-wise, IT/ITES services show 26 per cent pay gap in favour of men, followed by manufacturing sector, where men earned 24 per cent more than women.
- In healthcare, caring services, and social work men earn 21% more than women, while Banking and Insurance is the only industry where men earn just 2% more.
- Around 47% of women felt that the most notable form of discrimination is perception that women are less serious about work once they are married.
- About 46% women feel that maternity leads to a perception that they will quit and the same percentage of women also believe that there is a notion that women can't put the same number of hours as men.

### **Way ahead:**

- The narrowing of the gender pay gap by just one percent is not just a cause for concern, but a reminder to genuinely introspect if we are doing enough. It becomes pivotal to galvanize forces across corporates and industries to work towards gender pay parity.

Sources: the hindu.

**Mains Question:** According to Monster Salary Index, India suffers from huge gender pay gap. Discuss the causes and remedies.

## **4. VOLUNTARY RETENTION ROUTE FOR FOREIGN PORTFOLIO INVESTORS**

### **What to study?**

- For Prelims and Mains: VRR- meaning, features and significance.

### **What is VRR?**

- ***It is a new channel of investment available to FPIs to encourage them to invest in debt markets in India over and above their investments through the regular route.*** The objective is to attract long-term and stable FPI investments into debt markets while providing FPIs with operational flexibility to manage their investments.

### **When was this route proposed?**

- This new investment route was proposed by the central bank in October 2018 at a time the rupee was weakening against the dollar very sharply. There were also talks of a special NRI bond scheme to attract more dollar funds into the economy and stabilise the rupee.

### **How are they different from the regular FPI investments?**

- Guidelines say that investments through VRR will be free of the macro-prudential and other regulatory prescriptions applicable to FPI investments in debt markets, provided FPIs voluntarily commit to retain a required minimum percentage of their investments in India for a period of their choice. But the minimum retention period shall be three years, or as decided by RBI.

### **How much money can an FPI invest through this route?**

- Investments under this route as of now shall be capped at Rs 40,000 crore for VRR-GOVT and 35,000 crore per annum for VRR-COPR. But the limit could be changed from time to time based on macro-prudential considerations and assessment of investment demand. There will be separate limits for investment in government securities and investment in corporate debt.

### **Are there any other facilities for investors through VRR?**

- FPIs investing through this route will be eligible to participate in repos for their cash management, provided that the amount borrowed or lent under repo were not to exceed 10 per cent of the investment under VRR. They will also be eligible to participate in any currency or interest rate derivative instrument, OTC or exchange-traded instrument to manage their interest rate risk or currency risk.

## 5. WEF ENERGY TRANSITION INDEX

### What to study?

- For Prelims and Mains: The index- key findings, significance, performance of various countries and key observations.

**Context:** *World Economic Forum has released its global Energy Transition index.* The annual list ranks 115 economies on their ability to balance energy security and access with environmental sustainability and affordability.

- The index considers both the current state of the countries' energy system and their structural readiness to adapt to future energy needs.

### Performance of various countries:

- Sweden retained its top spot on the list, followed by Switzerland and Norway in the second and third positions respectively.
- The United States, which is placed at the 27th position, was found to have made progress in reducing the use of coal in power generation. It slipped in the rankings by two places due to concerns surrounding affordability of energy to households and regulatory uncertainty on environmental sustainability.
- The developing countries in Asia, on the other hand, showed significant improvements towards universal access to electricity led by India (76), Indonesia (63) and Bangladesh (90).

### Key observations on India's performance:

- India was found to be amongst the countries with high pollution levels and relatively high CO2 intensity in its energy system. Despite this, the report found that India has made significant strides to improve energy access in recent years and currently scores well in the area of regulation and political commitment towards energy transition.
- While India scored low in terms of system performance, it ranks considerably higher when it comes to readiness to adapt to future energy needs. Overall, India has moved up two places from its 78th position in 2018.
- India is among the five economies that have managed to improve their rank since last year.
- In the BRICS bloc of emerging economies, India was ranked second best, only after Brazil.

Sources: the hindu.

## 6. WHAT IS MINIMUM INCOME SCHEME? HOW WILL BENEFIT?

**Context:** Congress President Rahul Gandhi has announced a minimum income of Rs 6,000 a month or Rs 72,000 a year for 20 per cent of families belonging to the poorest category.

### What is minimum guaranteed income scheme?

- A minimum guaranteed income scheme is one where a set of the population get an assured amount in their bank accounts, which could help them meet their basic needs. Such schemes can be unconditional, meaning that the beneficiary is free to spend the cash without any strings attached.

### Fiscal burden on exchequer if this is implemented:

- According to the Central Statistics Office, *there were 24.95 crore households in India in 2011*. Rural India accounted for a total of 16.87 crore households in 2011. There were 8.08 crore total urban households.
- Assuming every household in the bottom 20% is eligible for the income, it would translate into a total expenditure of Rs 3,60,000 crore (five crore multiplied by Rs 72,000) a year. This is more than six times the outlay of Rs 55,000 crore under the NREGA in 2018-19.
- This scheme alone would add 1.9% of GDP to the fiscal deficit.* In fact, the outlay could be higher than India's health budget, which is estimated at about 1.4% of GDP.

### The macro-economic impact of such spending would be three-fold:

- On growth – such spending would give a mini-boost to consumption expenditure, because the poorest will spend the money on basic needs.
- On inflation – prices may tend to go up with higher consumption demand.

- On the fisc – it could result in higher cost of government borrowing and lead to higher fiscal deficit if subsidies are not rationalised.

#### **Benefits:**

- It address the issue of income inequality or poverty.*** These are the best form of social justice for those left behind in an economy, as they offer a safety net to the poor against shocks such as income fluctuations, lack of employment and health issues.
- It seeks to ease the burden on the government,*** which implements multiple social welfare schemes that have not quite helped in reducing poverty. What that means is that if the government were to eliminate some of the current subsidised schemes (for food, fertiliser and fuel) and allow the beneficiaries to exercise their own choices on how to spend the minimum guaranteed income, then it would be able to focus on providing other public goods and better delivery.
- Other benefits being cited are greater financial inclusion,*** with more among the poor accessing banking services, which can lead to greater penetration of financial services.

#### **Challenges:**

- The primary resistance to such schemes is about the costs involved. There is concern about whether the government has the capacity to implement these programmes.
- There is also the challenge of identifying the beneficiaries, targeting, leakages or misallocation.

**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.**

## **1. PM – KISAN SCHEME**

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

- For Prelims: Key Features of the scheme.
- For Mains: Significance, relevance and need for the scheme, concerns and challenges over its implementation, is it sufficient?

**Context:** Seeding of Aadhaar with bank accounts will not be compulsory for small and marginal farmers to avail the second instalment of Rs 2,000 due on April 1 under the Pradhan Mantri Kisan Samman Nidhi (PM-KiSAN) scheme. However, Aadhaar number would be required for release of second instalment.

#### **About Pradhan Mantri Kisan Samman Nidhi:**

- Under this programme, **vulnerable landholding farmer families, having cultivable land upto 2 hectares, will be provided direct income support at the rate of Rs. 6,000 per year.**
- This income support will be transferred directly into the bank accounts of beneficiary farmers, in three equal installments of Rs. 2,000 each.
- The complete expenditure of Rs 75000 crore for the scheme will borne by the Union Government in 2019-20.

#### **Definition:**

- For the purpose of the calculation of the benefit, the Centre has defined **a small and marginal landholder family as the one comprising of husband, wife and minor children up to 18 years of age, who collectively own cultivable land up to two hectare as per the land records of the concerned states.**

#### **Significance:**

- Around 12 crore small and marginal farmer families are expected to benefit from this. It would not only provide assured supplemental income to the most vulnerable farmer families, but would also meet their emergent needs especially before the harvest season. It would pave the way for the farmers to earn and live a respectable living.

**Mains Question:** Reducing farmer's vulnerability to negative shocks through focussed financial help is more critical than unconditional loan waivers scheme. Critically analyze.

## 2. KISAN URJA SURAKSHA EVAM UTTHAAN MAHAABHIYAN (KUSUM) SCHEME

### What to study?

- For Prelims: Key features and objectives of the scheme.
- For Mains: Significance of the scheme, solar power potential of India, challenges therein and legislative measures needed.

**Context:** The government has cautioned against fake websites claiming to be registration portal for **Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM) scheme** and said such websites may be misusing the collected data.

### About KUSUM scheme:

- **What is it?** It is a ₹1.4 lakh-crore scheme for promoting decentralised solar power production of up to 28,250 MW to help farmers.
- **Benefits:** It would provide extra income to farmers, by giving them an option to sell additional power to the grid through solar power projects set up on their barren lands. It would help in de-dieselising the sector as also the DISCOMS.
- **Components of the scheme:** The components of the scheme include building 10,000 MW solar plants on barren lands and providing sops to DISCOMS to purchase the electricity produced, ‘solarising’ existing pumps of 7250 MW as well as government tube wells with a capacity of 8250 MW and distributing 17.5 lakh solar pumps. The 60% subsidy on the solar pumps provided to farmers will be shared between the Centre and the States while 30% would be provided through bank loans. The balance cost has to be borne by the farmers.
- **Significance of the scheme:** Expected positive outcomes of the scheme include promotion of decentralised solar power production, reduction of transmission losses as well as providing support to the financial health of DISCOMs by reducing the subsidy burden to the agriculture sector. The scheme would also promote energy efficiency and water conservation and provide water security to farmers.

### The proposed scheme provides for:

1. Setting up of grid-connected renewable power plants each of 500KW to 2 MW in the rural area.
2. Installation of standalone off-grid solar water pumps to fulfil irrigation needs of farmers not connected to grid.
3. Solarization of existing grid-connected agriculture pumps to make farmers independent of grid supply and also sell surplus solar power generated to Discom and get extra income.

**Mains Question:** Discuss the objectives and features of the Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM) scheme

## 3. “TRANSPORT AND MARKETING ASSISTANCE” (TMA) FOR SPECIFIED AGRICULTURE PRODUCTS SCHEME

### What to study?

- **For Prelims: Key features of the scheme.**
- **For Mains: Significance and the need for the scheme.**

**Context:** The Centre has notified a scheme for **Transport and Marketing Assistance (TMA) for specified agriculture products** that will provide assistance for the international component of freight and marketing of agricultural produce.

### Highlights:

1. The scheme will be available for exports effected from March 1, 2019 to March 31, 2020.
2. **Eligibility:** All exporters, duly registered with relevant Export Promotion Council as per Foreign Trade Policy, of eligible agriculture products shall be covered under this scheme.
3. **Exceptions:** **The assistance** is available for most agricultural product exports with some exceptions such as live animals, products of animal origin, milk, cream, curd, butter, buttermilk, whey, rice, wheat, tobacco and garlic.
4. The assistance, at notified rates, will be **available for export of eligible agriculture products to the permissible countries, as specified from time to time**. The assistance shall be admissible only if payments for the exports are received in Free Foreign Exchange through normal banking channels.
5. The scheme shall be admissible for exports made **through EDI (Electronic Data Interchange) ports only**.

6. The scheme ***covers freight and marketing assistance for export by air as well as by sea.***

#### **Impact of the scheme:**

- This scheme is likely to mitigate the disadvantage of higher cost of transportation of export of specified agriculture products due to trans-shipment and to promote brand recognition for Indian agricultural products in the specified overseas markets.

**Topics: Infrastructure related issues.**

## **1. SPECIAL ECONOMIC ZONES ACT, 2005**

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

- For Prelims: What are SEZs? Overview of the legislation.
- For Mains: Significance of SEZs and challenges faced by them.

**Context:** The Union Cabinet has approved promulgation of an ***Ordinance to amend the definition of "person", as defined in sub-section (v) of section 2 of the Special Economic Zones Act, 2005:***

1. To include a trust.
2. To enable the setting up of a unit in a Special Economic Zone by a trust.
3. To provide flexibility to the Central Government to include in this definition of a person, any entity that the Central Government may notify from time to time.

#### **What are SEZs?**

- Special Economic Zones (SEZs) are ***geographically delineated 'enclaves' in which regulations and practices related to business and trade differ from the rest of the country and therefore all the units therein enjoy special privileges.***
- The basic idea of SEZs emerges from the fact that, while it might be very difficult to dramatically improve infrastructure and business environment of the overall economy 'overnight', SEZs can be built in a much shorter time, and they can work as efficient enclaves to solve these problems.
- ***The SEZ Act, 2005,*** provides the legal framework for establishment of SEZs and also for units operating in such zones.

For further reference on SEZs Act:

<http://commerce.gov.in/writereaddata/aboutus/actspdfs/SEZ%20Act,%202005.pdf>.

## **2. FAME-INDIA SCHEME**

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

- For Prelims and Mains: FAME- India scheme- features, significance and potential.

**Context:** The Union cabinet has approved the proposal for implementation of scheme titled '***Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME India Phase II)***' for promotion of Electric Mobility in the country.

- The scheme with total outlay of Rs 10000 Crores over the period of three years will be implemented with effect from 1st April 2019.
- This scheme is ***the expanded version of the present scheme titled 'FAME India1*** which was launched on 1st April 2015.

#### **FAME-India Scheme Phase – II:**

- The scheme proposes to give a push to electric vehicles (EVs) in public transport.
- It seeks to encourage adoption of EVs by way of market creation and demand aggregation.

#### **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.***

- Vehicles in most segments – two wheelers, three wheelers, electric and hybrid cars and electric buses obtained the subsidy benefit of the scheme.

- FAME focuses on 4 areas i.e. Technology development, Demand Creation, Pilot Projects and Charging Infrastructure.

### 3. PRADHAN MANTRI JL-VAN YOJANA

#### What to study?

- For Prelims: About PM JI-VAN Yojana, EBP- key features.
- For Mains: Significance and the need for ethanol blending, challenges present and ways to address them.

**Context:** The Cabinet Committee on Economic Affairs has approved the “**Pradhan Mantri Ji-VAN (Jaiv Indhan-Vatavaran Anukool fasal awashesh Nivarana) Yojana**”.

1. The scheme provides **financial support to Integrated Bioethanol Projects using lignocellulosic biomass and other renewable feedstock**.
2. The scheme focuses to **incentivise 2G Ethanol sector and support this nascent industry by creating a suitable ecosystem for setting up commercial projects and increasing Research & Development in this area**.

Apart from supplementing the targets envisaged by the Government under EBP programme, the scheme will also have the following benefits:

- Meeting Government of India vision of reducing import dependence by way of substituting fossil fuels with Biofuels.
- Achieving the GHG emissions reduction targets through progressive blending/ substitution of fossil fuels.
- Addressing environment concerns caused due to burning of biomass/ crop residues & improve health of citizens.
- Improving farmer income by providing them remunerative income for their otherwise waste agriculture residues.
- Creating rural & urban employment opportunities in 2G Ethanol projects and Biomass supply chain.
- Contributing to Swachh Bharat Mission by supporting the aggregation of nonfood biofuel feedstocks such as waste biomass and urban waste.
- Indigenizing of Second Generation Biomass to Ethanol technologies.

#### Key facts:

- The ethanol produced by the scheme beneficiaries will be **mandatorily supplied to Oil Marketing Companies (OMCs)** to further enhance the blending percentage under EBP Programme.
- **Centre for High Technology (CHT)**, a technical body under the aegis of MoP&NG, will be **the implementation Agency for the scheme**.

#### Significance and the need for such schemes:

- Ministry of Petroleum & Natural Gas has targeted to **achieve 10% blending percentage of Ethanol in petrol by 2022**. Despite efforts of the Government such as higher ethanol prices and simplification of ethanol purchase system, the highest ever ethanol procurement stands around 150 crore litres during Ethanol supply year 2017-18 which is sufficient for around 4.22% blending on Pan India basis.
- Therefore, an alternate route viz. Second Generation (2G) Ethanol from biomass and other wastes is being explored by MoP&NG to bridge the supply gap for EBP programme. In this direction, “**Pradhan Mantri Ji-VAN Yojana**” is being launched as a tool to create 2G Ethanol capacity in the country and attract investments in this new sector.

#### Ethanol Blended Petrol (EBP) programme:

- Government of India launched Ethanol Blended Petrol (EBP) programme in 2003 for undertaking blending of ethanol in Petrol to address environmental concerns due to fossil fuel burning, provide remuneration to farmers, subsidize crude imports and achieve forex savings.
- Presently, EBP is being run in 21 States and 4 UTs of the country. Under EBP programme, OMCs are to blend upto 10% of ethanol in Petrol. The present policy allows procurement of ethanol produced from molasses and non-food feed stock like cellulosics and lignocellulosics material including petrochemical route.

## 4. NATIONAL POLICY ON SOFTWARE PRODUCTS – 2019

### What to study?

- For Prelims: Features, significance, need and potential of the policy.

**Context:** The Union Cabinet has approved the **National Policy on Software Products – 2019** to develop India as a Software Product Nation.

### Aims:

- To develop India as the global software product hub, driven by innovation, improved commercialisation, sustainable Intellectual Property (IP), promoting technology startups and specialized skill sets.
- To align with other Government initiatives such as Start-up India, Make in India and Digital India, Skill India etc so as to create Indian Software products Industry of USD ~70-80 billion with direct & indirect employment of ~3.5 million by 2025.

### Major impact:

- The **Software product ecosystem is characterized by innovations, Intellectual Property (IP) creation and large value addition increase** in productivity, which has the potential to significantly boost revenues and exports in the sector, create substantive employment and entrepreneurial opportunities in emerging technologies and leverage opportunities available under the Digital India Programme, thus, leading to a **boost in inclusive and sustainable growth**.

### Expenditure involved:

- Initially, an outlay of Rs.1500 Crore is involved to implement the programmes envisaged under this policy over the period of 7 years. Rs1500 Crore is divided into **Software Product Development Fund (SPDF) and Research & Innovation fund**.

### Implementation strategy and targets:

- The Policy will lead to the formulation of several schemes, initiatives, projects and measures for the development of Software products sector in the country as per the roadmap envisaged therein.

### To achieve the vision of NPSP-2019, the Policy has the following five Missions:

- To promote the creation of a sustainable Indian software product industry, driven by intellectual property (IP), leading to a ten-fold increase in India share of the Global Software product market by 2025.
- To nurture 10,000 technology start-ups in software product industry, including 1000 such technology start-ups in Tier-II and Tier-III towns & cities and generating direct and in-direct employment for 3.5 million people by 2025.
- To create a talent pool for software product industry through (i) up-skilling of 1,000,000 IT professionals, (ii) motivating 100,000 school and college students and (iii) generating 10,000 specialized professionals that can provide leadership.
- To build a cluster-based innovation driven ecosystem by developing 20 sectoral and strategically located software product development clusters having integrated ICT infrastructure, marketing, incubation, R&D/testbeds and mentoring support.
- In order to evolve and monitor scheme & programmes for the implementation of this policy, National Software Products Mission will be set up with participation from Government, Academia and Industry.

### Background:

- The Indian IT Industry has predominantly been a service Industry. However, a need has been felt to move up the value chain through technology oriented products and services. **To create a robust software product ecosystem the Government has approved the National Policy on Software Products – 2019.**

## 5. CONSTRUCTION TECHNOLOGY INDIA (CTI)

### What to study?

- For Prelims and Mains: CTI related key facts, significance of the event.

**Context:** Prime Minister recently inaugurated the **Construction Technology India-2019 Expo-cum-Conference in Delhi.**

#### Key facts:

- The conference identifies proven, innovative and globally established technologies for use in the Indian context.
- Technology providers, researchers, start-ups, developers, academia, public sector agencies and other domain experts participated in the event.

#### About CTI:

- The Construction Technology India (CTI) will be a biennial event.
- **National Real Estate Development Council (NAREDCO) and Confederation of Real Estate Developers' Associations of India (CREDAI)** will be taking the lead with the support of Ministry of Housing and Urban Affairs in hosting this event.
- This event will become a regular feature in the international event calendar for construction sector where the leading entities in this space across the world would be making their presence here.

## 6. SOLAR POWERHOUSE

**Context:** In February, the Cabinet Committee on Economic Affairs approved phase 2 of the **grid-connected rooftop solar programme**, with a focus on the residential sector.

#### Its outreach:

- **India has set an ambitious target of achieving 40 GW of rooftop solar capacity by 2022.** However, while there has been progress on rooftop solar installations among industries and commercial consumers, the uptake among residential consumers has been slow.

#### Why uptake among residential consumers has been slow?

- They don't have enough information about it. There is no single source to access information, evaluate benefits and disadvantages, and examine if any government support (such as a financial subsidy) is available.

#### Need of the hour:

1. **Devise simple, well-designed and creative ways to disseminate information.** Information must be made easily available to the consumers on the amount of shadow-free roof area needed for generating a unit of electricity and pricing; operating the system, after-sales maintenance and support; and reliable rooftop solar vendors.
2. **The local electricity linesmen, electricity inspectors, and other nodal officials in the electricity department also have key roles to play.** Building their capacities to disseminate such information and handle consumer queries and concerns, and providing basic training in billing and metering for solar power can go a long way in improving consumers' experience.
3. **Objective information must be put out through various avenues**, so that it is accessible to all segments of the population and in local languages. Such awareness drives will reach larger audiences.
4. **Information kiosks** can be set up in public institutions like banks to offer information on the technology, as well as on practical issues such as guidance on selecting vendors.
5. **A robust feedback mechanism** can be put in place for consumers to share their experiences with others.
6. **Resident welfare associations (RWAs) can tie up with vendors to organise demonstration programmes**, so that consumers can observe, operate and understand how the system works.
7. Awareness building sessions need to be **socially inclusive and should take place during periods when consumers are likely to be at home.**

## 7. REGIONAL AIR CONNECTIVITY- UDAN

#### What to study?

- For Prelims: Key features of RCS.
- For Mains: Significance, challenges and potential of RCS.

**Context:** The Cabinet Committee on Economic Affairs (CCEA) has approved the extension of time and scope for revival and development of un-served and under-served air strips of State Governments, Airports Authority of India (AAI), Civil enclaves, CPSUs, helipads and water aerodromes. The revival of these un-served and under-served air strips will be carried out under the **Regional Connectivity Scheme (RCS) – UDAN (Ude Desh ka Aam Naagrik).**

#### Background:

The AAI has developed 38 unfrequented and less frequented airports since the launch of the scheme in March 2017. As many as 750 routes have been awarded for connecting 77 un-served airports, 21 under-served airports, ten waterdromes and 31 helipads.

#### About UDAN:

- UDAN, launched in April 2017, is a flagship scheme of the Union Government to enable air operations on unserved routes, connecting regional areas, to promote balanced regional growth and to make flying affordable for masses.
- The UDAN Scheme is a key component of the **National Civil Aviation Policy (NCAP)** which was launched in June 2016.

#### Objectives of the scheme:

- The primary objective of RCS is to facilitate / stimulate regional air connectivity by making it cheap and affordable.
- Promoting affordability of regional air connectivity is envisioned under RCS by supporting airline operators through: Concessions and Financial (viability gap funding or VGF) support.

#### Significance:

- The scheme gives India's aviation sector a boost by giving a chance to small and first-time operators to be a part of the rapid growth in passenger traffic.

Sources: the hindu.

**Mains Question:** India is the world's fastest growing domestic aviation market and regional connectivity is critical if this high growth is to be sustained. In this context, discuss the achievements of UDAN-RCS and the challenges lying in front of it.

## 8. MEASURES TO PROMOTE HYDRO POWER SECTOR

#### What to study?

- For Prelims: About the recently announced measures, classification of hydropower projects.
- For Mains: India's hydropower potential, challenges present and measures in support.

**Context:** Cabinet has approved measures to promote the Hydro Power Sector.

#### These measures include:

- **Large Hydropower Projects to be declared as Renewable Energy source** (as per existing practice, only hydropower projects less than 25MW are categorized as Renewable Energy).

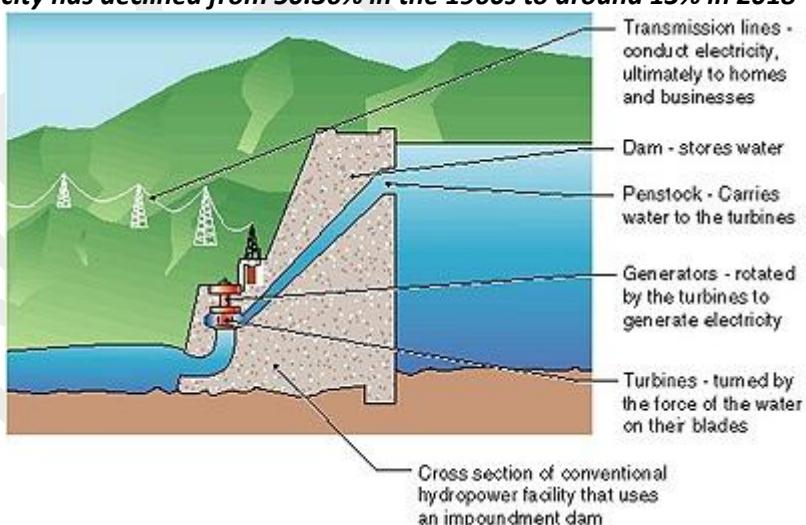
- **Hydropower Projects (HPO) as a separate entity within non-solar Renewable Purchase Obligation** to cover LHPs commissioned after notification of these measures (SHPs are already covered under Non-Solar Renewable Purchase Obligation).
- **The trajectory of annual HPO targets will be notified by Ministry of Power based on the projected capacity addition plans in hydropower sector.** Necessary amendments will be introduced in the Tariff Policy and Tariff Regulations to operationalize HPO.
- **Tariff rationalization measures including providing flexibility to the developers to determine tariff by back loading of tariff** after increasing project life to 40 years, increasing debt repayment period to 18 years and introducing escalating tariff of 2%;
- **Budgetary support for funding flood moderation component of hydropower projects on case to case basis.**
- Budgetary support for funding cost of enabling infrastructure i.e. roads and bridges on case to case basis as per actual, limited to Rs. 1.5 crore per MW for upto 200 MW projects and Rs. 1.0 crore per MW for above 200 MW projects.

#### **Major Impact including employment generation potential:**

- As most of the hydro power potential is located in the higher reaches of Himalayas and North- East Region, **it will result in overall socio-economic development of the region by providing direct employment in the power sector.**
- **Provide indirect employment/ entrepreneurial opportunities** in the field of transportation, tourism and other small scale businesses.
- **It provides a stable grid** considering 160 GW capacity addition by 2022 from infirm sources of power like solar and wind.

#### **India's hydropower potential:**

- India is blessed with immense amount of hydro-electric potential and ranks 5th in terms of exploitable hydro-potential on global scenario.
- **India is endowed with large hydropower potential of 1,45,320 MW of which only about 45,400 MW has been utilized so far.** Only about 10,000 MW of hydropower has been added in the last 10 years.
- The hydropower sector is currently going through a challenging phase and **the share of hydropower in the total capacity has declined from 50.36% in the 1960s to around 13% in 2018-19.**



#### **Why hydropower?**

- Besides being environment friendly, hydropower has several other unique features like ability for quick ramping, black start, reactive absorption etc. which make it ideal for peaking power, spinning reserve and grid balancing/ stability.
- Further, hydropower also provides water security, irrigation and flood moderation benefits, apart from socio-economic development of the entire region by providing employment opportunities and boosting tourism etc.

- The importance of hydropower is increasing even more as the country has targeted to add 160 GW of intermittent Solar and Wind power by 2022 and 40% of the total capacity from non-fossil fuel sources by 2030 to honour its Nationally Determined Contribution for Climate Change.

#### Challenges ahead:

- DISCOMS are reluctant sign Power Purchase Agreements (PPAs) Hydro Power due to higher tariff, particularly, in the initial years.*** One of the reasons for high tariff of hydropower is the loading of cost of flood moderation and enabling infrastructure in the project cost.
- Due to inherent risks associated with the sector, such as geological surprises, natural calamities, environmental & forest issues, and rehabilitation and resettlement issues apart from commercial risks and change of river basin during operation, many developers are averse to enter into the sector.*** The major commercial deterrents for the private developers are high capital cost and long payback period due to high gestation period which may also create issues in financing.
- The other issue related to Hydropower projects is financing and evacuation.*** Hydro Power projects are capital-intensive and financing them for long such as 20 years is really a challenge. Further, a number of hydropower projects are located in remote sites in states which do not have enough demand for electricity that presents geographical constraints in developing requisite transmission infrastructure for evacuation.

#### How much is the world's electricity supplied by Hydroelectric Power Plants?

- 2700 TWH is generated every year. Hydropower supplies at least 50% of electricity production in 66 countries and at least 90% in 24 countries.

#### What is the classification of Hydro Projects based on Installed Capacity?

- Micro: upto 100 KW.
- Mini: 101KW to 2 MW.
- Small: 2 MW to 25 MW.
- Mega: Hydro projects with installed capacity  $\geq 500$  MW.
- Thermal Projects with installed capacity  $\geq 1500$  MW.

## 9. NATIONAL MISSION ON TRANSFORMATIVE MOBILITY AND BATTERY STORAGE

#### What to study?

- For Prelims: Key features, objectives and targets of the mission.
- For Mains: Significance and the need for such missions.

**Context:** The Union Cabinet has approved setting up of a ***National Mission on Transformative Mobility and Battery Storage.***

#### About National Mission on Transformative Mobility and Storage:

- The Mission will have ***an Inter-Ministerial Steering Committee chaired by Chief Executive Officer (CEO), NITI Aayog*** to promote clean, connected, shared, sustainable and holistic mobility initiatives.
- The Mission will also launch the ***Phased Manufacturing Programmes (PMP)*** for Batteries and for Electric Vehicle components.
- The mission will ***finalise and implement strategies for transformative mobility and Phased Manufacturing Programmes (PMP)*** for electric vehicles, their components and batteries.
- The Mission will have a '***Make in India***' strategy for EV components as well as battery technologies.

#### Significance:

- The mission will drive ***mobility solutions that will bring in significant benefits to the industry, economy and country.*** These solutions will help improve air quality in cities along with reducing India's oil import dependence and enhance the uptake of renewable energy and storage solutions.
- The mission will also lay down the strategy and roadmap which will enable India to leverage upon its size and ***scale to develop a competitive domestic manufacturing ecosystem for electric mobility.***

- **The actions in this regard will benefit all citizens as the aim is to promote 'Ease of Living' and enhance the quality of life of our citizens and also provide employment opportunities** through 'Make-in-India' across a range of skill sets.

**Mains Question:** Moving forward on the path to electrifying mobility in India is a complex issue and requires many precautions to be taken. Critically Analyze.

## 10. INDIA ENERGY MODELLING FORUM

### What to study?

- For Prelims and Mains: About IEMF- objectives, functions and significance.

**Context:** First Workshop on India Energy Modelling Forum was recently Held.

**Organized by:** NITI Aayog and the United States Agency for International Development (USAID) with the support of the Pacific Northwest National Laboratory (PNNL). Organized under the Sustainable Growth Pillar of the India-U.S. Strategic Energy Partnership.

### About IEMF:

- IEMF has been envisaged as a pan-stakeholder platform for debating ideas, scenario-planning & discussing the India's energy future.
- It seeks to provide a platform for leading experts and policy makers to study important energy and environmental issues and ensure induction of modelling and analysis in informed decision making process.
- The Forum aims to improve cooperation and coordination between modeling teams, the Government of India, knowledge partners and think-tanks, build capacity of Indian institutions, and identify issues for joint modeling activities and future areas of research.

## 11. UNNATEE (UNLOCKING NATIONAL ENERGY EFFICIENCY POTENTIAL)

### What to study?

- For Prelims: About BEE, UNNATEE.
- For Mains: India's energy demands, need for enhancement of efficiency.

**Context:** Bureau of Energy Efficiency (BEE) has developed a national strategy document- **UNNATEE (Unlocking NATional Energy Efficiency potential)**— for accelerating energy efficiency in India.

### Significance:

- The strategy document describes a plain framework and implementation strategy to establish a clear linkage between energy supply-demand scenarios and energy efficiency opportunities. The document offers a comprehensive roadmap to address India's environmental and climate change mitigation action through energy efficiency measures.

### About BEE:

- The BEE is a **statutory body under the Ministry of Power**, Government of India.

### Functions:

- It assists in developing policies and strategies with the primary objective of reducing the energy intensity of the Indian economy.
- It coordinates with designated consumers, designated agencies, and other organizations to identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act.

## 12. DISINVESTMENT TARGET WITHIN REACH: CENTRE

**Context:** The government expects to meet its disinvestment target of Rs. 80,000 crore even though it has achieved only Rs. 56,473.42 crore so far with only 15 days left for the end of the financial year.

### Background:

- So far, the government has collected a total of Rs. 56,473.42 crore from disinvestments and stake sales. It retained the target of Rs. 80,000 crore for the current financial year and set a target of Rs. 90,000 crore for the next year. In 2017-18, the government earned Rs. 1,00,056.91 crore from disinvestment against a target of Rs. 72,500 crore.

### **What is Disinvestment?**

- Disinvestment, or divestment, refers to the act of a business or government selling or liquidating an asset or subsidiary or the process of dilution of a government's stake in a PSU (Public Sector Undertaking).

### **Disinvestment policy in India- salient features of the Policy:**

1. Public Sector Undertakings are the wealth of the Nation and to ensure this wealth rests in the hands of the people, promote public ownership of CPSEs
2. While pursuing disinvestment through minority stake sale in listed CPSEs, the Government will retain majority shareholding, i.e. at least 51 per cent of the shareholding and management control of the Public Sector Undertakings
3. Strategic disinvestment by way of sale of substantial portion of Government shareholding in identified CPSEs upto 50 per cent or more, along with transfer of management control.

### **Why disinvestment is necessary ?**

1. **Allows the transferring of the Indian government's enormous public debt of its PSU's to the Indian private sector.** By transferring the debt the Indian government's overall debt becomes greatly reduced.
2. **Eliminates the taxpayer's exposure to the monetary risk of PSU's** by transferring the exposure to the private sector where private stakeholders are willing step in and assume the monetary risk.
3. **Enables the Indian government to raise funds for so that the government can invest in improving its current physical and social infrastructure.**
4. **Allows the reallocation of PSU resources** such as manpower, real estate, technological, and operational infrastructure to critical governmental sectors that require urgent assistance.
5. **Forces financially sick PSU companies, through privatization, to either become healthy (profitable) enterprises or close down as a unhealthy business** due to pressure from competing companies in the private sector.
6. **It would bring more competition into various private sectors** thus dramatically improving the quality of service for the customer through the PSU having to compete in a competitive private market.
7. **Helps to promote broader share ownership for the citizens of India** and also helps in the development of the capital market in India.
8. **Allows government assets allocated for profit-making ventures to instead be reallocated for use in non profit activities or social causes** thus helping to strengthen both the non profit activities and social causes.
9. **Reduces financial burden** on the Government. Improves public finances.

### **Why there is a need to relook at the policy of disinvestment?**

- Government has mostly **used disinvestment for fiscal reasons rather than growth objectives**.
- **Process of disinvestment is not favoured socially** as it is against the interests of socially disadvantaged people.
- **Loss making units don't attract investment so easily.**
- Over the years the policy of divestment has increasingly become **a tool to raise resources to cover the fiscal deficit** with little focus on market discipline or strategic objective.
- **Sometimes with the emergence of private monopolies consumer welfare will be reduced.**
- **Mere change of ownership from public to private does not ensure higher efficiency** and productivity.
- **It may lead to retrenchment of workers** who will be deprived of the means of their livelihood.
- **Private sector governed as they are by profit motive has a tendency to use capital intensive techniques** which will worsen unemployment problem in India.

## 13. DISTRICT MINERAL FOUNDATIONS

### What to Study?

- For Prelims: About DMFs, composition, funds and jurisdiction, about PMKKKY.
- For Mains: Why they should be placed under respective planning departments of the state, significance, concerns and challenges.

**Context:** Chhattisgarh has revised the composition of the governing council of District Mineral Foundation Trusts (DMFTs), and placed ***the minister in-charge of the respective districts at the head of the governing bodies. Earlier, these were headed by the District Collector (DC).***

- The change has been brought about by introducing amendments to the Chhattisgarh District Mineral Foundation Trust Rules (2015), through a notification.

### Need:

- ***The move follows the Chhattisgarh government's observation that DMFTs have not been functioning optimally to benefit mining-affected people and the worst affected areas.*** The decision has been taken to improve participation of people through the representatives selected by them. This is to ensure that the needs of mining-affected areas are reflected well. The effort is to ensure that DMFs work in an accountable manner.
- ***DMFTs which have been set up in various mining districts, including all districts of Chhattisgarh, have a two-tier administrative structure, a Governing Council (GC) and a Managing Committee (MC)*** with differential responsibilities. The idea of a two-tier structure was to have appropriate checks and balances in decision-making.
- ***Both the GC and the MC were being headed by the DC.*** The other members of these bodies predominantly comprise officials and elected representatives. There is practically no representation of mining-affected people in the body to have their voice and representation in decision-making.
- ***In order to have a more balanced structure, the Chhattisgarh government has now removed the DC as chairperson of the GC.*** Also, all members of legislative assembly (MLA) of the concerned mining district have been made GC members.

### About DMFs:

- ***DMFs were instituted under the Mines and Minerals (Development and Regulation) (MMDR) Amendment Act 2015 as non-profit trusts*** to work for the interest and benefit of persons and areas affected by mining-related operations.
- ***The objective of District Mineral Foundation*** is to work for the interest of the benefit of the persons and areas affected by mining related operations in such manner as may be prescribed by the State Government.
- ***Jurisdiction:*** Its manner of operation comes under the jurisdiction of the relevant State Government.

The various state DMF rules and the Pradhan Mantri Khanij Khetra Kalyan Yojana (PMKKKY) guidelines stipulate some "high priority" issues for DMFs, including:

1. Drinking water.
2. Health
3. Women and child welfare.
4. Education
5. Livelihood and skill development.
6. Welfare of aged and disabled.
7. Sanitation

### Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY):

- The programme is meant to provide for the welfare of areas and people affected by mining related operations, using the funds generated by District Mineral Foundations (DMFs).

### Objectives of the scheme:

- To implement various developmental and welfare projects/programs in mining affected areas that complement the existing ongoing schemes/projects of State and Central Government.

- To minimize/mitigate the adverse impacts, during and after mining, on the environment, health and socio-economics of people in mining districts.
- To ensure long-term sustainable livelihoods for the affected people in mining areas.

Sources: down to earth.

**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. ISRO'S YOUNG SCIENTIST PROGRAMME

### What to study?

- For Prelims and Mains: Key features and significance of ISRO's Young Scientist programme.

**Context:** ISRO has launched a special programme for school children called Yuva Vigyani Karyakram or Young Scientist Programme.

### Highlights of the programme:

1. The programme aims at **imparting basic knowledge on space technology, space science and space applications to the younger ones** with the intent of arousing their interest in the emerging areas of space activities.
2. Under the programme, **three students each will be selected to participate in it every year from each state and union territory**, covering CBSE, ICSE and state syllabus.
3. **The eligibility for being chosen for the programme includes those students who have finished 8th standard and are currently studying in the 9th standard.**
4. The selection will be based on the academic performance and extracurricular activities of the students, as per the selection criteria already circulated to the chief secretaries of the states and administrators of Union Territories.
5. The students belonging to rural areas have been given special weightage under the selection criteria set by ISRO.

Sources: toi.

## 2. NATIONAL SUPERCOMPUTING MISSION (NSM)

### What to study?

- For Prelims and Mains: NSM- objectives, significance and challenges ahead.

**Context:** IIT Kharagpur has signed an MoU with Centre for Development of Advanced Computing (C-DAC) to set up a 1.3 Petaflop high-performance computing facility and data centre funded under the National Supercomputing Mission.

- The new supercomputing system would be used for specific challenge domains like cryptography, chemistry, molecular dynamics, drug discovery, artificial intelligence and data sciences where the new system would be utilized.

### National Supercomputing Mission (NSM):

- National Supercomputing Mission, approved in 2016, is being **implemented and steered jointly by the Department of Science and Technology (DST) and Department of Electronics and Information Technology (DeitY).**
- The Mission envisages **empowering national academic and R&D institutions spread over the country by installing a vast supercomputing grid comprising of more than 70 high-performance computing facilities.**
- These supercomputers will also be networked on the National Supercomputing grid over the **National Knowledge Network (NKN)**. The NKN is another programme of the government which connects academic institutions and R&D labs over a high speed network.
- **The Mission includes development of highly professional High Performance Computing (HPC) aware human resource for meeting challenges of development of these applications.**

### **Significance:**

- World-wide supercomputing facilities have enabled countries in their S&T capabilities in areas such as designing vehicles, aeroplanes, massive structures like high rise buildings and bridges, infrastructure, discovery of new life saving drugs, discovery and extraction of new energy sources including oil, natural gas etc.
- Over the years, supercomputers have benefitted mankind in several ways. Weather prediction has reached accuracy of forecast as well as real time tracking of natural phenomenon. Timely warning of cyclones in the recent past have saved many lives and property. The Mission aims to further such capabilities beyond current levels.

## **National Supercomputing Mission (NSM)**

### Building Capacity and Capability

#### Vision

**To Attain leadership and self-reliance in Supercomputing**

#### Scope

- Setting up supercomputing centres of different sizes and scales to match demands of HPC users – build & buy approach
- Supercomputing applications development
- Creating a national grid by interconnecting various HPC systems over NKN
- HPC manpower development
- Creating cloud infrastructure for HPC user community
- Initiating R&D for next-generation Exascale Computing

#### Impact expected

- Significant Qualitative & Quantitative improvement in R&D/ Higher Education in all S&T Disciplines
- Capability to solve multi-disciplinary Grand Challenge problems
- Solid Foundations for Supercomputing Ecosystem
- Conducive Environment for Scientific Breakthroughs
- Reduced Gap/ Contemporary in Next Generation Technologies in different domains
- Overall impact on National Economy

Sources: the hindu.

## **3. MATTER-ANTIMATTER**

### **What to study?**

- For Prelims and Mains: What is matter and antimatter?

**Context:** Physicists from the Large Hadron Collider beauty (LHCb) Collaboration at CERN have observed, for the first time, ***the matter-antimatter asymmetry known as charge-parity (CP) violation*** in the decays of a D0 meson, a subatomic particle made up of a charm quark and an up antiquark.

### **What is charge parity and cp violation?**

The term CP refers ***to the transformation that swaps a particle with the mirror image of its antiparticle.***

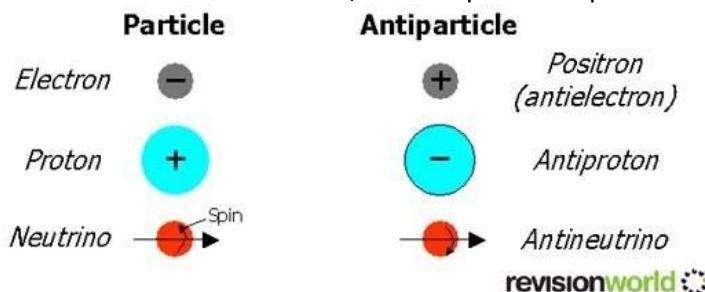
- The weak interactions of the Standard Model of particle physics are known to induce a difference in the behavior of some particles and of their CP counterparts, an asymmetry known as CP violation.
- This asymmetry is one of the key ingredients required to explain why today's Universe is only composed of matter particles, with essentially no residual presence of antimatter.

### **What you need to know about matter and antimatter?**

- The universe consists of a massive imbalance between matter and antimatter. Antimatter and matter are actually the same, but have opposite charges, but there's hardly any antimatter in the observable universe, including the stars and other galaxies. In theory, there should be large amounts of antimatter, but the observable universe is mostly matter.
- This great imbalance between matter and antimatter is all tangible matter, including life forms, exists, but scientists don't understand why.

## What happens when matter and antimatter meet?

- When antimatter and matter meet, they annihilate, and the result is light and nothing else. Given equal amounts of matter and antimatter, nothing would remain once the reaction was completed. As long as we don't know why more matter exists, we can't know why the building blocks of anything else exist, either.
- This is one of the biggest unsolved problems in physics. Researchers call this the "baryon asymmetry" problem. Baryons are subatomic particles, including protons and neutrons. All baryons have a corresponding antibaryon, which is mysteriously rare. The standard model of physics explains several aspects of the forces of nature. It explains how atoms become molecules, and it explains the particles that make up atoms.



Sources: et.

## 4. COMBAT CASUALTY DRUGS

### What to study?

- For Prelims: About INMAS, DRDO and composition of Combat Casualty Drugs.
- For Mains: Significance, need and potential of these drugs.

**Context:** DRDO's medical laboratory has come up with a range of '**combat casualty drugs**' that can extend the golden hour of gravely wounded security personnel till the trooper is shifted to hospital.

- It has been developed at the **Institute of Nuclear Medicine and Allied Sciences**, a laboratory of the Defence Research and Development Organisation.

### Combat Casualty Drugs:

- The spectrum includes** bleeding wound sealants, super absorptive dressings and glycerated salines, all of which can save lives in the event of warfare in jungle and high altitude areas as well as in terror attacks.
- Glycerated saline** is a battlefield intravenous fluid that does not freeze till -18 degrees Celsius and is useful in handling trauma cases in high altitude areas. Glycerated saline, unlike normal saline, reduces inflammation. The drug can be lifesaving, particularly if the traumatic edema, collection of fluid in tissues and cavities of the body, is in the brain or lungs.
- A special medicated dressing material**, in the kit, is 200 times more absorptive than normal dressings during bleeding wounds. These cellulose fibre-based dressings are more effective in stopping bleeding and keeping the wound clean. Additionally, antiseptics, antibiotics and curcumin can be impregnated in the dressing which acts as a slow drug release system.
- Chitosan gel** helps in preventing blood loss by forming a film over the wound. Coupled with platelets and red blood cells aggregation, it stops the bleeding. Its antibacterial and wound health properties are of added benefit. Chitosan gel is suitable for sealing wounds by twin action: haemostasis by chemical action and filling action. It can be used for wounds on the limbs and also cavities such as abdomen and thorax.
- Part of the range is hypochlorous acid (HOCl)**, a disinfectant for troopers involved in jungle warfare. It is helpful in treating necrotising fascitis, a rapidly progressing bacterial infection of soft tissues. Bacterial toxins cause local tissue damage and necrosis, as well as blunt immune system responses.

### Why do we need such kits?

- The challenges are many. There is only one medical person and limited equipment to take care of soldiers during combat in most cases. This is compounded by battlefield conditions such as forests, hilly terrain and inaccessibility of vehicles.

### **Significance and the need:**

- 90% of gravely wounded security personnel succumb to injuries within a few hours. And the availability of proper medical facilities can extend this golden period and help save lives. Chances of survival and minimum disability are highest when effective first aid care is given within the golden hour.
- The main battlefield emergencies are excess bleeding, sepsis, shock, hypovolemia (decreased blood volume) and pain. DRDO's indigenously made medicines will be a boon for paramilitary and defence personnel during warfare.

## **5. BARC**

### **What to study?**

- For Prelims and Mains: About BARC, atomic energy potential of the country and its significance.

**Context:** New Director to BARC.

### **About BARC:**

- The Bhabha Atomic Research Centre (BARC) is India's premier nuclear research facility headquartered in Trombay, Mumbai, Maharashtra.
- It is a multi-disciplinary research centre with extensive infrastructure for advanced research and development covering the entire spectrum of nuclear science, engineering and related areas.
- **BARC has designed and built India's first Pressurised water reactor at Kalpakkam**, a 80MW land based prototype of **INS Arihant's nuclear power unit**, as well as the **Arihant's propulsion reactor**.

### **Historical background:**

- **Dr. Homi Jehangir Bhabha conceived the Nuclear Program in India.** Dr Bhabha established the Tata Institute of Fundamental Research (TIFR) for carrying out nuclear science research in 1945. To intensify the effort to exploit nuclear energy for the benefit of the nation, Dr Bhabha established the Atomic Energy Establishment, Trombay (AEET) in January 1954 for multidisciplinary research program essential for the ambitious nuclear program of India. **AEET was later renamed Bhabha Atomic Research Centre (BARC).**

### **Functions:**

- BARC's core mandate is to sustain peaceful applications of nuclear energy, primarily for power generation.
- It manages all facets of nuclear power generation, from theoretical design of reactors to, computerised modelling and simulation, risk analysis, development and testing of new reactor fuel materials, etc.
- It also conducts research in spent fuel processing, and safe disposal of nuclear waste.
- Its other research focus areas are applications for isotopes in industries, medicine, agriculture, etc. BARC operates a number of research reactors across the country.

### **Significance and potential of atomic energy:**

- Atomic Energy has a key role in reducing the carbon intensity of the overall Power sector of India. Coal based thermal power contributes 186,293 MW (July 2016), 61% of the total installed power while renewables and nuclear contribute 44,237 MW (14.5%) and 5,780 MW (1.9%) respectively.
- While renewable sources of energy are environment friendly, they are intermittent sources of power. Nuclear power, being a non-intermittent and concentrated source of power with negligible carbon footprint, is an essential component of the Indian power-mix to meet the International environmental commitments of India.

## **6. MAN PORTABLE ANTI-TANK GUIDED MISSILE (MPATGM)**

### **What to study?**

- For Prelims and Mains: Key features and significance of MPATGM.

**Context:** In a major boost for Army, Defence Research and Development Organisation (DRDO) successfully test fired indigenously developed, low weight, fire and forget Man Portable Anti-Tank Guided Missile (MPATGM).

### **About MPATGM:**

- MPATGM is third-generation anti-tank guided missile (ATGM) indigenously developed by DRDO.

- It has strike range of 2.5 km. It weighs around 14.5 kg to maintain man portability. It is capable of being fired from shoulder and can be used during day and night. It has minimum lateral centre and gravity offset.
- It works on fire and forget principle and is known for its top attack capabilities. It is effective against both stationary and moving targets. It will be deployed in infantry and parachute battalions of Indian Army.

## 7. UNITED NATIONS CALLS FOR REGISTRY OF HUMAN GENE-EDITING PROJECTS

**Context:** An advisory panel to the World Health Organization has called for the creation of a global registry to monitor gene-editing research in humans.

### What necessitated this?

- Gene editing holds incredible promise for health, but it also poses some risks, both ethically and medically.
- The World Health Organization (WHO), an agency of the United Nations, is trying to sort out how scientists could responsibly alter human genomes in their labs — an effort to prevent the next He Jiankui from performing unpublicized genetic experiments on human subjects.
- The recommendations of the 18-person committee, which was established following news late last year that Chinese scientist He Jiankui had carried out human gene editing in secret, are aimed at improving transparency and responsibility in the field.

### 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.
- 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.

### Ethical challenges:

- **Bioethicists expressed concern over the clinical application of such research.** These are still early days in a new frontier of genome engineering.
- **Bioethicists fear abuse of gene editing,** not just by misguided governments but also by the private sector preying on a parent's desire to create a perfect child.
- It can create **unforeseen changes in the genome which are undesirable.**
- **It has also been ethically questioned** whether editing gene to create babies that parents desires would make them more like commodities.
- **Safety:** Due to the possibility of off-target effects (edits in the wrong place) and mosaicism (when some cells carry the edit but others do not), safety is of primary concern.
- **Informed Consent:** Some people worry that it is impossible to obtain informed consent for germline therapy because the patients affected by the edits are the embryo and future generations.
- Researchers and bioethicists also worry about the possibility of obtaining truly informed consent from prospective parents as long as the risks of germline therapy are unknown.
- **Justice and Equity:** As with many new technologies, there is concern that genome editing will only be accessible to the wealthy and will increase existing disparities in access to health care and other interventions. Some worry that taken to its extreme, germline editing could create classes of individuals defined by the quality of their engineered genome.

### 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.

## 8. SUPERSTATS- A NEW METRICS TO ANALYSE THE GAME OF CRICKET

### What to study?

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

**Context:** Superstats, a new metrics to analyse the game of cricket, has been launched by ESPNcricinfo in partnership with Indian Institute of Technology Madras.

### What is Superstats?

**Superstats is a combination of stats metrics – Luck Index, Forecaster and Smart Stats** that uses Data Science for the first time to give a context to every event in a game and also venture into new territories such as luck and forecasting.

- These metrics have been derived from ESPNcricinfo's rich ball-by-ball database, and from complex algorithms developed by IIT Madras and Gyan Data, an IIT-M incubated company.

### Components of Superstats:

1. Smart Stats:
  - Smart Stats, launched at first as a standalone tool in 2018, is a suite of metrics that help fans judge performances in limited-overs cricket, especially the T20s, in a far more nuanced manner than conventional metrics do. It takes into account the context to every performance, batting and bowling. Context includes pitch conditions, quality of opposition, and match situation – in terms of the pressure on the player. In its new avatar, Smart Stats has added metrics such as Smart Wickets, Player Quality Index and Pressure Indices, to cover all facets of the game.
2. Luck Index:
  - Luck Index is a metric that quantifies luck. This is done by identifying every lucky event that happens in a match, and then calculating, through a complex algorithm, the run value of that event.
3. How does the Forecaster work?
  - The following factors are taken into account when calculating the predicted score:

- Batting strength of the team (including batsmen to follow, at every stage of the innings).
- Bowling strength of opposition.
- Batsman v bowler head-to-head numbers.
- Phase-wise strike rates and economy rates for batsmen and bowlers.
- **Based on these factors, there is an expected score for the batting team at every stage.** The win percentage for the chasing team also takes into account the team momentum (runs and wickets off the last six balls), and the historical probability of teams winning from that position. **Apart from the win probability and expected score, the Forecaster also predicts the runs and wicket probability in the next over for each bowler in the opposition attack.**

#### **Significance:**

- In the era of multiple formats and leagues, game of cricket needs to move beyond conventional measurement system such as economy rate, average and strike rate. The development of these new metrics filled a long-felt gap in evaluating cricket performances.

Sources: the hindu.

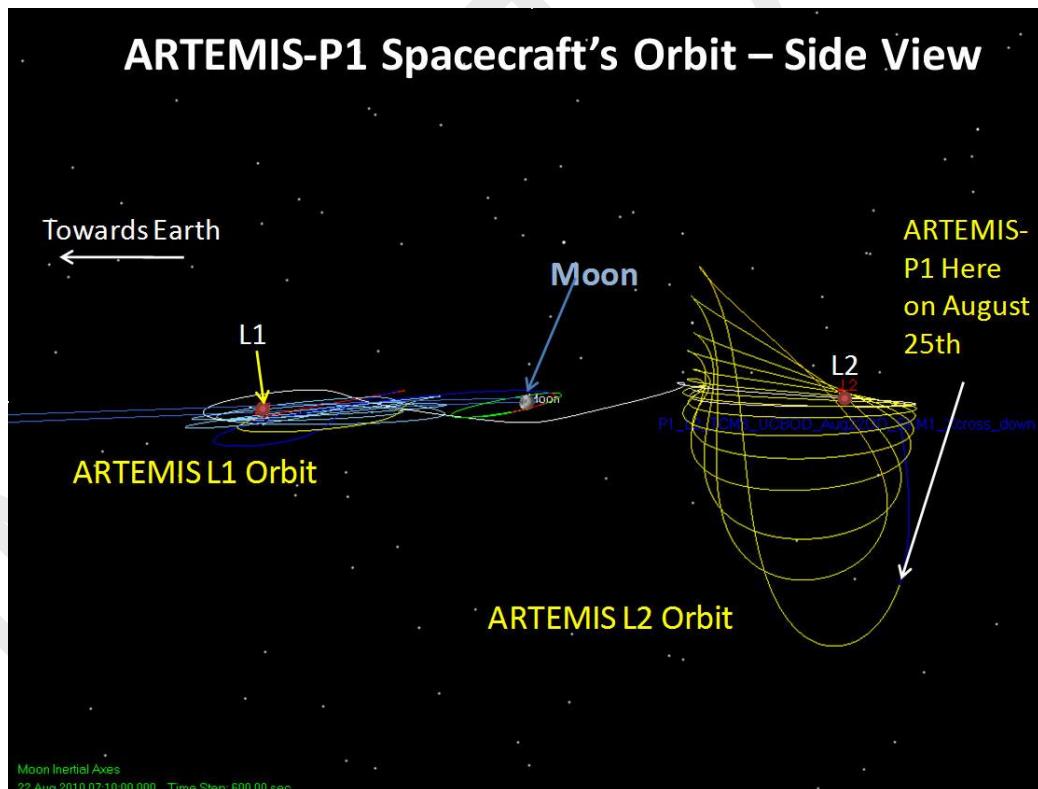
**Topics: Awareness in space.**

## **1. ARTEMIS MISSION**

### **What to study?**

- For Prelims and Mains: ARTEMIS Mission- objectives, features and significance of the mission.

**Context:** Scientists used NASA's ARTEMIS mission and suggest that **the solar wind and the Moon's crustal magnetic fields work together to give the Moon a distinctive pattern of darker and lighter swirls.**



### **What causes this pattern on moon?**

Every object, planet or person travelling through space has to contend with **the Sun's damaging radiation**.

- The Sun releases a continuous outflow of particles and radiation called the solar wind.
- Because the solar wind is magnetised, Earth's natural magnetic field deflects the solar wind particles so that only a small fraction of them reach the planet's atmosphere.
- But the Moon has no global magnetic field; magnetised rocks near the lunar surface do create small, localised spots of magnetic field.

- The magnetic fields in some regions are locally acting as this magnetic sunscreen. Under these miniature magnetic umbrellas, the material that makes up the Moon's surface, called regolith, is shielded from the Sun's particles.
- As those particles flow toward the Moon, they are deflected to the areas just around the magnetic bubbles, where chemical reactions with the regolith darken the surface. This creates the distinctive swirls of darker and lighter material.

#### ARTEMIS mission:

- ARTEMIS stands for "*Acceleration, Reconnection, Turbulence and Electrodynamics of the Moon's Interaction with the Sun*".
- ARTEMIS is made up of two probes P1 and P2. They were *originally members of the successful mission THEMIS in Earth orbit studying Earth's aurora*, but were redirected to the moon in an effort to save the two probes from losing power in Earth's shade.
- Through this new mission scientists look to *learn more about the Earth-moon Lagrange points, the solar wind, the Moon's plasma wake and how the Earth's magnetotail and the moon's own weak magnetism interact with the solar wind*.

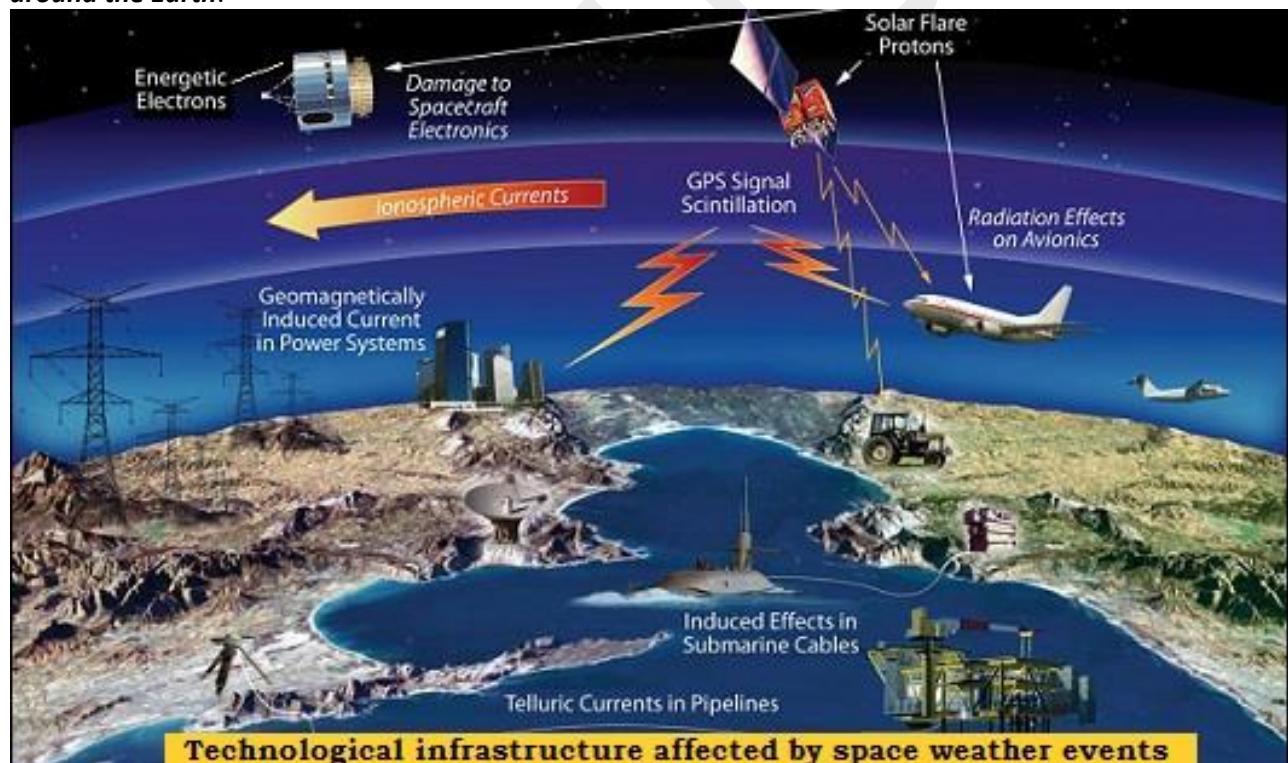
Sources: et.

## 2. ATMOSPHERIC WAVES EXPERIMENT (AWE)

#### What to study?

- For Prelims and Mains: AWE- objectives, features and significance of the mission.

**Context:** The National Aeronautics and Space Administration has selected a new mission- **Atmospheric Waves Experiment (AWE)**- that will help scientists understand and ultimately, forecast the vast space weather system around the Earth.



#### About Atmospheric Waves Experiment (AWE):

- It will be launched in August 2022 and will be *attached to exterior of Earth-orbiting International Space Station (ISS)*.
- Objective of AWE** is to study and focus on airglow, a colourful bands of light in Earth's atmosphere to determine what combination of forces drive space weather in upper atmosphere.
- It will be the first such experiment to obtain global observations of important driver of space weather** in dynamic region of Earth's upper atmosphere that can cause interference with radio and GPS communications.

- **AWE is a Mission of Opportunity under NASA's Heliophysics Explorers Program**, which conducts focused scientific research and develops instrumentation to fill the scientific gaps between the agency's larger missions.

**Need for this mission:**

- **Studying space weather is significant as it can have profound impacts, affecting technology and astronauts in space, disrupting radio communications and at its most severe, overwhelming power grids.**
- It was earlier thought that only Sun's constant outflow of ultraviolet (UV) light and particles, solar wind, could affect airglow region. However, now researchers have learned that solar variability is not enough to drive changes observed at this region and Earth's weather also having effect on it.
- Hence to understand this deeper, AWE mission will investigate how waves in lower atmosphere, caused by variations in densities of different packets of air, impact upper atmosphere.

Sources: the hindu.

### 3. ISRO'S ASTROSAT

**What to study?**

- For Prelims and Mains: AstroSat- objectives, accomplishments and significance.

**Context:** The Indian multi-wavelength space observatory AstroSat, launched in September 2015, continues to yield exciting results. Using this observatory, astronomers from Thiruvananthapuram and Mumbai have identified a new population of ultraviolet stars in the **globular cluster NGC 2808**.

**What are globular clusters?**

- **Globular clusters are collections of thousands to millions of stars, moving as one unit.** These stars are tightly held together by gravity of the cluster itself, and are believed to have formed together at roughly the same time. Some globular clusters could be among the oldest objects in our Milky Way, which hosts over 150 of them.

**About ASTROSAT:**

**ASTROSAT** is India's first dedicated multi wavelength space observatory. This scientific satellite mission endeavours for a more detailed understanding of our universe.

- ASTROSAT is designed to observe the universe in the Visible, Ultraviolet, low and high energy X-ray regions of the electromagnetic spectrum simultaneously with the help of its five payloads.
- Astrosat aims at understanding the high energy processes in binary star systems containing neutron stars and black holes, to estimate magnetic fields of neutron stars, to study star birth regions and high energy processes in star systems lying beyond the Milky Way galaxy.
- **This mission has put ISRO in a very exclusive club of nations that have space-based observatories.** Only the United States, European Space Agency, Japan and Russia have such observatories in space.

Sources: the hindu.

### 4. LUNAR RECONNAISSANCE ORBITER (LRO)

**What to study?**

- For Prelims and Mains: About LRO- mission objectives, components and significance, Significance of Lunar water and benefits.

**Context:** NASA's **Lunar Reconnaissance Orbiter (LRO)** has observed water molecules moving around the dayside of Moon, an advance that could help us learn about the accessibility of water that can be used by humans in future lunar missions.

- **Lyman Alpha Mapping Project (LAMP)** — the instrument aboard LRO — measured sparse layer of molecules temporarily stuck to the Moon's surface, which helped characterise lunar hydration changes over the course of a day.

### Uses of lunar water:

- Lunar water can potentially be used by humans to make fuel or to use for radiation shielding or thermal management; if these materials do not need to be launched from Earth, that makes these future missions more affordable.

### Source of Moon's surface water:

- Scientists had hypothesised that hydrogen ions in the solar wind may be the source of most of the moon's surface water. As a result, when the moon passes behind the earth and is shielded from the solar wind, the 'water spigot' should essentially turn off.
- However, the water observed by LAMP does not decrease when the moon is shielded by the earth and the region influenced by its magnetic field, suggesting water builds up over time, rather than 'raining' down directly from the solar wind.

### How is lunar water bound to surface materials?

- Water molecules remain tightly bound to the regolith until surface temperatures peak near lunar noon. Molecules thermally desorb and can bounce to a nearby location that is cold enough for the molecule to stick or populate the moon's extremely tenuous atmosphere or exosphere, until temperatures drop and the molecules return to the surface.

### About Lunar Reconnaissance Orbiter (LRO):

- **LRO is a NASA mission to the moon within the Lunar Precursor and Robotic Program (LPRP)** in preparation for future manned missions to the moon and beyond (Mars).
- **LRO is the first mission of NASA's 'New Vision for Space Exploration'**, which President Bush announced on January 14, 2004, in sending more robot and human explorers beyond Earth orbit.

### The objectives of LRO are to:

- Identify potential lunar resources.
- Gather detailed maps of the lunar surface.
- Collect data on the moon's radiation levels.
- Study the moon's polar regions for resources that could be used in future manned missions or robotic sample return missions.
- Provide measurements to characterize future robotic explorers, human lunar landing sites and to derive measurements that can be used directly in support of future Lunar Human Exploration Systems.

Sources: the hindu.

## 5. HAYABUSA2

### What to study?

- For Prelims and Mains: Objectives and significance of the mission, Asteroid Ryugu.

**Context:** Japan's Hayabusa2 spacecraft will follow up last month's touchdown on a distant asteroid with another risky mission — **dropping an explosive on the asteroid to make a crater and then collect underground samples for possible clues to the origin of the solar system**. Hayabusa2 made history on 22 February when it successfully touched down on the boulder-strewn asteroid and collected some surface fragments.

### Hayabusa:

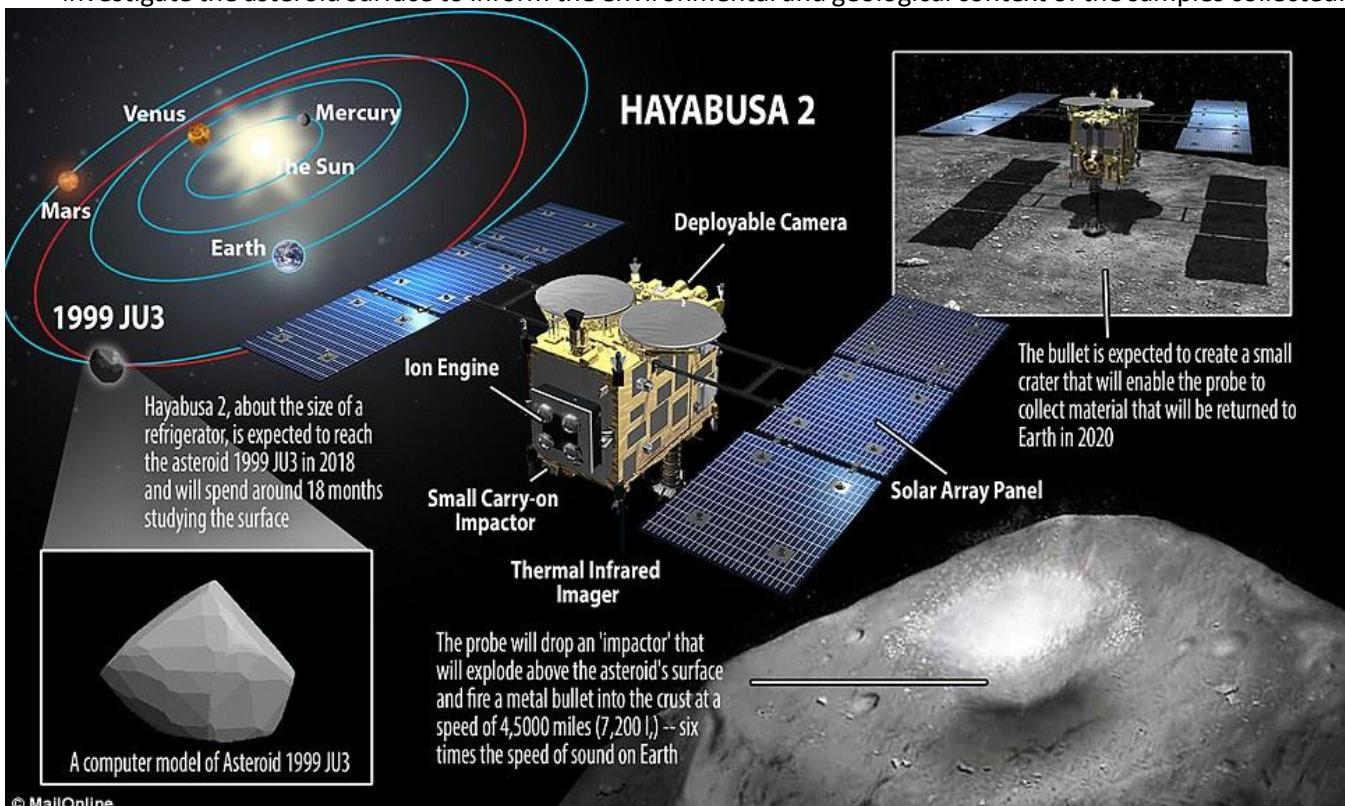
- **In mid-September 2005, Hayabusa landed on the asteroid Itokawa**, and managed to collect samples in the form of grains of asteroidal material. It returned to Earth with the samples in June 2010, thereby becoming the first spacecraft to return asteroid samples to Earth for analysis.

### 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.



**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.

Sources: et.

## 6. PULSARS

**What to study?**

- For prelims and Mains: Pulsars- meaning, features and characteristics.

**Context:** NASA has discovered a pulsar speeding through space.

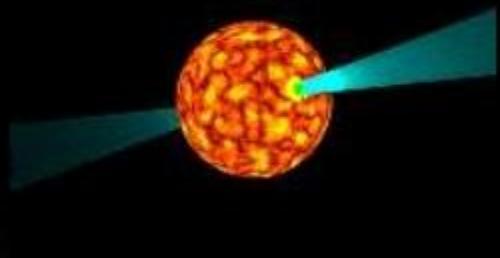
- **This pulsar is dubbed PSR J0002+6216 (J0002 for short)** and sports a radio-emitting tail pointing directly towards the expanding debris of a recent supernova explosion.
- The Nasa found the pulsar hurtling through space at nearly four million kilometres an hour. The speed of the pulsar in the space is so fast that it could travel the distance between the Earth and the Moon in just six minutes.

**The discovery:**

- Pulsar J0002 was discovered in 2017 by **a citizen-science project called Einstein@Home**, which uses time on the computers of volunteers to process Fermi gamma-ray data.

## WHAT ARE PULSARS?

- "Lighthouses of the Universe"
- Special kind of neutron star
- Emits beam of gamma rays, x rays, or radio waves which sweeps through Earth's line of sight; pulsating effect
- Spins up to several 100 times a second
- Have highly intense magnetic and electric field (several trillion Gauss and Volts)



### Where is it located?

- Located about 6,500 light years away in the constellation Cassiopeia, J0002 spins 8.7 times a second, producing a pulse of gamma rays with each rotation. The pulsar lies about 53 light years from the centre of a supernova remnant called CTB 1.
- Its rapid motion through interstellar gas results in shock waves that produce the tail of magnetic energy and accelerated particles detected at radio wavelengths using the **Very Large Array (VLA)**.

### What is a pulsar?

- Pulsar is a celestial object that emits regular pulses of radio waves and other electromagnetic radiation at rates of up to one thousand pulses per second.
- Pulsars are superdense, rapidly spinning neutron stars left behind when a massive star explodes.

Sources: et.

## 7. NASA'S OSIRIS-REX

### What to study?

- For Prelims and Mains: OSIRIS-Rex mission and facts on asteroid bennu.

**Context:** NASA's OSIRIS-REx spacecraft has detected particle plumes ejecting off of the surface of asteroid Bennu. That makes Bennu an active asteroid that is regularly ejecting material into space, which is rare. This is the first time scientists have had close-up observations of particle plumes erupting from an asteroid's surface.

- The particles range from centimeters to 10s of centimeters, and some of them are slow-moving while others are quickly making their way through interstellar space. Some fall back onto the surface, while others go into orbit around it, like small satellites. The researchers don't currently understand why this is happening, but it poses no risk to the spacecraft.

### Other findings:

- OSIRIS-REx's instruments have confirmed that hydrated minerals, including magnetite, are abundant and widespread on the asteroid. The asteroid is full of valuable materials that may even contain clues about how life began. Bennu is essentially a leftover from the formation of our solar system billions of years ago, although some of the minerals inside it could be even older.

### Significance:

- **OSIRIS-Rex is the first-ever US mission designed to visit an asteroid and return a sample of its dust back to Earth.** The \$800 million (roughly Rs. 5,600 crores) unmanned spaceship launched two years ago from Cape Canaveral, Florida and arrived December 3 at its destination, some 70 million miles (110 million kilometres) away.

### What next?

The plan is for OSIRIS-REx to orbit Bennu, using a suite of five scientific instruments to map the asteroid in high resolution to help scientists decide precisely where to sample from.

- Then, in 2020, it will reach out with its robotic arm and touch the asteroid in a maneuver Rich Kuhns, OSIRIS-REx program manager with Lockheed Martin Space Systems in Denver, described as a “gentle high-five.”
- Using a circular device much like a car’s air filter, and a reverse vacuum to stir up and collect dust, the device aims to grab about two ounces (60 grams) of material from the asteroid’s surface, and return it to Earth in 2023.

### About the mission:

- OSIRIS-Rex stands for *Origins, Spectral Interpretation, Resource Identification, Security-Regolith Explorer*.
- OSIRIS-REx is *the third mission in NASA's New Frontiers program*, which previously sent the New Horizons spacecraft zooming by Pluto and the Juno spacecraft into orbit around Jupiter.

### Why was Bennu chosen?

- Bennu was selected for the OSIRIS-REx mission from over 500,000 known asteroids, due to it fitting a number of key criteria. These include:
- **Proximity to Earth:** In order for OSIRIS-REx to reach its destination in a reasonable timeframe, NASA needed to find an asteroid which had a similar orbit to Earth.
- **Size:** Small asteroids, those less than 200m in diameter, typically spin much faster than larger asteroids, meaning the regolith material can be ejected into space. Bennu is around 500m in diameter, so rotates slowly enough to ensure that the regolith stays on its surface.
- **Composition:** Bennu is a primitive asteroid, meaning it hasn't significantly changed since the beginning of the Solar System (over 4 billion years ago). It is also very carbon-rich, meaning it may contain organic molecules, which could have been precursors to life on Earth.
- Additionally, Bennu is of interest as it is **a Potentially Hazardous Asteroid (PHA)**. Every 6 years, Bennu's orbit brings it within 200,000 miles of the Earth, which means it has a high probability of impacting Earth in the late 22nd Century.

Sources: et.

## 8. AURORA

### What to study?

- For Prelims and Mains: Aurora- features, types, causes and effects.

**Context:** Geostorm offers Northern US rare chance to see aurora borealis.

### What is Aurora?

- An Aurora is a display of light in the sky predominantly seen in the high latitude regions (Arctic and Antarctic). It is also known as a Polar light.

### Types:

- **There are two types- the aurora borealis and aurora australis** – often called the northern lights and southern lights.

### Where do they occur?

- They commonly occur at high northern and southern latitudes, less frequent at mid-latitudes, and seldom seen near the equator.

### Colors:

- While usually a milky greenish color, auroras can also show red, blue, violet, pink, and white. These colors appear in a variety of continuously changing shapes.

### Science behind their occurrence:

- Auroras are a spectacular sign that our planet is electrically connected to the Sun. These light shows are provoked by energy from the Sun and fueled by electrically charged particles trapped in Earth's magnetic field.
- The typical aurora is caused by collisions between fast-moving electrons from space with the oxygen and nitrogen in Earth's upper atmosphere.
- The electrons—which come from the Earth's magnetosphere, the region of space controlled by Earth's magnetic field —transfer their energy to the oxygen and nitrogen atoms and molecules, making them "excited".
- As the gases return to their normal state, they emit photons, small bursts of energy in the form of light.
- When a large number of electrons come from the magnetosphere to bombard the atmosphere, the oxygen and nitrogen can emit enough light for the eye to detect, giving us beautiful auroral displays.

### Where do they origin?

- They origin at altitudes of 100 to more than 400 km.

### Why do auroras come in different colors and shapes?

- The color of the aurora depends on which gas — oxygen or nitrogen — is being excited by the electrons, and on how excited it becomes. The color also depends upon how fast the electrons are moving, or how much energy they have at the time of their collisions.
- High energy electrons cause oxygen to emit green light (the most familiar color of the aurora), while low energy electrons cause a red light. Nitrogen generally gives off a blue light.
- The blending of these colors can also lead to purples, pinks, and whites. The oxygen and nitrogen also emit ultraviolet light, which can be detected by special cameras on satellites.



### Effects:

- Auroras affect communication lines, radio lines and power lines.
- It should also be noted here that Sun's energy, in the form of solar wind, is behind the whole process.

Sources: ie.

## 9. PRISMA EARTH OBSERVATION SATELLITE

### What to study?

- For Prelims and Mains: PRISMA- features, objectives and significance.

**Context:** A European Vega rocket has put PRISM- a new Earth-observation satellite into orbit for the **Italian Space Agency**.

### About PRISMA:

**PRISMA** (*an Italian acronym for Hyperspectral Precursor of the Application Mission*) is designed to provide information about environmental monitoring, resources management, pollution and crop health.

- The satellite includes a medium resolution camera that can view across all visual wavelengths, as well as a hyperspectral imager that can capture a wider range of wavelengths between 400 and 2500 nanometers.
- ***The satellite will operate in a sun-synchronous orbit***, meaning that it circles the Earth in such a way that the sun is always in the same position as the satellite takes pictures of the planet below.

- **The mission can provide a unique contribution to the observations of natural resources and in the study of key environmental processes**, such as interaction between atmosphere, biosphere and hydrosphere, observation of global climate change and effects of human activities ecosystems.

Sources: [toi](#).

## 10. GRAPES- 3

### What to study?

- For Prelims and Mains: GRAPES- 3- features and objectives of the programme, about muons and their significance in studying thunderclouds.

**Context:** For the first time in the world, researchers at the **GRAPES-3 muon telescope facility in Ooty have measured the electrical potential, size and height of a thundercloud** that passed overhead on December 1, 2014.

### Why study properties of thunder clouds?

- Learning about the properties of thunderclouds can be useful in navigation of aircraft and preventing short circuits.

### How muons were used?

- **Muons and other particles are produced when cosmic rays bombard air particles surrounding the earth.** The muons produced can have positive or negative charge. When a positively charged muon falls through a cloud, it loses energy. If its energy falls below 1 giga electron volt (GeV), which is the threshold of detection of the GRAPES-3 muon telescope, it goes undetected.
- On the contrary, a negatively charged muon gains energy when falling through the cloud and gets detected. Since there are more positive than negative muons produced in nature, the two effects don't cancel out, and a net change in intensity is detected.

### About GRAPES 3:

- The GRAPES-3 experiment (or Gamma Ray Astronomy PeV EnergieS phase-3) located at Ooty in India started as **a collaboration of the Indian Tata Institute of Fundamental Research and the Japanese Osaka City University, and now also includes the Japanese Nagoya Women's University**.
- **GRAPES-3 is designed to study cosmic rays** with an array of air shower detectors and a large area muon detector.
- **It aims to probe acceleration of cosmic rays in the following four astrophysical settings. These include acceleration of particles to**, (i) ~100 MeV in atmospheric electric fields through muons, (ii) ~10 GeV in the Solar System through muons, (iii) ~1 PeV in our galaxy, (iv) ~100 EeV in the nearby universe through measurement of diffuse gamma ray flux.

Sources: [the hindu](#).

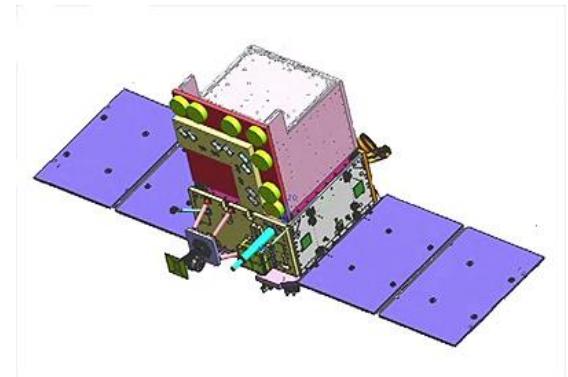
## 11. PSLV-C45 / EMISAT MISSION

### What to study?

- For Prelims and Mains: Key features and significance of the mission.

**Context:** India's Polar Satellite Launch Vehicle (PSLV), in its 47th mission (PSLV-C45), will launch EMISAT, the primary satellite and 28 international customer satellites from Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota.

- This mission will be ISRO's first attempt at placing payloads in three different orbits.



### EMISAT mission and its significance:

- EMISAT is meant for electromagnetic spectrum measurements. It will be released into an orbit at 749 km.
- **EMISAT is primarily based on the famous Israeli spy satellite called SARAL or (Satellite with ARgos and Altika)**, and inherits its SSB-2 bus protocol for conducting sharp electronic surveillance across the length and breadth of India.

- The satellite would serve as the country's roving device for detecting and gathering electronic intelligence from enemy radars across the borders as it circles the globe roughly pole to pole every 90 minutes or so.

#### **Foreign satellites on-board:**

- As many as 28 small foreign co-passenger satellites will also travel to space with it, but to a lower orbit at 504 km.
- They include 24 small satellites from the U.S., the other four customers are from Lithuania, Spain and Switzerland.

## **12. SPACE DEBRIS**

**Context:** With successful testing of anti-satellite missile, the world expressed concern over space debris.

#### **What's the concern?**

- Unless the broken satellite pieces fall down into the atmosphere, and burn up, these can produce a chain reaction of damaging and blowing up other satellites in the orbit, each adding to the shrapnel-like mass that hurtles towards other satellites. It is called the **Kessler effect**, after a NASA scientist who put foresaw this possibility.

#### **Background:**

- Space junk is an ever-growing problem with more than 7,500 tonnes of redundant hardware now thought to be circling the Earth.** Ranging from old rocket bodies and defunct spacecraft through to screws and even flecks of paint – this material poses a collision hazard to operational missions.
- The rising population of space debris increases the potential danger to all space vehicles,** but especially to the International Space Station (ISS), space shuttles, satellites and other spacecraft.

#### **Technologies that can tackle the problem in future are:**

- Moving an object out of the way by altering its orbit** is one method of diverting a potential crash, but the sheer amount of debris requires constant observation and prediction – by any means necessary.
- Nasa's Space Debris Sensor** orbits the Earth on the International Space Station. The sensor was attached to the outside of the space station's European Columbus module in December 2017. It will detect millimetre-sized pieces of debris for at least two years, providing information on whatever hits it such as size, density, velocity, orbit and will determine whether the impacting object is from space or a man-made piece of space debris.
- REMOVEDebris**, satellite contain two cubesats that will release simulated space debris so that it can then demonstrate several ways of retrieving them.
- deorbit mission:** There are two emerging technologies being developed under what's known as the Deorbit mission to grasp the wayward space junk, or to catch it.
- Other technologies include moving objects with a powerful laser beam.** It is important to start doing that soon, current scientific estimates predict that without active debris removal, certain orbits will become unusable over the coming decades.

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

- There is a need to ensure the long-term accessibility of orbits and to adjust current behaviour in space in order to minimize the creation of new debris. People need to be more careful with existing operational satellites and new missions.

**Topics:** Awareness in the fields of IT, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

## **1. BIOMEDICAL RESEARCH CAREER PROGRAMME**

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

- For Prelims and Mains: Key features and significance of the programme.

**Context:** The Union Cabinet has approved the continuation of **the Biomedical Research Career Programme (BRCP)**.

#### Key facts:

- It is an Alliance between the Department of Biotechnology (DBT) and Wellcome Trust (WT).
- The Programme will fulfil the objectives of building and nurturing talent of highest global standards in cutting-edge biomedical research in India, which has led to important scientific breakthroughs and applications to meet societal needs.
- BRCP will make it attractive for high quality Indian scientists working abroad to return to India, and has increased the number of locations geographically within India where world-class biomedical research is undertaken.
- The Programme would continue to build this capacity as also strengthen clinical research and work towards addressing important health challenges for India.

#### Background:

- The Wellcome Trust is an independent charity funding research to improve human and animal health. Established in 1936 and with an endowment of around £15 billion, it is the largest non-governmental source of funds for biomedical research in the United Kingdom.

## 2. BLOCK CHAIN TECHNOLOGY

#### What to study?

For Prelims and Mains: Blockchain technology- what is it? How it operates? Concerns and potential.

**Context:** Coffee Board Activates Blockchain Based Marketplace in India.

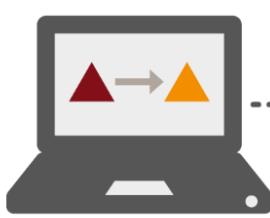
- **Blockchain based market place app** for trading of Indian coffees is intended to bring in transparency in the trade of Indian coffee, maintain the traceability of Indian coffee from bean to cup so as the consumer tastes real Indian coffee and the grower is paid fairly for his coffee produced.

# A look at **blockchain technology**

#### What is it?

The **blockchain** is a decentralized ledger of all transactions across a peer-to-peer network. Using this technology, participants can confirm transactions without the need for a central certifying authority. Potential applications include fund transfers, settling trades, voting, and many other uses.

#### How it works:



Someone requests a transaction.

The requested transaction is broadcast to a P2P network consisting of computers, known as nodes.

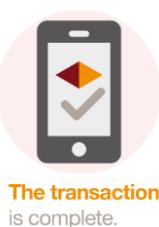


#### Validation

The network of nodes validates the transaction and the user's status using known algorithms.



The new block is then added to the existing blockchain, in a way that is permanent and unalterable.



The transaction is complete.

A verified transaction can involve cryptocurrency, contracts, records, or other information.

Once verified, the transaction is combined with other transactions to create a new block of data for the ledger.

#### What are Blockchains?

**Blockchains are a new data structure that is secure, cryptography-based, and distributed across a network.** The technology supports cryptocurrencies such as Bitcoin, and the transfer of any data or digital asset.

- Spearheaded by Bitcoin, blockchains achieve consensus among distributed nodes, allowing the transfer of digital goods without the need for centralized authorisation of transactions. The present blockchain ecosystem is like the early Internet, a permissionless innovation environment in which email, the World Wide Web, Napster, Skype, and Uber were built.

#### How it operates?

- The technology allows transactions to be simultaneously anonymous and secure, peer-to-peer, instant and frictionless. It does this by distributing trust from powerful intermediaries to a large global network, which through mass collaboration, clever code and cryptography, enables a tamper-proof public ledger of every transaction that's ever happened on the network.
- A block is the "current" part of a blockchain which records some or all of the recent transactions, and once completed, goes into the blockchain as permanent database. Each time a block gets completed, a new block is generated. Blocks are linked to each other (like a chain) in proper linear, chronological order with every block containing a hash of the previous block.

#### Benefits of blockchain technology:

- As a public ledger system, blockchain records and validate each and every transaction made, which makes it secure and reliable.
- All the transactions made are authorized by miners, which makes the transactions immutable and prevent it from the threat of hacking.
- Blockchain technology discards the need of any third-party or central authority for peer-to-peer transactions.
- It allows decentralization of the technology.

### 3. GI CERTIFICATION FOR FIVE VARIETIES OF INDIAN COFFEE

#### What to study?

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

**Context:** The DPIIT has recently awarded Geographical Indication (GI) to five varieties of Indian coffee.

#### Coffee varieties that have received the GI recognition:

1. **Coorg Arabica coffee:** grown specifically in the region of Kodagu district in Karnataka.
2. **Wayanaad Robusta coffee:** grown specifically in the region of Wayanad district which is situated on the eastern portion of Kerala.
3. **Chikmagalur Arabica coffee:** grown specifically in the region of Chikmagalur district and it is situated in the Deccan plateau, belongs to the Malnad region of Karnataka.
4. **Araku Valley Arabica coffee:** grown in hilly tracks of Visakhapatnam district of Andhra Pradesh and Odisha region. The coffee produce of Araku, by the tribals, follows an organic approach in which they emphasise management practices involving substantial use of organic manures, green manuring and organic pest management practices.
5. **Bababudangiris Arabica coffee:** grown specifically in the birthplace of coffee in India and the region is situated in the central portion of Chikmagalur district. This coffee is also called high grown coffee which slowly ripens in the mild climate and thereby the bean acquires a special taste and aroma.

#### Significance:

- The recognition and protection that comes with GI certification will allow the coffee producers of India to invest in maintaining the specific qualities of the coffee grown in that particular region.
- It will also enhance the visibility of Indian coffee in the world and allow growers to get maximum price for their premium coffee.

#### Some key facts related:

- In India, coffee is cultivated in about 4.54 lakh hectares by 3.66 lakh coffee farmers of which 98% are small farmers.

- Coffee cultivation is mainly done in the Southern States of India: Karnataka – 54%, Kerala – 19% and Tamil Nadu – 8%.
- India is the only country in the world where the entire coffee cultivation is grown under shade, hand-picked and sun dried.

#### 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.

*Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.*

## 1. SC REBUKES HARYANA GOVT FOR THROWING OPEN ARAVALLIS FOR REALTORS, MINERS

#### What to study?

- For Prelims: Spread and significance of Aravalis, features and amendments to PLPA.
- For Mains: Concerns over the destruction of aravalis, need for a comprehensive conservation plan.

**Context:** The Supreme Court has come down heavily on the Haryana government for diluting laws protecting the Aravalli hills.

#### What's the issue?

- **Haryana government recently pushed an amendment to Punjab Land Preservation Act (PLPA).** It effectively strips protection under the act to areas under master plans of cities such as Gurugram, Faridabad, Nuh, Mahendragarh and Rewari.
- The court has now ordered the government to not implement the amendment and reportedly said it was aware the move was to “favour the builders” and found it shocking that the government “went ahead despite our warning”.

#### Why Aravallis matters?

The Aravallis, one of the world's oldest mountain chains, keeps the Thar desert from encroaching into Delhi and nearby territories.

- The Aravallis in Haryana are home to over 400 species of native trees, shrubs and herbs, more than 200 native and migratory bird species, and wildlife that includes leopards, jackals, hyenas, mongoose and civet cats.
- They are crucial to groundwater recharge, which is significant given the water scarcity the region faces during harsh summer months.
- The thick forest cover helps to naturally purify air in a region plagued by high levels of vehicular and industrial pollution through the year.

#### Concerns:

- **The Wildlife Institute of India, in a 2017 report, had highlighted:** “The forests of the Aravalli range in Haryana are now the most degraded forests in India, most of the indigenous plant species have disappeared.
- **The rapid deforestation and developmental activities are destroying the unique landscape that requires immediate conservation attention.**

- Unusual dust and thunderstorms, sometimes accompanied by hailstorms, ravaged Northern India — especially UP and Rajasthan — last year. Increasing and intensifying dust storms are a symptom of extended desertification.

Sources: down to earth.

## 2. RED SANDERS IS NOW FREE OF EXPORT RESTRICTIONS

### What to study?

- For Prelims: Red sanders- protection status and related key facts.
- For Mains: Concerns and issues over its protection.

**Context:** The **Directorate General of Foreign Trade (DGFT)**, an agency of the Ministry of Commerce and Industry, has revised its export policy to permit the export of red sanders if it **is obtained from cultivated land**.

### What necessitated this?

- Though a farmer can grow the tree, he/she requires permits to fell and transport the wood, which was difficult to obtain. Moreover, the price of this wood in the domestic market is less than half of what it is in the international market as the demand is low. At the same time, the farmer could not even export it earlier as the foreign trade policy prohibited it.
- Estimates suggest that there are more than 3,000 farmers across India who were unable to sell their produce due to the earlier export policy. Earlier, only seized logs from smugglers were being exported depending on state government rules. This is a great step taken by the DGFT which will benefit red sanders farmers.

### About Red sanders:

- Red sanders (*Pterocarpus santalinus*), known for its rich hue and therapeutic properties, is high in demand across Asia, particularly in China and Japan, for use in cosmetics and medicinal products as well as for making furniture, woodcraft and musical instruments.
- Its popularity can be gauged from the fact that a tonne of red sanders costs anything between Rs 50 lakh to Rs 1 crore in the international market.

### Why the restrictions?

- **The tree is endemic to several districts in Andhra Pradesh and some parts of Tamil Nadu and Karnataka.** But overexploitation prompted the Union government in the 1980s to recommend inclusion of red sanders in Appendix II of CITES, which says “trade must be controlled in order to avoid utilisation incompatible with their survival”.
- The species was listed in Appendix II of CITES in 1995, and subsequently export of red sanders was prohibited in 2004.
- In 2010, when the CITES was planning to suspend trade of red sanders obtained from India, the government submitted a Non-Detriment Finding (NDF) report saying it must be allowed to export from cultivated sources.
- **So in 2012, India got an export quota on red sanders from CITES, under which the country could export 310 tonnes of red sanders obtained from “artificially propagated” sources** (grown on farms) and 11,806 tonnes of wood from seized sources.

Sources: down to earth.

## 3. WORLD WILDLIFE DAY

### What to study?

- For Prelims: Significance of World Wildlife Day, themes, CITES.
- For Mains: Significance, performance and potential of these conventions.

**Context:** World Wildlife Day was **celebrated on March 3rd**.

- **Theme:** ‘Life below Water: for People and Planet’.
- The theme aligns with **goal 14 of UN Sustainable Development Goals**.



WORLD  
WILDLIFE DAY  
3 MARCH

*Life below water:  
for people and planet*



#### Relevance of theme:

#### Significance of oceans:

1. The ocean contains nearly 200,000 identified species, but actual numbers may be in the millions.
2. Globally, the market value of marine and coastal resources and industries is estimated at US\$3 trillion per year, about 5% of global GDP.
3. Over three billion people depend on marine and coastal biodiversity for their livelihoods. Marine wildlife has sustained human civilization and development for millennia, from providing food and nourishment, to material for handicraft and construction. It has also enriched our lives culturally, spiritually, and recreationally in different ways.

#### Concerns and the need for conservation:

1. The capacity of life below water to provide these services is severely impacted, as our planet's oceans and the species that live within it are under assault from an onslaught of threats.
2. As much as 40% of the ocean is now heavily affected by the most significant and direct threat of over exploitation of marine species as well as other threats such as pollution, loss of coastal habitats and climate change.
3. These threats have a strong impact on the lives and livelihoods of those who depend on marine ecosystem services, particularly women and men in coastal communities.

#### Background:

- On 20 December 2013, at its 68th session, the United Nations General Assembly (UNGA) proclaimed **3 March, the day of signature of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), as UN World Wildlife Day** to celebrate and raise awareness of the world's wild animals and plants.

#### About CITES:

- The **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)** is an **international regulatory treaty between 183 party states**.
- It was **formed in 1973 and regulates the international trade in over 35,000 wild species of plants and animals**.
- The focus of the convention is not solely on the protection of species. It **also promotes controlled trade that is not detrimental to the sustainability of wild species**.

#### How does CITES work?

- The convention works primarily through a system of classification and licensing.
- Wild species are **categorised in Appendices I to III**. This often reflects species' threat status on the Red List of the IUCN, the International Union for Conservation of Nature's Red List of Threatened Species first created in 1964.

1. **Appendix I** prohibits trade in species classified as highly endangered.
  2. **Appendix II** allows trade under very specific conditions. This requires exporting countries obtain a permit, but not the importing country.
  3. **Appendix III** species require only a certificate of origin to be traded.
- **National CITES management authorities** may issue permits once scientific authorities show non-detriment findings. In other words, scientific evidence must demonstrate that species sustainability will not be adversely affected by trade. Where data is lacking, the precautionary principle applies.
  - **CITES is legally binding** on state parties to the convention, which are obliged to adopt their own domestic legislation to implement its goals.

## 4. THE NEW DELHI DECLARATION ON ASIAN RHINOS 2019

### What to study?

- For Prelims and Mains: About the Declaration on Asian Rhinos, related facts on Asian Rhinos, the need for their conservation.

**Context:** India and four rhino range nations have signed a declaration '**The New Delhi Declaration on Asian Rhinos 2019**' for the conservation and protection of the species at the recently held Second Asian Rhino Range Countries meeting.

- **2nd Asian Rhino Range Countries meeting** was held at New Delhi and organised by the Ministry of Environment, Forest and Climate Change of Government of India in collaboration with the IUCN Asian Rhino Specialist Group, WWF- India and Aaranyak.

### Key facts:

- India will collaborate with Bhutan, Nepal, Indonesia and Malaysia to increase the population of three species of Asian rhinos, including the Greater one-horned rhinoceros found in the Indian sub-continent.
- The declaration was signed to conserve and review the population of the Greater one-horned, Javan and Sumatran rhinos every four years to reassess the need for joint actions to secure their future.
- The declaration includes undertaking studies on health issues of the rhinos, their potential diseases and taking necessary steps; collaborating and strengthening wildlife forensics for the purpose of investigation and strengthening of transboundary collaboration among India, Nepal and Bhutan for the conservation and protection of the Greater one-horned rhino.

### The twelve point strategic actions outlined the following actions:

1. To collaborate to strengthen protection regimes, strategic information gathering, and real time sharing of actionable information on rhino crime and its horn trade to secure the rhino population within and between range countries.
2. To initiate research on various habitat parameters including invasive species threatening the suitable habitats of Asian rhinos and take appropriate steps to optimally manage the habitats.
3. To explore possibilities of expanding rhino ranges within country or between rhino range countries for optimal population management.
4. To strengthen transboundary collaboration among India, Nepal, and Bhutan for the greater one-horned rhino conservation and protection.
5. To identify connectivity and corridors across international boundaries and keep them functional, safe and secure for free movement of Asian rhinos and other wildlife.
6. To increase the engagement of the local communities as stewards to secure the future of rhinos in range countries.
7. To initiate proactive monitoring on potential adverse impacts of climate change on rhino health and their habitats in range countries.
8. To undertake studies on Rhino health issues & potential diseases and take necessary steps for management intervention.
9. To regularly organize exposure visits for managers and frontline staffs of the rhino range countries and to document the best practices for wider dissemination.
10. To collaborate and strengthen wildlife forensics for the purpose of investigation.

11. To accelerate natural and conservation breeding of critically endangered Sumatran rhino including best use of all available individuals and technologies.
12. To call to the attention of all countries that possible opening of international trade of rhino horn and other derivatives will have a severe detrimental impact on rhino populations in Asian rhino range countries.

#### Key facts:

- **The greater one-horned rhinoceros is the largest of the three Asian rhinos and, together with African white rhinos, is the largest of all rhino species.** It is listed as Vulnerable on the IUCN Red List. With at least half of the total population, India's Kaziranga National Park remains the key reserve for this species.
- **Two species of rhino in Asia—Javan and Sumatran—are critically endangered.**

Sources: the hindu.

## 5. WORLD AIR QUALITY REPORT 2018

#### What to study?

- For Prelims: Highlights of the report.
- For Mains: Concerns for India, what needs to be done?

**Context:** IQAir AirVisual and Greenpeace have released **World Air Quality Report 2018**.

- The main objective behind the report was to measure the presence of fine particulate matter known as Particulate Matter (PM) 2.5, which has been recorded in real-time in 2018.

#### Highlights of the report:

- The report, based on a study of 3000 cities, said that **64 percent of the cities exceeded the World Health Organisation's annual exposure guideline for PM 2.5**. In South Asia itself, 99 percent of the cities exceeded the WHO's safe standard exposure of 10 micrograms/cubic metre annually.
- **Of the 10 cities with highest pollution, seven are in India**, while one is in China and two are in Pakistan.
- **India's Gurugram led the list of most polluted cities in the world in 2018**, followed by Ghaziabad, Faridabad, Noida, and Bhiwadi in the top six worst-affected cities.
- **Delhi was ranked at number 11** on the pollution chart.
- **Among the top 30 most polluted cities, India makes up for 22** with five in China, two in Pakistan and one in Bangladesh.
- **The only non-Indian city in the top five list is Faisalabad, Pakistan.**
- **Delhi was ranked as the most polluted capital in the world**, with Dhaka at second and Kabul at third position.
- China made a remarkable improvement since 2013 as the country's pollution levels have gone down by 40 percent. In 2013, Beijing topped the pollution charts. Beijing ranks now as the 122nd most polluted city in the world in 2018.
- In South Asia, out of 20 most polluted cities in the world, 18 are in India, Pakistan and Bangladesh.
- **In Southeast Asia, Jakarta and Hanoi are the most polluted cities.**

Rank	City	2017 AVG	2018 AVG
1	Gurugram, India	145.6	135.8
2	Ghaziabad, India	144.6	135.2
3	Faisalabad, Pakistan	-	130.4
4	Faridabad, India	123	129.1
5	Bhiwadi, India	-	125.4
6	Noida, India	134	123.6
7	Patna, India	118.5	119.7
8	Hotan, China	91.9	116
9	Lucknow, India	119.2	115.7
10	Lahore, Pakistan	133.2	114.9

#### Measures to improve air quality:

As suggested by Greenpeace, following measures can be employed to fight air pollution in the country:

- Improving public transport.
- Limiting the number of polluting vehicles on the road.
- Introducing less polluting fuel (Bharat VI).
- Strict emission regulations.

- Improved efficiency for thermal power plants and industries.
- Moving from diesel generators to rooftop solar.
- Increased use of clean renewable energy.
- Electric vehicles.
- Removing dust from roads.
- Regulating construction activities.
- Stopping biomass burning, etc.

Sources: the hindu.

**Mains Question:** Air Pollution in India can no longer be tackled with short term, reactive solutions. Critically analyze.

## 6. HAZARDOUS WASTE (MANAGEMENT & TRANSCONTINENTAL MOVEMENT) RULES, 2016

**What to study?**

- For Prelims: Highlights of rules.
- For Mains: Significance and the need for these rules, comprehensive waste management rules.

**Context:** In order to strengthen the implementation of environmentally sound management of hazardous waste in the country, the Ministry of Environment, Forest and Climate Change has amended the **Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016**.

- The amendment has been done keeping into consideration the “Ease of Doing Business” and boosting “Make in India” initiative by simplifying the procedures under the Rules, while at the same time upholding the principles of sustainable development and ensuring minimal impact on the environment.

**Some of the salient features of the Hazardous and Other Wastes (Management& Transboundary Movement) Amendment Rules, 2019 are as follows:**

- **Solid plastic waste has been prohibited from import into the country including in Special Economic Zones (SEZ) and by Export Oriented Units (EOU).**
- Exporters of silk waste have now been given exemption from requiring permission from the Ministry of Environment, Forest and Climate Change.
- **Electrical and electronic assemblies and components manufactured in and exported from India, if found defective can now be imported back into the country, within a year of export,** without obtaining permission from the Ministry of Environment, Forest and Climate Change.
- **Industries which do not require consent under Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981, are now exempted from requiring authorization** also under the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016, provided that hazardous and other wastes generated by such industries are handed over to the authorized actual users, waste collectors or disposal facilities.

**What necessitated this?**

1. In spite of having a significant plastic pollution load of its own, and a ban on plastic waste imports, imported PET bottles from abroad for processing SEZ.
2. The influx of PET bottles was quadrupled from 2017 to 2018.
3. Indian firms are importing plastic scrap from China, Italy, Japan and Malawi for recycling.
4. India consumes about 13 million tonnes of plastic and recycles only about 4 million tonnes.

**What is hazardous waste and what are the concerns associated with it?**

Hazardous waste is the waste that poses substantial or potential threats to public health or the environment.

- Rapidly growing industries in the country have contributed in the production of large part of hazardous waste material. The sources of hazardous waste are basically agricultural and agro industries, medical facilities, commercial centres, household and the informal sectors.
- Therefore, to reduce environmental hazard proper attention is required during disposal of such waste, because it cannot be disposed of by common means like other products of our daily lives.

**Mains Question:** E-waste is a looming crisis for humanity and calls for immediate action. Discuss.

## 7. NITROGEN POLLUTION

### What to study?

- For Prelims and Mains: Nitrogen- natural cycle, pollution and ways to prevent it.

**Context:** The *annual Frontiers Report 2019 published by the United Nations (UN)*, has included a chapter on nitrogen pollution in its latest edition. The report was released by the *United Nations Environmental Assembly (UNEA)* in Nairobi.

### Highlights of the Frontiers Report 2019:

- Pollution caused by the reactive forms of nitrogen is now being recognised as a grave environmental concern on a global level.
- It highlights that growing demand on the livestock, agriculture, transport, industry and energy sector has led to a sharp growth of the levels of reactive nitrogen — ammonia, nitrate, nitric oxide (NO), nitrous oxide (N<sub>2</sub>O) — in our ecosystems.
- The report claims that the total annual cost of nitrogen pollution to eco system and healthcare services in the world is around \$340 billion.
- The report also warns that the scale of the problem remains largely unknown and unacknowledged outside scientific circles.

### Nitrogen as an essential nutrient:

- Nitrogen, which is **a vital macronutrient for most plants**, is the most abundant element in the atmosphere.
- A little over 78% of dry air on Earth is nitrogen.** But atmospheric nitrogen, or dinitrogen, is unreactive and cannot be utilised by plants directly.
- Until the beginning of the 20th century, farmers depended on a natural process called nitrogen fixation for the conversion of atmospheric nitrogen into reactive nitrogen in the soil: **nitrogen-fixing bacteria like rhizobia live symbiotically with leguminous plants**, providing nitrogen to the plant and soil in the form of reactive compounds like ammonia and nitrate.
- But the **natural nitrogen cycle was inadequate to feed the growing population**. Scientists Fritz Haber and Carl Bosch solved this problem by producing ammonia by combining atmospheric nitrogen with hydrogen gas at high temperature and pressure—known as the Haber-Bosch process. The Green Revolution, which was instrumental in establishing food security in the developing countries in the 1960s, was driven by artificial nitrogen-fixation. Today, about half of the world's population depends on this process for its nutrition.

### How Nitrogen turned into pollutant from nutrient how it is affecting health and environment?

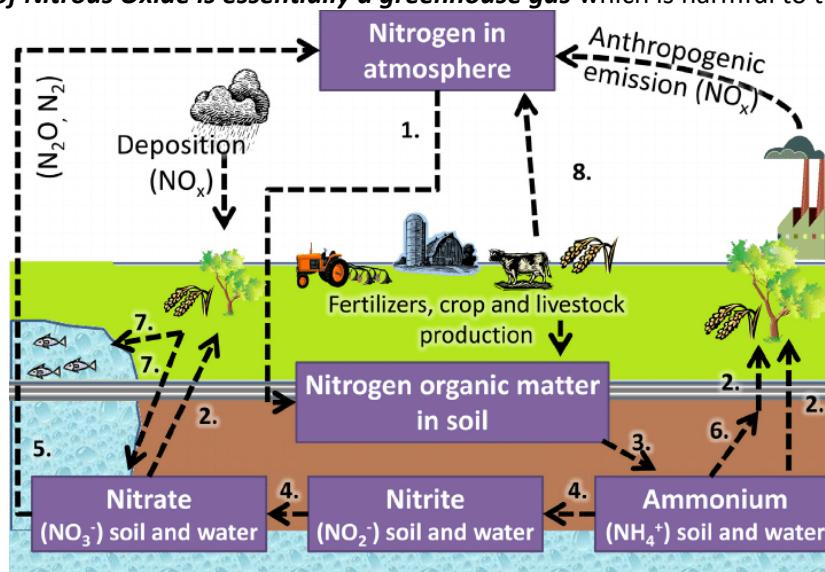
- Nitrogen is an inert gas that's necessary for life.** But we're changing it into forms that are harmful, overloading the environment with it, and throwing the natural nitrogen cycle out of whack.
- Nitrogen compounds running off farmland have led to water pollution problems around the world,** while nitrogen emissions from industry, agriculture and vehicles make a big contribution to air pollution.
- Over 80% of the nitrogen in soil is not utilised by humans.** While over four-fifths of the nitrogen is used to feed livestock, only about six per cent reaches humans in case of non-vegetarian diet, as compared to the 20% that reaches the plate of a vegetarian.
- Nitrogen becomes a pollutant when it escapes into the environment and reacts with other organic compounds.** It is either released into the atmosphere, gets dissolved in water sources such as rivers, lakes or groundwater, or remains in the soil. While it might lead to favourable growth of species that can utilise this nutrient, nitrogen as a pollutant is often detrimental to the environment and health.

### Effects on health:

- According to the World Health Organization, nitrate-contaminated drinking water can cause reduced blood function, cancer and endemic goiters. Surplus inputs of nitrogen compounds have been found to cause soil acidification. The lowering pH, as a result of the acidification, can lead to nutrient disorders and increased toxicity in plants. It may also affect natural soil decomposition.

Nitrogen pollution has a significant impact on the environment:

- ***It creates of harmful algal blooms and dead zones in our waterways and oceans;*** the algae produce toxins which are harmful to human and aquatic organisms (and indirectly affects fisheries and biodiversity in coastal areas).
- ***Contamination of drinking water.*** 10 million people in Europe are potentially exposed to drinking water with nitrate concentrations above recommended levels. This can have an adverse effect on human health.
- ***Food Security:*** Excessive nitrogen fertiliser application contributes to soil nutrient depletion. As the world needs to feed an ever growing population loss of arable land is major global problem.
- ***The release of Nitrous Oxide is essentially a greenhouse gas*** which is harmful to the environment.



Sources: the hindu.

## 8. INDIA COOLING ACTION PLAN (ICAP)

**What to study?**

- For Prelims and Mains: Highlights and significance of ICAP.

**Context:** India Cooling Action Plan Launched.

**Significance:**

- ***India is the first country in world to develop such a document (ICAP),*** which addresses cooling requirement across sectors and lists out actions which can help reduce the cooling demand.
- The overarching goal is ***to provide sustainable cooling and thermal comfort for all while securing environmental and socio-economic benefits for the society.***

The goals emerging from the suggested interventions stated in ICAP are:

1. Reduction of cooling demand across sectors by 20% to 25 % by year 2037-38.
2. Reduction of refrigerant demand by 25% to 30% by year 2037-38.
3. Reduction of cooling energy requirements by 25% to 40% by year 2037-38.
4. Training and certification of 100,000 servicing sector technicians by the year 2022-23, in synergy with Skill India Mission.
5. Recognize “cooling and related areas” as a thrust area of research under the national S&T Programme.

The broad objectives of the India Cooling Action Plan include:

- Assessment of cooling requirements across sectors in next 20 years and the associated refrigerant demand and energy use.
- Map the technologies available to cater the cooling requirement including passive interventions, refrigerant-based technologies and alternative technologies such as not-in-kind technologies.
- Suggest interventions in each sector to provide for sustainable cooling and thermal comfort for all.
- Focus on skilling of RAC service technicians.
- Develop an R&D innovation ecosystem for indigenous development of alternative technologies.

**The following benefits would accrue to society over and above the environmental benefits:**

- Thermal comfort for all – provision for cooling for EWS and LIG housing.
- Sustainable cooling – low GHG emissions related to cooling.
- Doubling Farmers Income – better cold chain infrastructure – better value of products to farmers, less wastage of produce.
- Skilled workforce for better livelihoods and environmental protection.
- Make in India – domestic manufacturing of air-conditioning and related cooling equipment's.
- Robust R&D on alternative cooling technologies – to provide the push to innovation in a cooling sector.

## 9. FREQUENT FIRES AT THE BANDIPUR RESERVE

**Context:** A five-day fire that raged through the Bandipur Tiger Reserve has reportedly burnt more than 15,400 acres of forests.

**Concerns:**

- Increase in intensity and frequency.
- long-term damage to the ecosystem.
- Effects on Nilgiri Biosphere that hosts the world's largest tiger population, at more than 575 (2014 census).

**Why there is increase in intensity and frequency?**

1. Bandipur is a dry deciduous forest in the rain shadow region of the Western Ghats, and is no stranger to fires. Periods of drought invariably lead to fires. Between 1974 and 2014, 67% of the Nilgiri Biosphere had seen some form of forest fire, with Bandipur having reported the most incidents.
2. The 2018 monsoon was particularly strong, but the year-end northeast monsoon has failed. If the monsoon led to dense growth, the blistering heat since September has turned vegetation brittle and dry, with vast swathes becoming tinderboxes.
3. Besides, as with most forest fires, it is assumed that Bandipur's ignition was man-made as miscreants set fire in multiple locations. Compounding matters is the ubiquity of lantana camara, an invasive weed species native to South America, that has spread through nearly two-thirds of the forest area.

**Impacts of Forest Fires on Environment:**

- Fires are a major cause of forest degradation and have wide ranging adverse ecological, economic and social impacts.
- Loss of valuable timber resources.
- Degradation of catchment areas.
- Loss of biodiversity and extinction of plants and animals.
- Global warming.
- Loss of carbon sink resource and increase in percentage of CO<sub>2</sub> in atmosphere.
- Change in the microclimate of the area with unhealthy living conditions.
- Soil erosion affecting productivity of soils and production.
- Ozone layer depletion.
- Loss of livelihood for tribal people and the rural poor.

**Why forest fires are important?**

- India's forest policy encourages a zero forest fire approach for its protected landscapes — whether it is Bandipur or the rainforests of the upper Western Ghats.
- Scientific literature has shown this blanket approach may be doing harm to dry, deciduous forests where trees have evolved to co-exist with fire.
- The trees in this landscape were closer to those in a savanna than in rainforests 100 km away. Trees have dramatically thicker barks, implying that they had evolved to be fire-resistant.
- When fires are relatively frequent, adult tree mortality in these systems is very low. Many saplings sprout shortly after the fire from underground reserves, and the system returns to its original state in a few years.
- Conversely, when fires are suppressed — including by curbing the tribal practices of controlled fire burning — a greater biomass builds up that can lead to high intensity fires which affect the ecosystem negatively.

## 10. BEE STAR RATINGS

### What to study?

- For Prelims and Mains: BEE, star ratings and significance, different types.

**Context:** The Ministry of Power has announced that **two more electrical appliances microwave ovens and washing machines will now be assigned star ratings based on their energy efficiency metrics.**

- The programme of star rating of Microwave Ovens and Washing Machines will be **implemented on a voluntary basis and will be valid up to December 31, 2020.**

### What is BEE Star Rating?

- Star ratings are provided to all the major kind of appliances in the form of labels. These star ratings are given out of 5 and they provide a basic sense of how energy efficient each product is, just in a single glance.
- The manufacturers are officially required to put these labels as per **the Standards and Labelling Program introduced in 2006.**

### Why do they put these BEE Star Rating labels?

- The prime importance of these Star Ratings is to educate and inform consumers about how energy efficient each product is. This also makes the manufacturer responsible for creating products which are highly energy efficient as consumers may eventually prefer better rated products.

### How do they decide the BEE Star Ratings?

- One of the most common myths about the BEE Star Rating is that it is solely based on the appliance's power consumption. A lot of factors contribute into formulating the final star rating on the product.
- Although the manufacturers rate and label the product, BEE sets all the standards and norms which need to be followed while rating an appliance. While some category of appliances necessarily have to be given a star rating, for others it's optional.
- Appliances which need to have an energy rating label mandatorily:** Frost-free refrigerator, Tubular Fluorescent Lamps, Room Air-Conditioners, Distribution Transformer, Colour TV, CST AC, Direct Cool Refrigerator and Electric Geyser.
- The appliances with the lowest energy consumption in a product category are given the most stars and those with the highest energy consumption are given the least.**

There are two variants of these labels, a big one and a smaller version:

#### 1. Big label:

- The big energy rating label is aimed at appliances which have a constant usage and consume more electricity. These labels show additional information such as the yearly energy consumption of the product, brand name, product category and much more. For consumers, this big label is helpful as it allows you to calculate the actual money you would spend in electricity bills for that particular product.

**Products with a big label:** Refrigerators, air-conditioners, geysers and washing machines.

#### 2. Small Label:

- Small labels can be found in appliances which usually don't consume more energy. These labels just give you a visual representation of the energy consumption levels by showing star ratings.

**Products with a small label:** Ceiling fans, tube lights, computers/laptops and televisions.

### Facts for Prelims:

- Bureau of Energy Efficiency is a statutory body set up under the Energy Conservation Act, 2001.** The Bureau of Energy Efficiency assists the government in developing policies and strategies with a thrust on self-regulation and market principles with the primary objective of reducing the energy intensity of the Indian economy within the overall framework of the Energy Conservation Act, 2001.

Sources: the hindu.



BEE Star label - Small label  
For TVs, Computers/laptops,  
fans and tube-lights  
This is a label for 1 Star tubelight  
– least efficient among the rates  
appliances

## 11. PROTECTING THE SUNDARBAN WETLANDS

**Context:** On January 30, the Indian Sundarban was accorded the status of ‘Wetland of International Importance’ under the Ramsar Convention.

### Key facts:

- The Sundarbans comprises hundreds of islands and a network of rivers, tributaries and creeks ***in the delta of the Ganga and the Brahmaputra at the mouth of the Bay of Bengal in India and Bangladesh.***
- Located on the southwestern part of the delta, the Indian Sundarban constitutes over 60% of the country’s total mangrove forest area.
- ***It is the 27th Ramsar Site in India,*** and with an area of 4,23,000 hectares is now the largest protected wetland in the country.
- ***The Indian Sundarban, also a UNESCO world heritage site, is home to the Royal Bengal Tiger.*** It is also home to a large number of “rare and globally threatened species, such as the critically endangered northern river terrapin (Batagur baska), the endangered Irrawaddy dolphin (Orcaella brevirostris), and the vulnerable fishing cat (Prionailurus viverrinus).”
- ***Two of the world’s four horseshoe crab species, and eight of India’s 12 species of kingfisher are also found here.*** Recent studies claim that the Indian Sundarban is home to 2,626 faunal species and 90% of the country’s mangrove varieties.

### Ramsar convention:

- The Convention on Wetlands of International Importance, better known as the Ramsar Convention, is an international agreement promoting the conservation and wise use of wetlands. It is the only global treaty to focus on a single ecosystem.
- The convention was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975.

### Why wetlands are important?

- Traditionally viewed as a wasteland or breeding ground of disease, wetlands actually provide freshwater and food, and serve as nature’s shock absorber.
- Wetlands, critical for biodiversity, are disappearing rapidly, with recent estimates showing that 64% or more of the world’s wetlands have vanished since 1900.
- Major changes in land use for agriculture and grazing, water diversion for dams and canals and infrastructure development are considered to be some of the main causes of loss and degradation of wetlands.

### How did Sundarban qualify?

- The Indian Sundarban met four of the nine criteria required for the status of ‘Wetland of International Importance’ — presence of rare species and threatened ecological communities, biological diversity, significant and representative fish and fish spawning ground and migration path.

### Will the status help?

- Environmentalists and forest officials say the Ramsar status will help to highlight conservation issues of the Sundarbans at the international level. The part of the Sundarban delta, which lies in Bangladesh, was accorded the status of a Ramsar site in 1992, and with Indian Sundarban getting it too, international cooperation between the two countries for the protection of this unique ecosystem will increase. This could lead to a better conservation strategy for flagship species such as the tiger and the northern river terrapin.

### What are the threats?

- While the Indian Sundarban is a biodiverse preserve, over four million people live on its northern and northwestern periphery, putting pressure on the ecosystem. Concerns have been raised about natural ecosystems being changed for cultivation of shrimp, crab, molluscs and fish.
- Fishing and harvesting of aquatic resources have also a “high impact” on the wetland. The other threats are from dredging, oil and gas drilling, logging and wood harvesting, hunting and collecting terrestrial animals.
- Salinity has been categorised as a medium and tourism as a low impact actual threat in the region.
- Experts believe that while the Ramsar status may bring in international recognition to the Indian Sundarban, the wetland, which along with anthropogenic pressures, is also vulnerable to climate change and requires better management and conservation practices.

## 12. GLOBAL CHEMICAL OUTLOOK II

### What to study?

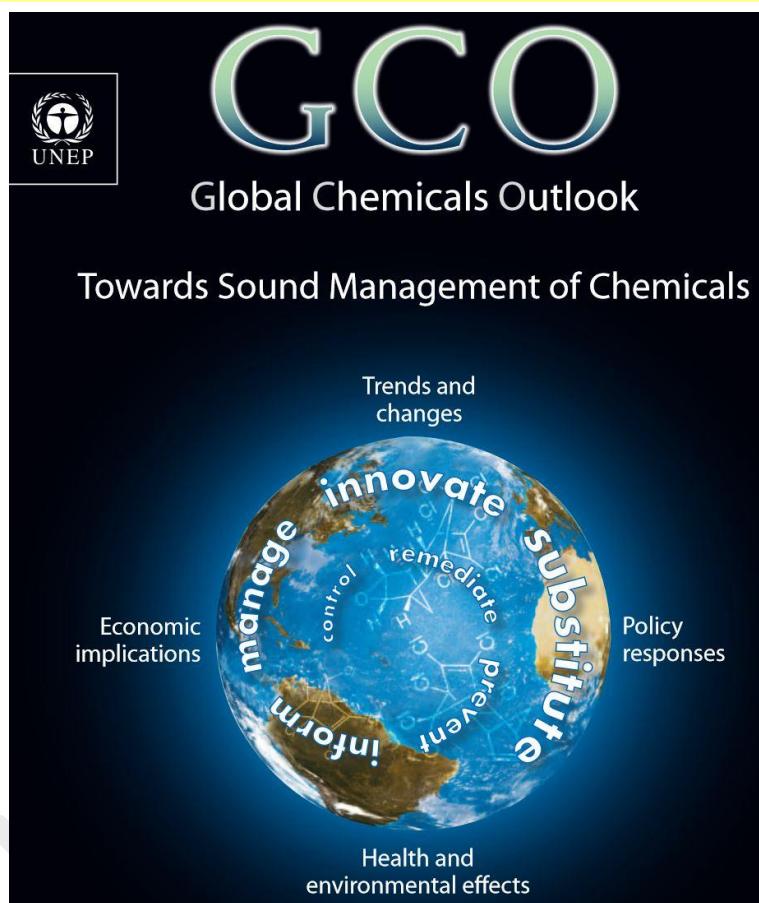
- For Prelims: Highlights of the report:
- For Mains: Concerns highlighted, need for coordinated action and immediate measures needed.

**Context:** The second edition of the *Global Chemicals Outlook* has been released.

- ***The Global Chemicals Outlook II – From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development***, mandated by the UN Environment Assembly in 2016, seeks to alert policymakers and other stakeholders to the critical role of the sound management of chemicals and waste in sustainable development.
- ***It takes stock of global trends as well as progress made and gaps in achieving the global goal to minimize the adverse impacts from chemicals and waste by 2020.***

### Important findings:

- ***Countries will not meet the internationally agreed goal to minimize the adverse impacts of chemicals and waste by 2020***, meaning that urgent action is required to reduce further damage to human health and economies.
- The ***current chemical production*** capacity of 2.3 billion tonnes, valued at US\$5 trillion annually, ***is projected to double by 2030.***
- ***Despite commitments to maximize the benefits and minimize the impacts of this industry, hazardous chemicals continue to be released to the environment in large quantities.*** They are ubiquitous in air, water and soil, food and humans. The world must take advantage of the many solutions that already exist and are highlighted in the report.
- ***While international treaties and voluntary instruments have reduced the risks of some chemicals and wastes, progress has been uneven and implementation gaps remain.*** For example, as of 2018, more than 120 countries had not implemented the Globally Harmonized System of Classification and Labelling of Chemicals.
- ***The World Health Organization estimated the burden of disease from selected chemicals at 1.6 million lives in 2016, which is likely an underestimate.*** Chemical pollution also threatens a range of ecosystem services.
- From pharmaceuticals to plant protection, ***chemicals play an important role in modern society and in achieving the goals of the 2030 Agenda for Sustainable Development.***
- ***Driven by economic development, population dynamics and other global megatrends, the chemicals market across a range of industry sectors is growing.*** For example, the chemicals market in the construction sector is expected to grow by 6.2 per cent annually, between 2018 and 2023.
- ***Meanwhile, chemical production and consumption is shifting to emerging economies, in particular China.***
- ***Pesticides have been found to negatively impact pollinators, excess use of phosphorous and nitrogen in agriculture continues to contribute to ocean dead zone and chemicals used in sunscreens put pressure on coral reef ecosystems.*** Studies also indicate that releases of some antimicrobials, heavy metals and disinfectants contribute to antimicrobial resistance.



### What next?

- Solutions exist, however. **Governments are taking regulatory action on many chemicals.** Frontrunner companies are advancing standards beyond compliance and sustainable supply chain management. Consumers are driving demand for safer products and production.
- **Industry and entrepreneurs are developing green and sustainable chemistry innovations.** Scientists are filling data gaps. Universities are reforming the way chemistry is taught. Management approaches – from chemical hazard assessment to risk management and life cycle analysis – are advancing.
- **Opportunities exist for key influencers such as investors, producers, retailers, academics and ministers to scale up these initiatives.** This would not only protect human health and the environment, but also deliver economic benefits in the high tens of billions of United States dollars annually.
- **The development of a future global platform for the sound management of chemicals and waste beyond 2020 provides a window of opportunity.** As the report highlights, this framework needs to bring together all relevant sectors and stakeholders and foster collaborative, ambitious action.
- Given the critical role of the sound management of chemicals and waste in halting biodiversity loss, facilitating access to clean energy and achieving other Sustainable Development Goals and targets, **opportunities exist to create synergies with these and other international policy agendas.**

Sources: toi.

## 13. GLOBAL ENVIRONMENT OUTLOOK REPORT

### What to study?

- For Prelims: GEO- key findings.
- For Mains: Concerns highlighted by the report, need for urgent measures and the need for international cooperation.

**Context:** *Global Environment Outlook report* has been released. The report is **the sixth and is the UN's most comprehensive report on the state of the global environment** since the fifth edition in 2012.

### About GEO report:

- The GEO is often referred to as **UN Environment's flagship environmental assessment.**
- The **first publication was in 1997** and was originally requested by Member States.
- **It is a flagship report because it fulfills the core functions of the organization,** which date back to the UN General Assembly resolution that established the UNEP in 1972.

### Key observations:

#### Pollution related risks:

- A quarter of all premature deaths and diseases worldwide are due to manmade pollution and environmental damage.
- Deadly emissions, chemicals polluting drinking water, and the accelerating destruction of ecosystems crucial to the livelihoods of billions of people are driving a worldwide epidemic that hampers the global economy.
- There is a growing chasm between rich and poor countries as rampant overconsumption, pollution and food waste in the developed world leads to hunger, poverty and disease elsewhere.

#### Impact:

- As greenhouse gas emissions continue to rise amid a preponderance of droughts, floods and super storms made worse by climbing sea levels, there is a growing political consensus that climate change poses a future risk to billions.
- But the health impacts of pollution, deforestation and the mechanised food-chain are less well understood. Nor is there any international agreement for the environment close to covering what the 2015 Paris accord does for climate.
- Poor environmental conditions “cause approximately 25% of global disease and mortality” — around 9 million deaths in 2015 alone.
- Lacking access to clean drinking supplies, 1.4 million people die each year from preventable diseases such as diarrhoea and parasites linked to pathogen-riddled water and poor sanitation.

- Chemicals pumped into the seas cause “potentially multi-generational” adverse health effects, and land degradation through mega-farming and deforestation occurs in areas of Earth home to 3.2 billion people.
- Species extinction** rates also continue to increase at a pace that could compromise Earth’s ability to meet human needs, the report says.

#### What needs to be done?

- The report called for **a root-and-branch detoxifying of human behaviour while insisting that the situation is not unassailable**. Food waste for instance, which accounts for 9% of global greenhouse gas emissions, could be slashed. The world currently throws away a third of all food produced. In richer nations, 56% goes to waste.
- It also called for **a rapid drawdown in greenhouse gas emissions and pesticide use to improve air and water quality**.

Sources: the hindu.

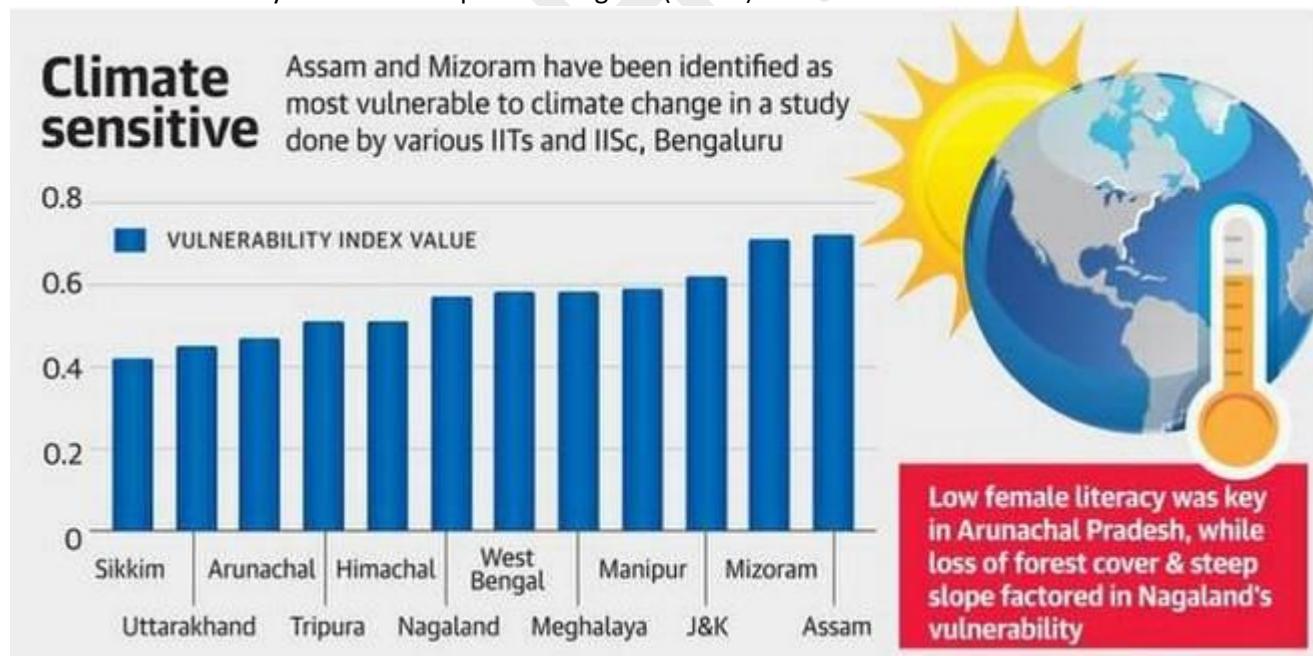
## 14. CLIMATE VULNERABILITY INDEX

#### What to study?

- For Prelims: About the index and key features.
- For Mains: Significance of the index and vulnerability of Himalayan states and the need for a policy framework to face the challenges.

**Context:** Scientists have developed a common framework for assessment of climate change vulnerability in all the states in the Himalayan region. They have developed **an index based on socio-economic factors, demographic and health status, sensitivity of agricultural production, forest-dependent livelihoods and access to information, services and infrastructure**.

- The assessment has been done jointly by experts from** Indian Institutes of Technology (IIT) at Guwahati and Mandi, in collaboration with Indian Institute of Science, Bangalore with support from the Department of Science and Technology and the Swiss Development Corporation (SDC) which is implementing the Indian Himalayas Climate Adaptation Program (IHCPA).



#### Key findings:

- The assessment shows that the vulnerability index is the highest for Assam (0.72) and Mizoram (0.71).**
- Sikkim is the least vulnerable state with the index being 0.42.** Districts within a state face different degrees of vulnerability based on difference in geographic, climatic, socio-economic and demographic conditions.
- Assam is highly vulnerable to climate change** because of factors like low per capita income, deforestation, large number of marginal farmers, least area under irrigation, lack of alternative sources of income and high rates of poverty.

### **Significance and the need for vulnerability map:**

- Receding apple lines, changing cropping patterns, more disasters like landslides and floods, drying springs in hills, spread of vector-borne diseases etc — are being felt all over the Himalayan region, which is one of the most sensitive climate zones globally. **However, the vulnerability to climate change varies from state to state and even district to district within a state.** It also depends on various socio-economic factors.
- **Climate adaptation is a collaborative effort** between appropriate use of technology, vision that produces policies, change at ground level and engagement of local communities. These vulnerability maps will play a crucial role in this effort.
- The vulnerability assessments will be useful for officials, decision makers, funding agencies and experts to have a common understanding on vulnerability and enable them to plan for adaptation.

Sources: down to earth.

## **15. OTTER CENSUS AND PILIBHIT TIGER RESERVE (PTR)**

**Context: In a first, Uttar Pradesh begins otter census.**

Beginning in **the Pilibhit Tiger Reserve**, the exercise will end by the end of March, 2019.



### **About Pilibhit Tiger Reserve (PTR):**

- **PTR is in the foothills of the Himalayas**, south of Nepal. Covering an area of approximately 800 square kilometres, the reserve sprawls across parts of Pilibhit, Lakhimpur Kheri and Bahraich districts.
- With **the Sharda and Ghaghara rivers encircling a considerable part of the reserve**, it is rich in water bodies.
- The forests of PTR are home to tigers, leopards, elephants, different species of deer and monkeys and reptiles like snakes, mugger crocodiles and gharials.

### **Otters:**

- Otters are an important part of the forest ecosystem. A thriving population of otters means a healthy ecosystem.
- A mammal, an otter spends much of its time in or close to water bodies. Otters live on fish.
- They are classified as vulnerable.

## **16. UN ENVIRONMENT ASSEMBLY**

### **What to study?**

- For Prelims and Mains: UNEA- composition, objectives, functions, meetings and themes.

**Context: The Fourth Environment Assembly was held in Nairobi**, focusing on the theme “**Innovative solutions for environmental challenges and sustainable consumption and production**”.

### **About UN Environment Assembly:**

1. The United Nations Environment Assembly is **the world's highest-level decision-making body on the environment**. It addresses the critical environmental challenges facing the world today.
2. The Environment Assembly **meets biennially** to set priorities for global environmental policies and develop international environmental law.
3. The Assembly is **the governing body of the UN Environment Programme (UN Environment) and the successor of its Governing Council**, which was composed of 58 member States. The UN Environment Assembly, with a universal membership, is now composed of 193 Member States.

### **History of the United Nations Environment Assembly:**

- The United Nations Environment Assembly was **created in June 2012, when world leaders called for UN Environment to be strengthened and upgraded during the United Nations Conference on Sustainable Development, also referred to as RIO+20**.

## Previous sessions and outcomes:

1. **The first and second sessions of the UN Environment Assembly** tackled and adopted resolutions on major issues of illegal trade in wildlife, air quality, environmental rule of law, financing the Green Economy, the Sustainable Development Goals, and “delivering on the environmental dimension of the 2030 Agenda for Sustainable Development”.
2. **The Third Environment Assembly** took place in Nairobi in December 2017 under the overarching theme “Towards a pollution-free planet”.

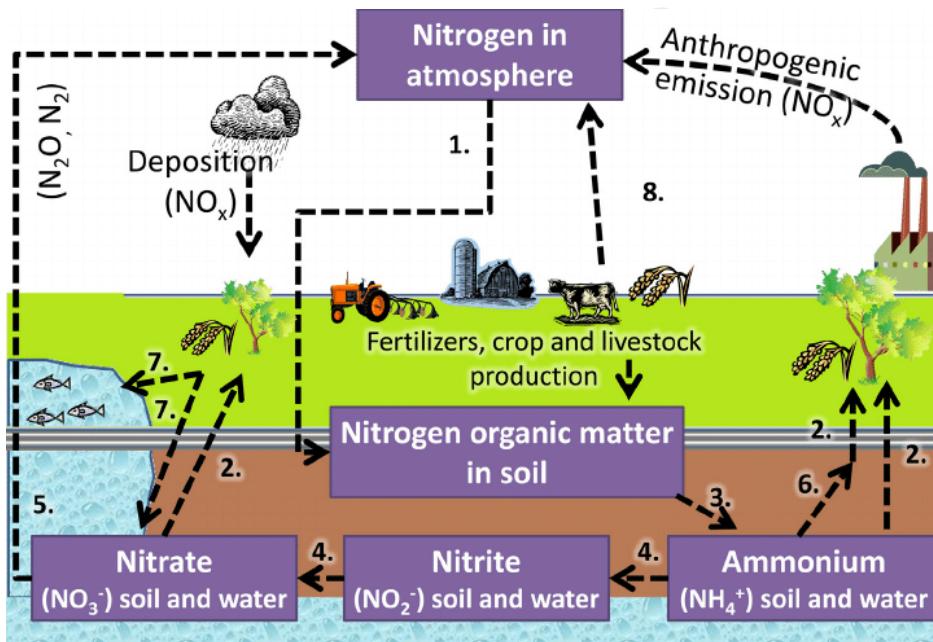
## 17. INDIA PILOTS RESOLUTIONS ON SINGLE-USE PLASTICS, SUSTAINABLE NITROGEN MANAGEMENT

### What to study?

- For Prelims and Mains:  
Ban on single-use plastics-significance, nitrogen pollution-causes, concerns, effects and solutions for sustainable management.

**Context:** India has piloted **resolutions on two key global environmental issues, single-use plastics and sustainable nitrogen management, at the fourth session of United Nations Environment Assembly (UNEA)**.

The UN Environment adopted both the resolutions with consensus.



### Analysis:

#### Nitrogen as an essential nutrient:

- Nitrogen, which is **a vital macronutrient for most plants**, is the most abundant element in the atmosphere. **A little over 78% of dry air on Earth is nitrogen**. But atmospheric nitrogen, or dinitrogen, is unreactive and cannot be utilised by plants directly.
- Until the beginning of the 20th century, farmers depended on a natural process called nitrogen fixation for the conversion of atmospheric nitrogen into reactive nitrogen in the soil: **nitrogen-fixing bacteria like rhizobia live symbiotically with leguminous plants**, providing nitrogen to the plant and soil in the form of reactive compounds like ammonia and nitrate.
- But the **natural nitrogen cycle was inadequate to feed the growing population**. Scientists Fritz Haber and Carl Bosch solved this problem by producing ammonia by combining atmospheric nitrogen with hydrogen gas at high temperature and pressure—known as the Haber-Bosch process. The Green Revolution, which was instrumental in establishing food security in the developing countries in the 1960s, was driven by artificial nitrogen-fixation. Today, about half of the world’s population depends on this process for its nutrition.

#### How Nitrogen turned into pollutant from nutrient how it is affecting health and environment?

- **Nitrogen is an inert gas that's necessary for life**. But we're changing it into forms that are harmful, overloading the environment with it, and throwing the natural nitrogen cycle out of whack.
- **Nitrogen compounds running off farmland have led to water pollution problems around the world**, while nitrogen emissions from industry, agriculture and vehicles make a big contribution to air pollution.

- **Over 80% of the nitrogen in soil is not utilised by humans.** While over four-fifths of the nitrogen is used to feed livestock, only about six per cent reaches humans in case of non-vegetarian diet, as compared to the 20% that reaches the plate of a vegetarian.
- **Nitrogen becomes a pollutant when it escapes into the environment and reacts with other organic compounds.** It is either released into the atmosphere, gets dissolved in water sources such as rivers, lakes or groundwater, or remains in the soil. While it might lead to favourable growth of species that can utilise this nutrient, nitrogen as a pollutant is often detrimental to the environment and health.

#### Effects on health:

- According to the World Health Organization, nitrate-contaminated drinking water can cause reduced blood function, cancer and endemic goiters. Surplus inputs of nitrogen compounds have been found to cause soil acidification. The lowering pH, as a result of the acidification, can lead to nutrient disorders and increased toxicity in plants. It may also affect natural soil decomposition.

#### Nitrogen pollution has a significant impact on the environment:

- **It creates harmful algal blooms and dead zones in our waterways and oceans;** the algae produce toxins which are harmful to human and aquatic organisms (and indirectly affects fisheries and biodiversity in coastal areas).
- **Contamination of drinking water.** 10 million people in Europe are potentially exposed to drinking water with nitrate concentrations above recommended levels. This can have an adverse effect on human health.
- **Food Security:** Excessive nitrogen fertiliser application contributes to soil nutrient depletion. As the world needs to feed an ever growing population, loss of arable land is major global problem.
- **The release of Nitrous Oxide is essentially a greenhouse gas** which is harmful to the environment.

#### India's efforts to beat plastic pollution:

- **So far, 22 States and Union Territories have joined the fight to beat the plastic pollution, announcing a ban on single-use plastics** such as carry bags, cups, plates, cutlery, straws and thermocol products. Puducherry is implementing a ban from March 1.
- **India has also won global acclaim for its “Beat Plastic Pollution” resolve declared on World Environment Day last year,** under which it pledged to eliminate single-use plastic by 2022.
- **All such efforts have yielded positive results:** Voluntary initiatives are having an impact in many States, as citizens reduce, reuse and sort their waste. A Bengaluru waste collective estimates that the volume of plastic waste that they collect dropped from about two tonnes a day to less than 100 kg.

## 18. SPECIAL STAMP ON ICE STUPA RELEASED

#### What to study?

- For Prelims and Mains: What are Ice stupas, how they are built and their significance?

**Context:** The Indian Department of Post has released a 'special stamp cover on Ice Stupa'.

- The special stamps aim to **create awareness about depleting glaciers and affect the ecology around the Himalayas.**

#### Why are Ice stupas being built?

- The idea behind artificial glaciers is to freeze and hold the water that keeps flowing and wasting away down the streams and into the rivers throughout the winter. Instead, this ice will melt in the springtime, just when the fields need watering.
- The idea of the Ice Stupa project was conceptualised by HIAL founder Sonam Wangchuk to reduce problems of Ladakhi farmers in spring.



#### How does it look?

- This is achieved by freezing the stream water vertically in the form of huge ice towers or cones of 30 to 50m height that look very similar to the local sacred mud structures called Stupa or Chorten. These ice mountains

can be built right next to the village itself where the water is needed. Very little effort or investment would be needed except for laying one underground pipeline from a higher point on the stream to the outskirts of the village.

#### How it works?

- Water always maintains its level. Therefore, water piped from 60m upstream would easily rise close to 60m up from ground when it reaches the village. Water is made to fall from that height in cold Ladakhi winter nights when it is -30 to -50°C outside (with wind chill factor). The water would freeze by the time it reaches the ground and slowly form a huge cone or Ice Stupa roughly 30 to 50m high.
- Since these ice cones extend vertically upwards towards the sun, they receive fewer of the sun's rays per the volume of water stored; hence, they will take much longer to melt compared to an artificial glacier of the same volume formed horizontally on a flat surface.

#### Significance:

- The Ice Stupa is a survival technique that has been developed over a period. Each stupa has the capacity to store at least 30-50 lakh litres of water. This is apart from the naturally saved water in the slopes of mountains.

## 19. 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:** Indian Forest Act amendment: Govt ready with first draft. The draft, which has been prepared with focus on conservation and climate change, has been sent to states seeking comments. The amendments specifically deal with the Forest Rights Act, 2006 (FRA).

#### Highlights of the draft:

- 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.
- 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".

- **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.

#### 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 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: down to earth.

## 20. WORLD WATER DAY- 22 MARCH

#### What to study?

- For Prelims: WWD- significance, themes, features and organizers.
- For Mains: Water- concerns, need for conservation and measures needed.

**Context:** World Water Day is celebrated every year on March 22<sup>nd</sup>.

- **The theme for World Water Day 2019** is 'Leaving no one behind,' which is the central promise of the 2030 Agenda for Sustainable Development: as sustainable development progresses, everyone must benefit.
- **Sustainable Development Goal 6 (SDG 6)** aims to ensure availability and sustainable management of water for all by 2030. By definition, this means leaving no one behind.
- **World Water Day is coordinated by UN-Water** – the UN's inter-agency collaboration mechanism for all freshwater related issues – in collaboration with governments and partners.

#### About World Water Day:

**In the year 1992, March 22 was first officially added in the schedule 21 of United Nations Conference on Environment and Development** as World Water Day in the Rio de Janeiro, Brazil.

- The celebrations to mark world water day started from the year 1993. The aim of the day is to increase awareness among people about the importance, need and conservation of water.
- **The World Water Development Report** is also released by the UN every year around World Water Day.

#### Water, a human right:

- In 2010, the UN recognized "the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights."
- The human right to water entitles everyone, without discrimination, to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic use; which includes water for drinking, personal sanitation, washing of clothes, food preparation, and personal and household hygiene.
- People are left behind without safe water for many different reasons. The following are some of the 'grounds for discrimination' that cause certain people to be particularly disadvantaged when it comes to accessing water:
  1. Sex and gender.
  2. Race, ethnicity, religion, birth, caste, language, and nationality.

3. Disability, age and health status.
4. Property, tenure, residence, economic and social status.
5. Other factors, such as environmental degradation, climate change, population growth, conflict, forced displacement and migration flows can also disproportionately affect marginalized groups through impacts on water.

#### Way ahead:

- To 'leave no one behind', we must focus our efforts towards including people who have been marginalized or ignored. Water services must meet the needs of marginalized groups and their voices must be heard in decision-making processes. Regulatory and legal frameworks must recognise the right to water for all people, and sufficient funding must be fairly and effectively targeted at those who need it most.

Sources: the hindu.

## 21. INTERNATIONAL DAY OF FORESTS- 21 MARCH

#### What to study?

- For Prelims and Mains: IDF- theme, significance and challenges to sustainable management.

**Context:** The **United Nations General Assembly proclaimed 21 March the International Day of Forests (IDF) in 2012.** The Day celebrates and raises awareness of the importance of all types of forests.

- On each International Day of Forests, countries are encouraged to undertake local, national and international efforts to organize activities involving forests and trees, such as tree planting campaigns.
- **The theme for 2019:** 'Forests and Education: Learn to Love Forests'.

#### Significance of forests:

- Forests cover one third of the Earth's land mass, performing vital functions around the world. Around 1.6 billion people including more than 2,000 indigenous cultures depend on forests for their livelihoods, medicines, fuel, food and shelter.
- Forests are the most biologically-diverse ecosystems on land, home to more than 80 per cent of the terrestrial species of animals, plants and insects.
- Despite all these ecological, economic, social and health benefits, global deforestation continues at an alarming rate with 13 million hectares of forest destroyed annually.
- Deforestation accounts for 12 to 20 percent of the global greenhouse gas emissions that contribute to climate change.

#### Need for sustainable management of forests:

- Forests, their sustainable management and use of resources, including in fragile ecosystems, are key to combating climate change and to contributing to the prosperity and well-being of current and future generations.
- Forests also play a crucial role in poverty alleviation and in the achievement of the Sustainable Development Goals (SDGs).
- Hence, sustainable management of all types of forests are at the heart of unlocking challenges of conflict-affected, developing and developed countries, for the benefit of current and future generations.

Sources: the hindu.

## 22. ISSUES RELATED TO STUBBLE BURNING

#### What to study?

- For Prelims and Mains: What is stubble burning, concerns associated, why is it practised and what needs to be done to contain its practice?

**Context:** Only educating farmers about the monetary costs of burning stubble can address the environmental crisis triggered every year in Punjab, says a team of Swiss and Indian researchers who interviewed 600 farmers over two years.

### **Key observations:**

- According to the team, the government's efforts — earmarking funds for specialised farming equipment (for straw management) or enforcing the state-led ban on the practice — are unlikely to solve the problem.
- Farmer cooperative groups — a key link between government and farmers — ought to be playing a more active role in educating farmers.

### **What is stubble burning?**

- Stubble burning is a common practice followed by farmers in the neighboring states Haryana and Punjab to prepare fields for sowing of wheat in November as there is little time left between the harvesting of paddy and sowing of wheat.
- **Stubble burning results in emission of harmful gases** such carbon dioxide, sulphur dioxide, nitrogen dioxide along with particulate matter.

### **What needs to be done- Supreme Court's observations?**

- The problem is required to be resolved by taking all such measures as are possible in the interest of public health and environment protection.
- Incentives could be provided to those who are not burning the stubble and disincentives for those who continue the practice.
- The existing Minimum Support Price (MSP) Scheme must be so interpreted as to enable the States concerned to wholly or partly deny the benefit of MSP to those who continue to burn the crop residue.
- Secretary, Union Ministry of Agriculture and Farmers' Welfare has also been directed to be present to "find a lasting solution."
- The Central government should convene a meeting with the States.

### **Advantages of stubble burning:**

- It quickly clears the field and is the cheapest alternative.
- Kills weeds, including those resistant to herbicide.
- Kills slugs and other pests.
- Can reduce nitrogen tie-up.

### **What's the issue?**

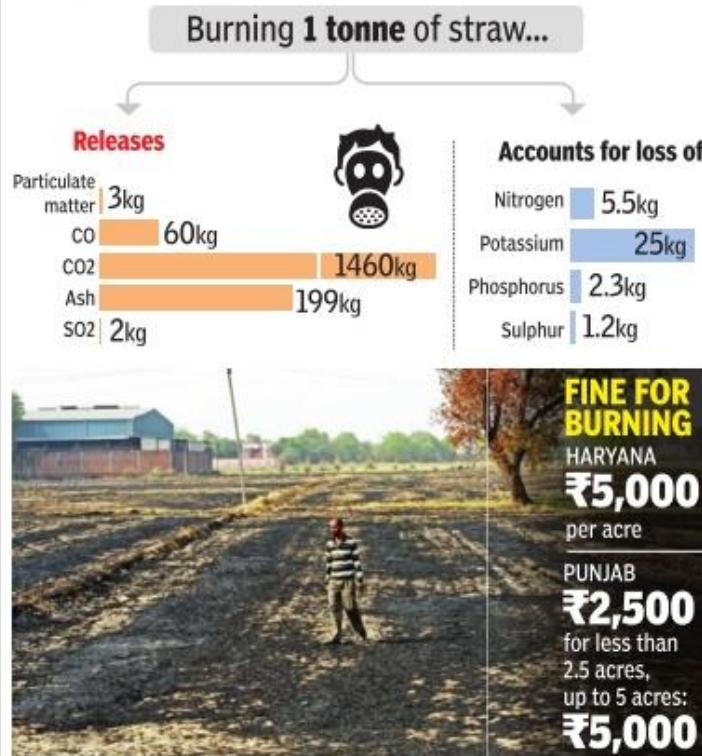
- Stubble burning is adversely affecting environment and public health. The problem has not been fully tackled and the adverse impacts on the air quality and consequent impacts on the citizens' health and lives are undisputed.

## **1 Why straw burning is such a big issue**

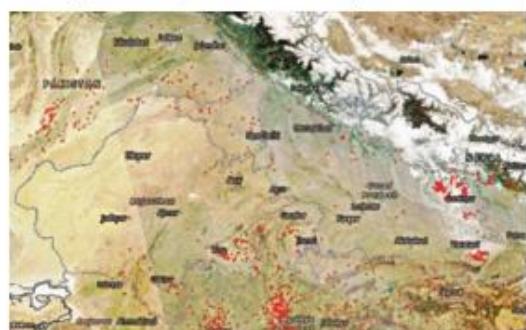
- Heat from burning straw penetrates into soil up to 1 cm
- Repeated burning in the field permanently diminishes bacterial population by 50%
- Agriculture departments of Punjab and Haryana offer subsidies on purchase of agricultural equipment that help manage crop stubble
- However, farmers are wary of availing subsidy due to the cumbersome formalities
- Many want to move away from paddy because of the problem with stubble as well as dependence on water in areas that are nearly parched
- Wheat and paddy harvesters together leave a stubble of about 10 inches, which is difficult to plough back



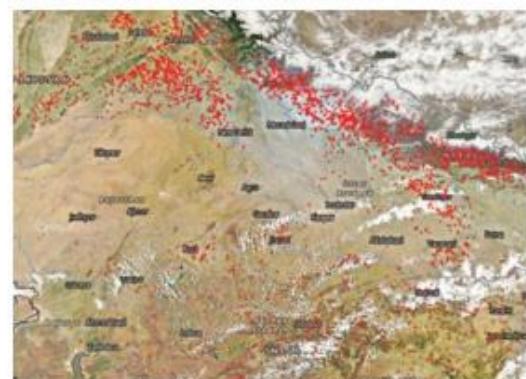
**2** There are two crop stubble burning seasons in north India —**October** after the paddy harvest and **April-end to May** following wheat harvest



**April 19, 2017:** This Nasa image shows how crop burning (red dots) in north India is sporadic so far



**APRIL 30, 2016:** However, as this image from last year shows, things could worsen by end of the month



Sources: the hindu.

**Mains Question:** Bans and fines can't stop stubble burning. Do you agree. Also discuss how the issue should be handled.

## 23. INDIA'S FIRST FOREST-CERTIFICATION SCHEME GETS GLOBAL RECOGNITION

### What to study?

- For Prelims: About SFM by NCCF.
- For Mains: Forest certification- meaning, significance and need.

**Context:** The council of Programme for Endorsement of Forest Certification (PEFC), a Geneva-based non-profit, has decided to endorse the *Certification Standard for Sustainable Forest Management (SFM) developed by Network for Certification and Conservation of Forests (NCCF), an Indian non-profit.*

- PEFC provides *independent third-party certification for sustainable forest management.*

### Key facts:

- The NCCF was set up in 2015 by representatives of forest-based industries, non-profits, forest auditors and government forest departments* with an aim to set standards for certifying India's forests, their products and their sustainable management.
- The NCCF's forest certification scheme is aimed to improve India's forest management regime* that is often criticised for various issues ailing the sector such as forest rights, forest degradation, biodiversity losses, encroachments, lack of manpower etc.

### Significance and the need for forest certification:

- Forest certification has been accepted as an efficient tool for forest management world over. Given that forests of India serve important ecological, economic and social functions that also provide livelihood to

### What is Forest Certification ?

- Market-based Instrument for differentiating sustainable managed forest products (voluntary green label)
- Consistent with ISO 14001 but goes further
- Forest Stewardship Council (FSC) certification was initiated in 1992 after the Rio world environmental summit in lieu of an international forestry convention such as UNFCCC (climate change), CBD (biodiversity), etc.
- Multiple schemes evolved: SFI, PEFC, CSA, ATO, national in Indonesia, Brazil, Malaysia

over 275 million forest dependent people of this country, there is need for certification for sustaining and enhancing these roles of forests.

#### What is forest certification?

- **Forest certification, a global movement initiated in 1990s after Rio Earth Summit, is a market-based non-regulatory conservation tool designed to promote sustainable management of forests and trees outside forests by an independent third party.**
- As several developed countries have put trade restrictions on import of non-certified timber, non-timber forest products and wood-based goods into their countries, getting sustainable forest management certificates has become mandatory for exports.

## 24. RISING SEA LEVELS TO AFFECT WATER TABLE ALONG CHENNAI'S SHORELINE

#### What to study?

- For Prelims and mains: Relation between rising sea levels and water table- concerns and measures needed to sustain.

**Context:** According to a recent study, **the fragile water table in Chennai's coastal areas, particularly along East Coast Road, is under threat of severe seawater intrusion due to anticipated rise in sea levels in the next few decades.**

#### Concerns:

- **There is a rise in sea level by 2mm every year** based on a report by the Indian Network for Climate Change Assessment under the Ministry of Environment, Forest and Climate Change.
- **The increasing sea level would also force the water table along the coastline to move upwards.** But it would slowly **replace the freshwater at the bottom of the aquifer.**
- The study has forecast the impact of sea level rise on the coastal aquifer in the coming years, till 2100.
- **Given the rate of increase in sea level, the water table would witness an incursion of sea water to the extent of 2-3mm every year.** The volume of fresh water would gradually reduce in the coastal areas due to climate change-induced sea level rise.

#### Need of the hour:

- It is imperative to **change the land-use pattern along the shoreline** to tackle the impact of climate change. **Areas closer to the coast must also adopt water conservation measures to sustain groundwater.**
- **Only minimal groundwater extraction through open wells must be allowed and water pumped in localities along the shoreline** must be replenished through rainwater harvesting. Large residential complexes must adopt other measures like permeable pavements.

Sources: the hindu.

## 25. IEA STATUS REPORT ON CO<sub>2</sub>

#### What to study?

- For Prelims: About IEA.
- For Mains: Key findings and concerns raised by the report, significance and measures needed to achieve the targets.

**Context:** International Energy Agency (IEA) has released Global Energy & CO<sub>2</sub> Status Report.

#### Key findings:

1. India emitted 2,299 million tonnes of carbon dioxide in 2018, a **8% rise from last year**.
2. India's emissions growth this year was higher than that of the United States and China — the two biggest emitters in the world — and this was primarily due to a **rise in coal consumption**.
3. China, the United States, and India together accounted for nearly 70% of the rise in energy demand.
4. India's per capita emissions were about 40% of the global average and contributed 7% to the global carbon dioxide burden.
5. The United States, the largest emitter, was responsible for 14%.

### Concerns raised:

- As per its commitments to the United Nations Framework Convention on Climate Change, India has promised to reduce the emissions intensity of its economy by 2030, compared to 2005 levels. It has also committed to having 40% of its energy from renewable sources by 2030 and, as part of this, install 100 GW of solar power by 2022.
- However, the IEA report showed that India's energy intensity improvement declined 3% from last year even as its renewable energy installations increased 10.6% from last year.

## Dark trend

The consumption of coal saw a significant rise in India, compared to the United States and China



	Coal primary energy demand (Mtce)	Growth rate (%)
	2018	2017-2018
United States	451	-4.5%
China	2,771	1%
India	600	5%
Europe	462	-2.6%
Rest of the World	1,113	1.4%
WORLD	5,397	0.7%

Source: IEA

### Global scenario:

- Global energy consumption in 2018 increased at nearly twice the average rate of growth since 2010, driven by a robust global economy and higher heating and cooling needs in some parts of the world.
- Demand for all fuels increased, led by natural gas, even as solar and wind posted double digit growth. Higher electricity demand was responsible for over half of the growth in energy needs.
- Energy efficiency saw lacklustre improvement. As a result of higher energy consumption, carbon dioxide emissions rose 1.7% last year and hit a new record, the authors of the report said in a press statement.
- The United States had the largest increase in oil and gas demand worldwide. Gas consumption jumped 10% from the previous year, the fastest increase since the beginning of IEA records in 1971.

### About IEA:

- Established in 1974** as per framework of the OECD.
- MISSION** – The IEA works to ensure reliable, affordable and clean energy for its 30 member countries and beyond. Our mission is guided by four main areas of focus: energy security, economic development, environmental awareness and engagement worldwide.
- Headquarters (Secretariat):** Paris, France.
- A candidate country must be a member country of the OECD.** But all OECD members are not IEA members (Ex: Chile, Iceland, Israel, Latvia and Slovenia).

To become member a candidate country must demonstrate that it has:

- crude oil and/or product reserves equivalent to 90 days of the previous year's net imports, to which the government has immediate access (even if it does not own them directly) and could be used to address disruptions to global oil supply
- a demand restraint programme to reduce national oil consumption by up to 10%
- legislation and organisation to operate the Co-ordinated Emergency Response Measures (CERM) on a national basis
- legislation and measures to ensure that all oil companies under its jurisdiction report information upon request;

#### IEA mandate:

To focus on the "3Es" of effectual energy policy:

1. Energy security.
2. Economic development.
3. Environmental protection.

#### Reports:

- Global Energy & CO<sub>2</sub> Status Report 2017.
- World Energy Outlook.
- World Energy Statistics 2017.
- World Energy Balances 2017.
- Energy Technology Perspectives.

- measures in place to ensure the capability of contributing its share of an IEA collective action.
- Sources: the hindu.

## 26. ISLAND PROTECTION ZONE (IPZ) 2019 FOR ANDAMAN AND NICOBAR

### What to study?

- For Prelims: Key features of IPZ notification, overview of geographical location of A&N Islands.
- For Mains: Concerns over relaxation of few norms and what needs to be done?

**Context:** The union environment ministry has notified ***island protection zone (IPZ) 2019 for Andaman and Nicobar.***

- The legal changes in the IPZ are aligned with the NITI Ayog's proposal for holistic development in the Islands which is being taken forward under the guidance of the Island Development Agency.

### Key highlights:

- It allows eco-tourism projects 20 metres from the high tide line (HTL) in smaller islands like Baratang, Havelock and Car Nicobar, and at 50 metres in larger ones.***
- It allows for eco-tourism activities like*** mangrove walks, tree huts and nature trails in island coastal regulation zone IA (classified as the most eco-sensitive region of the islands which includes turtle nesting grounds, marshes, coral reefs etc).
- The notification also allows for construction of roads,*** roads on stilts by reclaiming land in exceptional cases for defence installations, public utilities or strategic purposes in eco-sensitive zones.
- It states that in case construction of such roads pass through mangroves, a minimum three times the mangrove area destroyed during the construction process shall be taken up for compensatory plantation of mangroves elsewhere.
- It also allows a number of new activities in the inter-tidal zone*** between low tide line and HTL. This includes land reclamation and bunding for foreshore facilities like ports, harbours, jetties, wharves, quays, sea links etc, transfer of hazardous substances from ships to ports, manual mining of atomic minerals, and mining of sand for construction purposes with permission from local authorities in non-eco-sensitive sites.

### Concerns:

- The notification relaxes development norms in the islands compared to the IPZ notification of 2011, which stipulated a no-development zone (NDZ) of 200 metres from the HTL for all islands.
- This brings the norms for Andaman and Nicobar at par with coastal regulation zone (CRZ) norms for other islands close to the mainland and backwater islands where an NDZ only 20 metres from HTL has been stipulated.

### Background:

- The Union cabinet had approved the CRZ notification 2018 in December, which relaxed a number of provisions in the CRZ 2011 to facilitate infrastructure development and construction on the coast, including easing floor area ratio (FAR) in coastal urban areas and slashing the NDZ in densely populated coastal rural areas to 50 metres from HTL as compared to 200 metres earlier.

Sources: the hindu.

## 27. IUCN RED LIST OF THREATENED SPECIES

### What to study?

- For Prelims and Mains: Categorization of IUCN red list, features and criteria, recent additions from India to the list.

**Context:** The ***hump-backed Mahseer***, found in the waters of the Cauvery, has been added to the IUCN Red List with Critically Endangered Status.

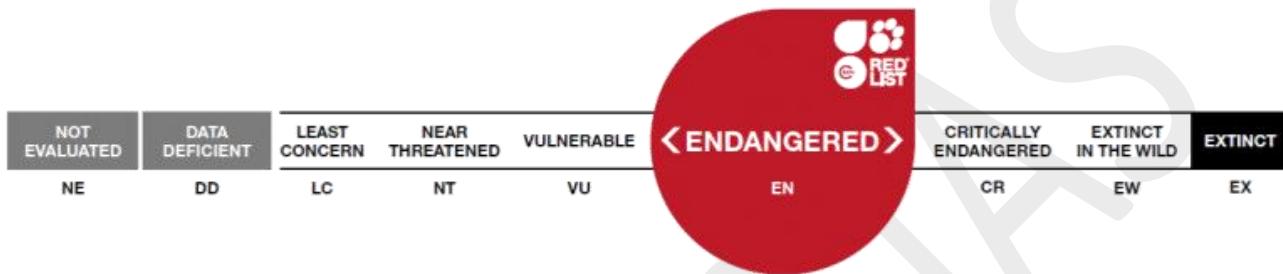
- The hump-backed mahseer is a large freshwater fish also called the tiger of the water and found only in the Cauvery river basin including Kerala's Pambar, Kabini and Bhavani rivers.
- Five other species have also made it to threatened categories:*** two wild orchids, the Arabian scad (a marine fish) and two wild coffee species found only in a few localities in the Western Ghats.

### About IUCN red list of threatened species:

- The IUCN Red List of Threatened Species is the world's most comprehensive inventory of the global conservation status of plant and animal species.
- It uses a set of quantitative criteria to evaluate the extinction risk of thousands of species. These criteria are relevant to most species and all regions of the world. With its strong scientific base, The IUCN Red List is recognized as the most authoritative guide to the status of biological diversity.

### The IUCN Red List Categories:

- The IUCN Red List Categories define the extinction risk of species assessed. Nine categories extend from NE (Not Evaluated) to EX (Extinct).
- Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species are considered to be threatened with extinction.



**The IUCN system uses a set of five quantitative criteria to assess the extinction risk of a given species. In general, these criteria consider:**

1. The rate of population decline.
2. The geographic range.
3. Whether the species already possesses a small population size.
4. Whether the species is very small or lives in a restricted area.
5. Whether the results of a quantitative analysis indicate a high probability of extinction in the wild.

### Significance:

- The IUCN Red List brings into focus the ongoing decline of Earth's biodiversity and the influence humans have on life on the planet. It provides a globally accepted standard with which to measure the conservation status of species over time.
- Scientists can analyze the percentage of species in a given category and how these percentages change over time; they can also analyze the threats and conservation measures that underpin the observed trends.

Sources: the hindu.

**Topics: Disaster and management.**

## 1. FLOOD MANAGEMENT AND BORDER AREAS PROGRAMME (FMBAP)

### What to study?

- For Prelims: Key features FMBAP.
- For Mains: Significance of the programme, need for a comprehensive policy and coordinated approach.

**Context:** The Union Cabinet has approved the "**Flood Management and Border Areas Programme (FMBAP)**" for Flood Management Works in entire country and River Management Activities and works related to Border Areas for the period 2017-18 to 2019-20 with a total outlay of Rs.3342.00 crores.

### Salient features:

- The Scheme "FMBAP" has been framed by *merging the components of two continuing XII Plan schemes titled "Flood Management Programme (FMP)" and "River Management Activities and Works related to Border Areas (RMBA)".*
- *The aim of the Scheme* is to assist the State Governments to provide reasonable degree of protection against floods in critical areas by adopting optimum combination of structural and non-structural measures and enhancing capabilities of State/ Central Government officials in related fields.

- The works under the scheme will **protect valuable land from erosion and flooding and help in maintaining peace along the border**.
- The Scheme aims at **completion of the on-going projects already approved under FMP**. Further, the scheme also caters to Hydro-meteorological observations and Flood Forecasting on common rivers with the neighbouring countries.
- **The Scheme also includes survey and investigations, preparation of DPR etc. of water resources projects on the common rivers with neighbouring countries** like Pancheshwar Multipurpose Project, Sapta Kosi-Sun Kosi Projects in Nepal which would benefit both countries.

#### **Benefits:**

- The FMBAP Scheme will be implemented throughout the country for effective flood management, erosion control and anti-sea erosion.
- The proposal will benefit towns, villages, industrial establishments, communication links, agricultural fields, infrastructure etc. from floods and erosion in the country.
- The catchment area treatment works will help in reduction of sediment load into rivers.

#### **Funding pattern:**

- The funding pattern for FM Component for works in general category States will continue to be 50% (Centre): 50% (State) and for projects of North Eastern States, Sikkim, J&K, Himachal Pradesh and Uttarakhand, the funding pattern will continue to be 70% (Centre): 30% (State).
- RMBA component being specific to activities in border areas with neighbouring countries and in accordance with bilateral mechanisms, the projects / works will continue to be funded as 100% grant-in-aid / central assistance.

## **2. CROP BURNING RAISES RISK OF RESPIRATORY ILLNESS THREEFOLD, SAYS IFPRI STUDY**

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

- For Prelims and Mains: Crop burning- why, concerns, effects on environment and health, their regulation and the need for a comprehensive policy on this.

**Context:** *The burning of agricultural residue — a contributor to north India's winter pollution — increases the risk of respiratory illnesses threefold for those who experience it.* It may also be responsible for an annual \$30 billion (approximately ₹2 trillion) loss in terms of days of work lost in States affected by crop burning, according to a study by the **International Food Policy Research Institute (IFPRI)**.

- The findings were based on a study of the health records of 250,000 people in Haryana (which sees a spike in crop burning episodes in winter), and Andhra Pradesh and Tamil Nadu, which don't see similar burning episodes. The study is to appear in the peer-reviewed International Journal of Epidemiology.

#### **Highlights of the study:**

- In Haryana, 5.4% of surveyed individuals reported suffering from ARI (Acute Respiratory Infection) whereas the reported ARI symptoms in southern States was only 0.1%.
- Among those who reported suffering from ARI, 83% also reported receiving treatment for ARI at a private or public medical facility.
- Whereas high-intensity fire exposure was virtually absent in south India, 17.5% of individuals in Haryana lived in a district where 100 or more fires per day were observed by the satellite.

#### **Background:**

- For about a decade now, Delhi has been complaining about the practice of stubble burning, holding it responsible for the abysmal air quality in the capital in winter. In 2013, the National Green Tribunal (NGT) issued a directive to Punjab, Haryana and Uttar Pradesh, asking them to ban stubble burning.
- The Environment Ministers of these States as well as top officials at the Centre declared **a “zero tolerance” policy on the burning of stubble**, which has been estimated to contribute anywhere from 7% to 78% of the particulate matter-emission load in Delhi during winter.

### **What is stubble burning?**

- Stubble burning is a common practice followed by farmers to prepare fields for sowing of wheat in November as there is little time left between the harvesting of paddy and sowing of wheat.
- ***Stubble burning results in emission of harmful gases such carbon dioxide, sulphur dioxide, nitrogen dioxide along with particulate matter.***

### **Concern of the Farmers: Why stubble burning?**

- Even though farmers are aware that the burning of straw is harmful to health, ***they do not have alternatives for utilising them effectively.***
- ***The farmers are ill-equipped to deal with waste because they cannot afford the new technology*** that is available to handle the waste material.
- Experts say that with less income due to crop damage, farmers are likely to be inclined to light up their fields to cut costs and not spend on scientific ways of stubble management.
- It costs Rs 1,500-3,000 per acre for stubble management, depending on the equipment and method.

### **Alternative solutions that can avoid Stubble Burning:**

- ***There is great potential for making investments in paddy straw-based power plants*** which can help avoid stubble burning to a large extent and also create employment opportunities.
- ***Incorporation of crop residues in the soil can improve soil moisture and help activate the growth of soil microorganisms*** for better plant growth.
- Convert the removed residues into enriched organic manure through composting.
- New opportunities for industrial use such as extraction of yeast protein can be explored through scientific research.

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

- Unless Financial assistance is to be provided by the Centre for boosting farm mechanisation, it is difficult to completely stop stubble burning.
- States needs to make alternative arrangements for consumption of paddy straw into the soil as per the directions of the NGT.

Sources: the hindu.

**Mains Question:** What is stubble burning? What measures can be undertaken so that stakeholders are persuaded against undertaking such a practice? Discuss.

## **3. DAM REHABILITATION AND IMPROVEMENT PROJECT (DRIP)**

### **What to study?**

- For Prelims: Key features of DRIP and states covered.
- For Mains: Need for and significance of DRIP, why safety of dams is important?

**Context:** The World Bank, Government of India and representatives from the states of Karnataka, Kerala, Odisha, Tamil Nadu and Uttarakhand signed Loan Agreement for additional financing of \$137 Million for the ***Dam Rehabilitation and Improvement Project (DRIP)*** that will help rehabilitate and modernize over 220 selected large dams.

- This additional funding of \$137 million will be used for the construction of an additional spillway for ***Hirakud Dam in Odisha*** and in rehabilitation and improvement of other dams including strengthening the institutional, legal and technical framework for dam safety assurance within the Government of India and in the participating States.

### **Why ensure safety of dams in the country?**

- About 80% of our large dams are over twenty-five years old. About 209 dams are over 100 years old and were built in an era when design practices and safety considerations were much below the current design and safety norms.
- Several of these dams may be experiencing distress and are in need of attention for ensuring their structural safety and operational efficiency.

#### About DRIP:

- **The Ministry of Water Resources (MoWR), Government of India, with assistance from the World Bank, is implementing the DAM REHABILITATION AND IMPROVEMENT PROJECT (DRIP)**, which would be a six-year project.
- The **Central Dam Safety Organisation of Central Water Commission**, assisted by a Consulting firm, is coordinating and supervising the Project implementation.

**Goals:** The project originally envisaged the rehabilitation and improvement of about 223 dams within four states namely, Kerala, Madhya Pradesh, Odisha, and Tamil Nadu and later Karnataka, Uttarakhand (UNVNL) and Jharkhand (DVC) joined DRIP and total number of dams covered under DRIP increased to 250. The project will also promote new technologies and improve Institutional capacities for dam safety evaluation and implementation at the Central and State levels and in some identified premier academic and research institutes of the country.

**The project development objectives of DRIP are:** (i) to improve the safety and performance of selected existing dams and associated appurtenances in a sustainable manner, and (ii) to strengthen the dam safety institutional setup in participating states as well as at central level.

#### Background:

- Globally India ranks third after China and the USA in terms of the number of large dams with 5264 large dams in operation and 437 large dams under construction. The total storage capacity of the impounded water by these dams is about 283 billion cubic meters (BCM).

## 4. HOW THE 2015-16 EL NINO AFFECTED DISEASE OUTBREAKS

#### What to study?

- For Prelims and Mains: ENSO- El Nino and La Nia- causes, effects and impacts, global climate change and ENSO cycle.

**Context:** Global climatic disruptions due to the strong and extended positive phase of the ENSO conditions, or simply El Nino in 2015-16 increased the outbreak of diseases in the regions of its influence, according to a study published in the journal Nature.

- The scientists analysed certain disease outbreaks in the 2015-16 period and tried to correlate them with higher temperatures and erratic rainfall patterns characteristic of the El Nino.

#### Key findings:

- Major diseases like chikungunya, dengue, malaria, hantavirus, rift valley fever, cholera, plague and zika are **affected by the weather events induced by El Nino**.
- They found that in regions like Southeast Asia, Tanzania, western United States and Brazil — which are generally affected by the El Nino — the spread of diseases came after shifts in rainfall, temperature and vegetation.
- There was either excess of droughts or floods in this period which created the environmental conditions that favoured the growth and propagation of disease causing micro organisms and their carriers.
- **The study's analysis indicates that the intensity of disease activity increased by 2.5-28 per cent during El Nino events than in other periods in the affected regions.**
- **Similarly, excess land surface temperatures in Brazil and Southeast Asia aided the spread of dengue.** El Nino, in itself, is a difficult phenomenon to track and study, which makes its consequences even more difficult to understand.

#### 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 Nina.

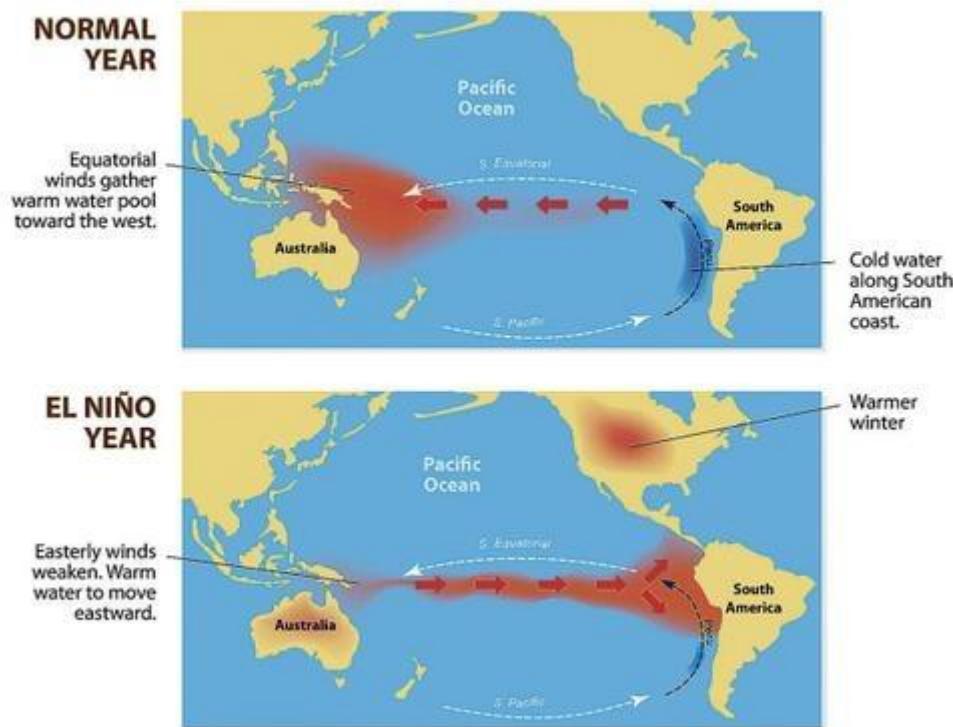
### What is El Nino?

- **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.

### What causes El Nino?

- El Nino sets in when there is anomaly in the pattern. **The westward-blown 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.**

## THE EL NIÑO PHENOMENON



### What are El Nino's effects?

- 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.
- 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.
- 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.
- Australia and Southeast Asia get hotter.
- 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.

## 5. UNITED NATIONS OFFICE FOR DISASTER RISK REDUCTION (UNISDR)

### What to study?

- For Prelims: About UNISDR, Sendai framework and the targets.
- For Mains: Disaster risk reduction- need, challenges and global efforts.

**Context:** An International Workshop on Disaster Resilient Infrastructure (IWDRI) is being organised by the National Disaster Management Authority (NDMA) in collaboration with United Nations Office for Disaster Risk Reduction (UNISDR), and in partnership with the Global Commission on Adaptation, United Nations Development Programme and the World Bank.

- **The workshop aims to** i) identify good practices of disaster risk management in key infrastructure sectors, ii) identify specific areas and pathways for collaborative research on DRI (Transport, Energy, Telecom and Water), iii) discuss and co-create the broad contours of the Coalition for Disaster Resilient Infrastructure (CDRI) as well as a notional roll-out plan for the next three years, and iv) build a forum for members to work on areas of common interest and make specific commitments.

### About UNISDR:

- The United Nations Office for Disaster Risk Reduction (UNISDR), **created in December 1999**, is the successor to the secretariat of the International Decade for Natural Disaster Reduction.
- It was established to ensure the implementation of the International Strategy for Disaster Reduction.
- It is part of the United Nations Secretariat and its functions span the social, economic, environmental as well as humanitarian fields.
- **Functions:** UNISDR supports the implementation, follow-up and review of the Sendai Framework for Disaster Risk Reduction adopted by the Third UN World Conference on Disaster Risk Reduction on 18 March 2015 in Sendai, Japan.

**UNISDR's vision is anchored on the four priorities for action set out in the Sendai Framework:**

1. Understanding disaster risk.
2. Strengthening disaster risk governance to manage disaster risk.
3. Investing in disaster risk reduction for resilience.
4. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

### About Sendai Framework:

- The "Sendai Framework for Disaster Risk Reduction 2015-2030" was adopted during the Third UN World Conference on Disaster Risk Reduction held in Sendai, Japan in March, 2015.

### Key features of the Sendai framework:

1. It is **the first major agreement of the post-2015 development agenda, with seven targets and four priorities for action**.
2. It was endorsed by the UN General Assembly following the 2015 **Third UN World Conference on Disaster Risk Reduction (WCDRR)**.
3. **The Framework is for 15-year**. It is a voluntary and non-binding agreement which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.
4. **The new Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015:** Building the Resilience of Nations and Communities to Disasters.

**Topics: Various Security Forces, their mandate**

## 1. EXERCISE SAMPRITI – 2019

### What to study?

- For Prelims and Mains: Significance and potential of such bilateral military exercises.

**Context:** As part of the ongoing India Bangladesh defence cooperation, a **joint military exercise Sampriti-2019 will be conducted at Tangail, Bangladesh.**

#### Key facts:

- Exercise Sampriti-2019 is an important bilateral defence cooperation endeavour between India and Bangladesh and this will be the eighth edition of the exercise which is hosted alternately by both countries.
- The exercise is aimed to **strengthen and broaden the aspects of interoperability and cooperation between the Indian and Bangladesh Armies.**
- The exercise will involve tactical level operations in a counter insurgency and counter terrorism environment under the UN mandate.

## 2. SARY-ARKA-ANTITERROR 2019- SCO JOINT ANTI- TERRORISM EXERCISE

#### What to study?

- For Prelims: SCO- objectives, composition and initiatives.
- For Mains: Significance of SCO and other such regional groupings.

**Context:** The Shanghai Cooperation Organization's (SCO) member states will hold a **joint anti-terrorism exercise "Sary-Arka-Antiterror 2019."** The decision to hold a joint exercise was announced during the 34th meeting of the RATS council held in Tashkent, Uzbekistan.

#### Other outcomes of RATS council meeting:

- Chaired by Russia, the meeting also declared plans to hold the first stage of **the joint border operation "Solidarity 2019-2021,"** the 7th meeting of the heads of the border services, and training workshops on identifying and preventing the use of the Internet for terrorist, separatist and extremist purposes.

#### What is RATS?

- RATS, established in 2004, is a **permanent organ of the SCO** which serves to promote cooperation of member states against the three evils of terrorism, separatism and extremism.
- It is headquartered in Tashkent.

#### About SCO:

- **What is it?** The Shanghai Cooperation Organisation, also known as the Shanghai Pact, is a Eurasian political, economic, and military organisation which was founded in 2001 in Shanghai by the leaders of China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan. Apart from Uzbekistan, the other five countries have been a part of the Shanghai 5 since 1996. The cooperation was renamed to Shanghai Cooperation Organisation after Uzbekistan joined the organisation in 2001.
- **New members:** India and Pakistan joined SCO as full members in June 2017 in Astana, Kazakhstan.
- **The SCO's main goals are:** strengthening mutual trust and neighbourliness among the member states; promoting their effective cooperation in politics, trade, the economy, research, technology and culture, as well as in education, energy, transport, tourism, environmental protection, and other areas; making joint efforts to maintain and ensure peace, security and stability in the region; and moving towards the establishment of a democratic, fair and rational new international political and economic order.

Sources: et.

**Topics:** Security challenges and their management in border areas; linkages of organized crime with terrorism.

## 1. BOLD-QIT PROJECT

#### What to study?

- For Prelims: BOLD-QIT project and CIBMS- key features.
- For Mains: Concerns associated with security management at borders and use of latest technologies to secure our borders.

**Context:** Project **BOLD-QIT** (*Border Electronically Dominated QRT Interception Technique*) under **CIBMS** (*Comprehensive Integrated Border Management system*) has been inaugurated on *India-Bangladesh border in Dhubri District of Assam*.

- BOLD-QIT is the project to *install technical systems under the Comprehensive Integrated Border Management System (CIBMS)*, which enables BSF to equip Indo-Bangla borders with different kind of sensors in unfenced riverine area of Brahmaputra and its tributaries.

#### What is CIBMS?

- The concept of CIBMS is the *integration of manpower, sensors and command and control to improve situational awareness and facilitate quick response to emerging situations*.
- Among major components of CIBMS is the '*virtual fence*'. The second component is the *command and control*, which will help in optimum use of resources for border management. Another component is *power management* to keep CIBMS running.

#### Need for BOLD- QIT project:

- **Border Security Force is responsible for safeguarding of 4,096 Km long International Border with Bangladesh.** At various places, it is not possible to erect Border Fence due to the geographical barriers. The 61 Kms of Border area in District Dhubri, Assam where River Brahmaputra enters into Bangladesh is consisting of vast char lands and innumerable river channels thus making border guarding in this area, a daunting task especially during rainy season.
- The implementation of this project will not only *help BSF to curb all type of cross border crimes but also provide respite to the troops from round the clock human surveillance*.

#### Significance and the need for smart borders:

- Smart borders on one hand *allow seamless movement of authorized people and goods, while on the other, minimise cross-border security challenges using innovation and technology enablement*.
- Over the long term, smart border management will also have to incorporate systems that digitally monitor patterns of activity through and around border areas to root out organised crime and anti-national events.

**Mains Question:** A smart combination of creativity, capacity-building and collaboration can provide answers to technology-driven challenge to India's border security. Analyze.

## 2. BORDER AREA DEVELOPMENT PROGRAMME (BADP)

#### What to study?

- For Prelims and Mains: BADP- features, significance and potential.

**Context:** The Jammu and Kashmir government has released Rs 524.25 lakhs under **border area development programme (BADP)** for utilization during the current financial year 2018-19.

#### About Border Area Development Programme (BADP):

- **The Border Area Development Programme (BADP) has been implemented through 17 States** (viz. Arunachal Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tripura, Uttar Pradesh, Uttarakhand and West Bengal) which constitute the International Land Borders.
- The main objective of the BADP is *to meet the special developmental needs and wellbeing of the people living in remote and inaccessible areas situated near the international border and to saturate the border*



**Sealing the border with Pakistan using smart technology-aided fence will be in place by December next year.**

**KIREN RIJU** Minister of state for home affairs

### Underlining Role of Technology

**Comprehensive Integrated Border Management System (CIBMS) to be deployed on Pakistan border**

**CIBMS integrates manpower, sensors and command & control to facilitate quick responses**

**CIBMS will counter infiltration and cross-border terror attacks by using technology that can detect infiltration via land, underwater, air and tunnels**

**ITBP's operational requirements include better road network on LAC**

**areas with the entire essential infrastructure** through convergence of Central/ State/ BADP/ Local schemes and participatory approach.

#### Funding and schemes covered:

**The funds under BADP are provided to the States as a 100% non-lapsable Special Central Assistance.**

The programme is supplemental in nature and the budget allocation for the financial year 2015-16 is Rs.990 crore.

- The BADP schemes include construction of primary health centres, schools, supply of drinking water, community centres, connectivity, drainage to enable sustainable living in border areas.
- It also covers schemes or activities relating to Swachhta Abhiyan, skill development programmes, promotion of sports activities in border areas, promotion of rural tourism, border tourism, protection of heritage sites, construction of helipads in remote and inaccessible hilly areas, which do not have road connectivity.

Sources: the hindu.

### 3. GOVERNMENT SETS UP GROUP TO MONITOR TERROR SYMPATHIZERS

#### What to study?

- For Prelims and Mains: Composition and terms of reference of the committee, threats posed by terror sympathizers and the need for their monitoring.

**Context:** The home ministry has constituted **a multi-disciplinary terror monitoring group (TMG) to ensure synergised and concerted action against terror financing and other terror-related activities in Jammu & Kashmir.**

- The group will meet on a weekly basis and submit its action taken report regularly.

#### Composition:

- **The members of TMG will comprise** additional DGP, CID, in J&K police, who would also be its chairman, IGP in J&K police, additional director of Intelligence Bureau in J&K and representatives of CBI, NIA, ED, CBDT and CBIC.

#### Functions:

- The body will take coordinated action in all registered cases relating to terror and terror financing and bring them to logical conclusion.
- It will identify key persons including leaders of organisations involved in supporting terrorism in any form and take concerted action against them.
- The TMG will investigate the networks of various channels used to fund terror and terror-related activities and take coordinated action to stop the flow of such funds.
- The group will also take action against hardcore sympathisers amongst government employees including teachers who provide covert or overt support to terror-related activities in J&K.

#### Need:

- According to an estimate of the NIA, Pakistan-based terror groups finance terrorism in Jammu and Kashmir by generating millions in donations through their charity organisations. They have been supporting militants and funding terrorism in Kashmir.
- These outfits collect donations from people in Pakistan and then pass on the money to finance terrorism in Kashmir through their overground workers. The groups collect millions of dollars in donations through crowd funding in the name of social service.

Sources: toi.

**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. RETURN POLICY FOR MILITANTS IN JAMMU AND KASHMIR

### What to study?

- For Prelims: Key features of the policy, policies on rehabilitation.
- For Mains: Significance, the need and concerns associated with the policy, need for renewed focus on socio-economic reintegration of ex-militants.

**Context:** The Jammu and Kashmir government is considering **a new policy to encourage militants from the state to give up arms**. The policy draft “is presently at the pre-SAC stage” and is subject to clearance by the state Home Department and the chief secretary.

- The proposed scheme is **a revised version of earlier initiatives, but with a fresh focus on socio-economic re-integration**.

### Highlights of the new policy:

- In order to encourage militants to join the mainstream, the policy provides for a **monthly stipend of Rs 6,000 for those who surrender**. However, this initiative will not cover militants found to have been involved in “heinous crimes”.
- Jobs and reformative measures are also part of the new reintegration policy draft.

### Significance:

- There is need for rehabilitation through a two-pronged approach including reformative measures and opportunities of livelihood. It is essential for the government to show its will to reach out to alienated youth.
- The successful implementation of a surrender policy is of utmost importance in Jammu and Kashmir as there are a large number of surrendered or released militants. The successful rehabilitation of one hardcore surrendered or released militant will motivate others to follow suit.

### Previous approaches:

- **An earlier policy from 2010 focused on ensuring the return of former militants from the state who had taken up arms between January 1989 and December 2009** but later gave up insurgent activities “due to a change of heart and are willing, to return to the state”.
- In 2004, **a “rehabilitation policy”** implemented by the then Peoples Democratic Party government sought to provide “facility to those terrorists who undergo a change of heart and eschew the path of violence and who also accept the integrity of India and Indian Constitution to encourage them to join the mainstream and lead a normal life”. This policy had laid out provisions to provide vocational training for surrendered militants who wished to pursue a trade, and a monthly stipend of Rs 2,000 for the first three years.

Sources: livemint.

## 2. UNLAWFUL ACTIVITIES (PREVENTION) ACT (UAPA)

### What to study?

- For Prelims: UAPA- features.
- For Mains: UAPA- reforms and need for reforms.

**Context:** Ministry of Home Affairs (MHA) has banned separatist Yasin Malik’s Jammu and Kashmir Liberation Front (JKLF) under the anti-terror law, Unlawful Activities (Prevention) Act, 1967 (UAPA). The move comes days after the Centre banned Jamat-e-Islami (Jel-J&K) under Section 3(1) of the UAPA.

### About the Unlawful Activities (Prevention) Act (UAPA):

1. This law is **aimed at effective prevention of unlawful activities associations in India**.
2. Its main objective is **to make powers available for dealing with activities directed against the integrity and sovereignty of India**.
3. The Act makes it **a crime to support any secessionist movement or to support claims by a foreign power to what India claims as its territory**.

- The UAPA, framed in 1967, **has been amended twice since: first in 2008 and then in 2012.**

**The law is contested for few draconian provisions:**

- The Act introduces **a vague definition of terrorism** to encompass a wide range of non-violent political activity, including political protest.
- It **empowers the government to declare an organisation as 'terrorist' and ban it.** Mere membership of such a proscribed organisation itself becomes a criminal offence.
- It allows **detention without a chargesheet for up to 180 days and police custody can be up to 30 days.**
- It **creates a strong presumption against bail and anticipatory bail is out of the question.** It creates a presumption of guilt for terrorism offences merely based on the evidence allegedly seized.
- It **authorises the creation of special courts,** with wide discretion to hold in-camera proceedings (closed-door hearings) and use secret witnesses but contains no sunset clause and provisions for mandatory periodic review.

Sources: the hindu.

**Mains Question:** The ambiguous nature of Unlawful Activities Prevention Act,1967 (UAPA) gives unreasonable power to authorities. Examine.

**Topics: Cybersecurity related issues.**

## 1. ORDER ON SURVEILLANCE MEANT TO PROTECT PRIVACY, GOVT. TELLS SC

**What to study?**

- For Prelims: Agencies allowed to access the information.
- For Mains: Concerns over data privacy and the need for access.

**Context:** The Centre, in response to a PIL, has told the Supreme Court that its December 20, 2018 notification allowing 10 central agencies to snoop on people is in fact a measure to protect citizens' privacy.

**Centre's arguments:**

- The order aims to restrict the exercise of powers, removing a possible vagueness and specifying the agencies/organisations who only would have the powers to utilise the powers of section 69 of the Act.
- The very purpose of the order is to ensure that surveillance is done as per due process of law; that any interception, monitoring, decryption of computer resource is done only by authorised agencies and with approval of competent authority; to prevent unauthorised use of these powers by any agency, individual or intermediary so that the right to privacy of citizen is not violated.

**Need for surveillance:**

- Surveillance is necessary in the modern world where modern tools of information communication, including encryption are used. Surveillance is done only in the defence of India, to maintain public order, etc.
- There are grave threats to the country from terrorism, radicalisation, cross border terrorism, cyber crime, drug cartels", and these cannot be ignored or under-stated. There is a need for "speedy collection of actionable intelligence" to counter threat to national interests.

**Background:**

- The Ministry of Home Affairs (MHA), in December 2018, issued an order **authorising ten security and intelligence agencies of the country to access any information stored in any computer for the purpose of monitoring, decrypting and interception.**

**Who are these agencies?**

- The 10 agencies include Intelligence Bureau, Narcotics Control Bureau, Enforcement Directorate, Central Board of Direct Taxes, Directorate of Revenue Intelligence;, Central Bureau of Investigation, National Investigation Agency Cabinet Secretariat (RAW), Directorate of Signal Intelligence (For service areas of Jammu & Kashmir, North-East and Assam only), and Commissioner of Police, Delhi.

### **Highlights of the Order:**

- The ministry has vested the authority on the agencies under **Section 69 of the Information Technology Act, 2000 and Rule 4 of the Information Technology Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009.**
- The order mandates for **a subscriber or service provider or any person in charge of the computer resource to extend technical assistance to the agencies.**
- **Non-compliance will invite seven-year imprisonment and fine.**

### **Concerns raised:**

- Only data in motion could be intercepted earlier. But now data revived, stored and generated can also be intercepted as powers of seizure have been given.
- This means not just calls or emails, but any data found on a computer can be intercepted. The agencies will also have powers to seize the devices. The sweeping powers given to agencies to snoop phone calls and computers without any checks and balances is extremely worrisome. This is likely to be misused.

### **How is it against the judgement of Supreme Court's right to privacy?**

SC in **Puttuswamy judgment** had asked the government to always carefully and sensitively balance individual privacy and the legitimate concerns of the state.

- However, **the recent order does not provide the procedure or the object for such an exercise** or the quantum of period for which a person's private data could be intercepted.
- Government has clarified that existing processes will be followed and every case of interception would continue to require permission from the home secretary and review by a panel headed by the cabinet secretary. However, **even these processes do not have adequate safeguards against misuse.**
- An individual may not even know if her electronic communications are being intercepted/monitored. If such surveillance comes within the person's knowledge, due to the obligation to maintain confidentiality and provisions in the Official Secrets Act, the person would not be able to know the reasons for such surveillance. **This can make surveillance provisions prone to misuse.**

Sources: the hindu.

**Mains Question:** Critically analyze whether India's laws on surveillance are a threat to privacy?

## **2. GUARD AGAINST MISUSE, SOCIAL MEDIA PLATFORMS TOLD**

### **What to study?**

- For Prelims and Mains: Misuse of social media platforms, concerns over misuse and need for comprehensive guidelines.

**Context:** The Parliamentary Panel on Information and Technology has directed the social media platforms — Facebook, WhatsApp and Instagram — to ensure that their platforms are not used to incite violence or to meddle in the Lok Sabha election.

### **Why there is need for regulation?**

- With over 460 million internet users, **India is the second-largest online market, ranked only behind China.** By 2021, there will be 635.8 million internet users in India. The widespread use of social networking in the country has been on a rise, especially among the new generation.
- **We cannot ignore the fact that politics and media share a complex synergistic relationship; media, politics and elections** are knotted together and social media platforms have become the essential ground for discussion on political narratives.
- Politics is a favourite topic of discussion among the young and old. The hashtags are famous on Twitter and Twitter users get pulled into it. **These platforms may be misused by hatemongers or fake news peddlers.** There can also be foreign interference in our election using social medias. Then, there is the issue of cloned and fake accounts.
- **Globally, some election experts have raised alarm against the recent elections in some countries where social media campaigns influenced election proceedings to such an extent that the democratic process came under threat.** There is an alarming worry that outside interests can work to undermine the democratic process in a subtle and sneaky way. In April 2017, Facebook admitted that its platform had been exploited

by governments seeking to manipulate public opinion in other countries during the presidential elections in the US and France. Facebook pledged to clamp down on such operations.

**Recent developments at global level:**

- Courtiers such as Singapore and the Philippines are actively proposing legislation on fake news, while Germany introduced a new law that compels social media networks to remove hate speech.
- Indonesia has launched a new cybersecurity agency as part of its efforts to deal with online religious fanaticism, online hate speech, nipa terrorist groups and fake news on social media.

Sources: the hindu.

**Mains Question:** Social media has emerged as a major threat to nation's internal security. Discuss.

# FACTS for PRELIMS

## 1. SHANTI SWARUP BHATNAGAR PRIZE

- The award is named after the founder Director of the Council of Scientific & Industrial Research (CSIR), the late Dr (Sir) Shanti Swarup Bhatnagar and is known as the 'Shanti Swarup Bhatnagar (SSB) Prize for Science and Technology'.
- The Prize is given each year for outstanding contributions to science and technology.

### Nature of the Prize:

- SSB Prizes, each of the value of Rs 5,00,000 (Rupees five lakh only), are awarded annually for notable and outstanding research, applied or fundamental, in the following disciplines: (i) Biological Sciences, (ii) Chemical Sciences, (iii) Earth, Atmosphere, Ocean and Planetary Sciences, (iv) Engineering Sciences, (v) Mathematical Sciences, (vi) Medical Sciences and (vii) Physical Sciences.

### Eligibility:

- Any citizen of India engaged in research in any field of science and technology up to the age of 45 years. Overseas citizen of India (OCI) and Persons of Indian Origin (PIO) working in India are also eligible.
- The Prize is bestowed on a person who, in the opinion of CSIR, has made conspicuously important and outstanding contributions to human knowledge and progress – fundamental and applied – in the particular field of endeavour, which is his/her specialization.
- The Prize is awarded on the basis of contributions made through work done primarily in India during the five years preceding the year of the Prize.

## 2. NARI SHAKTI PURASKAR

- To acknowledge Women's achievements, the Government of India confers **Nari Shakti Puraskars on eminent women and institutions in recognition of their service towards the cause of women empowerment**. The Nari Shakti Awards were initiated in the year 1999.
- The Ministry of Women and Child Development announces** these national level awards for eminent women, organisations and institutions.
- The Nari Shakti Puraskar carries a cash award of Rs.1 Lakh and a certificate for individuals and institutions.

## 3. SKYTRAX WORLD AIRPORT AWARDS 2019

**What is it?** Skytrax World Airport Awards lists the Best 100 Airports of the World. It has been released by the UK-based Skytrax, a consultancy firm which runs an airline and airport review and ranking site.

- The Awards are based on votes of customers in a global airport customer satisfaction survey.

### Top performers:

- Singapore's Changi Airport has been crowned the world's best aviation hub for the seventh time in a row.
- Indira Gandhi International Airport of New Delhi is at rank 59.

## 4. TURING AWARD

**Context:** Three pioneers in artificial intelligence — a senior Google executive, Facebook's chief AI scientist, and an academic — were announced as the winners for this year's A M Turing Award.

### About Turing award:

- It is often described as the "Nobel Prize for computing".
- Given by the Association for Computing Machinery (ACM), the A M Turing Award carries \$1 million as prize money.
- It is for major contributions of lasting importance to computing.
- First awarded in 1966, it has been awarded annually for 53 years so far to 70 recipients.

### Background:

- The award is named after British mathematician and computer scientist Alan Mathison Turing**, whose work in codebreaking is credited with having played a decisive role in World War II.
- He led a British team that worked out a way to decrypt intercepted messages, which had been encrypted on Enigma machines developed by the Germans.
- Apart from the award, the Turing machine, used in computing, is named after the pioneer who is considered the father of theoretical computer science and artificial intelligence.

## 5. 'BOLO' APP

**Context:** Google has launched a new application called 'Bolo' that aims to help children in primary school to read in Hindi and English.

- The app, which is being launched in India first, uses Google's speech recognition and text-to-speech technology.
- It comes with a built-in fun and helpful reading buddy, an animated character called 'Diya'. The reading material available on the app will be completely free of cost.
- The app aims to help improve the reading ability of children, as the lack of it can significantly impact further education and ultimately children's ability to realise their full potential.

## 6. ARUN-3 HYDRO ELECTRIC PROJECT

- Cabinet approves investment proposal for transmission component of **Arun-3 Hydro Electric Project (Nepal portion) by Sutlej Jal Vikas Nigam (SJVN) Limited.**
- **Impact:** The project will provide surplus power to India strengthening economic linkages with Nepal. The power from the project shall be exported from Dhalkebar in Nepal to Muzaffarpur in India.
- The **Arun-3 Hydro Electric project (900 MW) is located on Arun River in Sankhuwasabha District of Eastern Nepal.**

## 7. SOME POWER PROJECTS

- Khurja Super Thermal Power Project- Uttar Pradesh.
- Buxar Thermal Power Project- Bihar.
- Teesta Hydro Power project- Sikkim.
- Kiru Hydro Electric (HE) Project- Jammu and Kashmir.

## 8. CENTRE FOR DISABILITY SPORTS' TO BE SET UP AT GWALIOR

- A 'Centre for Disability Sports' will be set up at Gwalior in Madhya Pradesh. The proposal regarding setting up of it has been approved by the Government.
- **It will be registered under the Societies Registration Act, 1860**, which is to function under the name of Centre for Disability Sports, Gwalior.
- **Significance:** Improved sports infrastructure created by this Centre will ensure effective participation of Persons with Disabilities (PWDs) in sports activities and also enable them to compete at national and international levels. Setting up of the Centre will develop a sense of belonging in Divyangjan to facilitate their integration in society.

## 9. LANGKAWI INTERNATIONAL MARITIME & AEROSPACE EXHIBITION (LIMA)

**Context:** INS Kadmat at Langkawi, Malaysia to Participate in LIMA-19.

### About LIMA:

1. The Langkawi International Maritime & Aerospace Exhibition (LIMA) is the largest show of its kind within the Asia Pacific region.
2. Its impressive list of international exhibitors and suppliers is more than matched by the supportive presence of industry elites, which range from senior Government officials, and military and civil delegates, to industry movers and shakers and more.
3. **Held biennially since its debut in 1991**, LIMA is an ideal platform where industry stakeholders could engage and expand their networks towards forging new partnerships and business agreements.

**INS Kadmat (P 29)** is an indigenous stealth anti-submarine warfare corvette and was commissioned into the Indian Navy in January 2016. The ship is fitted with state-of-the-art weapons, sensors and machinery and is

also designed to embark the Seaking anti-submarine helicopter.

## 10. INDIA, RUSSIA SIGN DEAL ON NUCLEAR SUBMARINE

**Context:** India has sealed a \$3-billion deal with Russia for leasing a nuclear-powered attack submarine for the Indian Navy for a period of 10 years.

- **Under the pact, Russia will have to deliver the Akula class submarine, to be known as Chakra III**, to the Indian Navy by 2025.
- **It will be the third Russian submarine to be leased to the Navy.** India Navy has taken two more submarines from Russia on lease. The first Russian nuclear-powered submarine — christened INS Chakra — was taken in 1988 under a three year lease. A second INS Chakra was taken on lease in 2012 for a period of 10 years.

## 11. MAINAMATI MAITREE EXERCISE 2019

- Border Security Force (BSF) and Border Guards Bangladesh (BGB) recently concluded a three-day 'Mainamati Maitree Exercise 2019' as a part of 'Confidence Building Measures' between the two border guards.
- **The exercise was named after Mainamati hill range situated 8 km west of Comilla Township in Bangladesh**, which is home to an ancient Buddhist archaeological site in the region.
- **The objective of Mainamati Maitree Exercise 2019** was to plan and conduct anti-smuggling and anti-criminal activity related operations with an aim to achieve better joint operational efficiency and border management in the area.

## 12. RED FLAG 2019

- **Context:** Red Flag 19 military drill is being held in the US.
- **Exercise Red Flag** is an advanced aerial combat training exercise held several times a year by the United States Air Force. The exercise offers realistic air-combat training for military pilots and other flight crew members from the U.S., NATO and other allied countries.

## 13. AL NAGAH 2019

- **Context:** **Exercise Al Nagah III, third in the series of bilateral joint exercise between India and Oman** is scheduled to be held from 12 to 25 March 2019 at **Jabel Al Akhdar Mountains in Oman**.
- The exercise will see both the armies exchanging expertise and experience in tactics, weapon handling and firing, with an aim to enhance interoperability in counterterrorist operations in semi urban mountainous terrain.

## 14. TROPEX 19

**What is it?** Theatre Level Readiness and Operational Exercise (TROPEX) is an inter-service military exercise

involving the participation of the Indian Army, Air Force, Navy and the Coast Guard.

- The exercise generally commences at the beginning of each year and lasts a month.
- The exercise is designed to test the combat readiness of the Indian naval units, as well as the Indian Air Force, Indian Army and the Indian Coast Guard.

## 15. AFINDEX-19

**What is it?** It is a Joint Field Training Exercise between the Indian Army and 16 African nations. The 2019 edition will be conducted in Pune from March 18 to 27.

- AFINDEX-19 aims to train the participating contingents in Humanitarian Mine Assistance (HMA) and Peace Keeping Operations (PKO) under the United Nations Charter through practical and comprehensive discussions and tactical exercises.
- Contingents from Egypt, Ghana, Nigeria, Senegal, Sudan, South Africa, Tanzania, Namibia, Mozambique, Uganda, Niger & Zambia are part of the joint exercise together with officers from Rwanda, Democratic Republic of Congo and Madagascar as Observers.
- The joint exercise will also focus on achieving interoperability, learning each other's methodologies and tactics through synchronised operational level planning and tactical level training.

## 16. AFRICA-INDIA FIELD TRAINING EXERCISE-2019

**Context:** The inaugural Africa-India Field Training Exercise-2019 for India and African nations called AFINDEX-19 is being held at Aundh Military Station, Pune.

- **The aim of the exercise** is to practice the participating nations in planning and conduct of Humanitarian Mine Assistance and Peace Keeping Operations under Chapter VII of United Nations Peace Keeping Operations.

## 17. INDIA-INDONESIA COORDINATED PATROL (IND-INDO CORPAT)

**Context:** 33rd Edition of India-Indonesia Coordinated Patrol (Ind-Indo Corpat) Commences at Port Blair.

- **The 33<sup>rd</sup> IND-INDO CORPAT, also coinciding with 70 years of India-Indonesia diplomatic ties,** will contribute towards the Indian Navy's efforts to consolidate inter-operability and forge strong bonds of friendship across the seas.
- **Significance:** The IND-INDO CORPAT Series of bilaterals seek to underscore India's peaceful presence and solidarity with friendly Maritime neighbouring countries to ensure good order in the maritime domain, consolidate interoperability and strengthen existing bonds of friendship between India and Indonesia.

## 18. INDO-SRI LANKA JOINT EXERCISE MITRA SHAKTI-VI

- **Exercise MITRA SHAKTI** is conducted annually as part of military diplomacy and interaction between armies of India & Sri Lanka.
- **The aim of the exercise is** to build and promote close relations between armies of both the countries and to enhance ability of joint exercise commander to take military contingents of both nations under command.

## 19. PINAKA GUIDED WEAPONS

**Context:** The indigenously developed Pinaka Guided Weapons System was successfully test fired at Pokhran desert in Rajasthan.

- Pinaka rocket systems are developed by Defence Research and Development Organisation (DRDO). The rocket system was named after Pinaka, the bow of Lord Shiva.
- It was initially a 30 to 40 km range rocket. Its range was increased 70 to 80 km with Pinaka Mark II.

## 20. SUBMARINE KHANDERI

**Context:** The Navy is set to induct the second Scorpene submarine Khanderi by early May.

- **Khanderi was launched in January 2017** and has since been undergoing a series of trials.
- **The first submarine of the class Kalvari** joined service in December 2017.
- The third in the Scorpene series Karanj which was launched in January last year is in advanced stage of trials and could be ready for induction by year end.
- The last two submarines Vagir and Vagsheer are in advanced stages of manufacturing on the assembly line.
- Mazagon Dock Limited (MDL), Mumbai, is manufacturing six Scorpene submarines under technology transfer from Naval Group of France under a 2005 contract worth \$3.75 bn. The entire project is expected to be completed by 2020.

## 21. CHINOOK HELICOPTERS

**Context:** The first batch of four Boeing heavy-lift Chinook Helicopters, CH-47F (I) were recently inducted in Indian Air Force (IAF).

**Significance:** Procured from the United States, the Chinook Helicopters are expected to provide impetus to the heavy-lift capabilities of Indian Air Force (IAF) and strengthen the defence ties with the United States.

### Key facts:

- The CH-47F (I) Chinook is an advanced multi-mission helicopter that will provide unmatched strategic airlift capability to the Indian armed forces across the full spectrum of combat missions.
- With capability of carrying around 10 tonnes of load, these helicopters will be used for lifting artillery, vehicles, battlefield resupply, road construction and

- engineer equipment as well as transportation of troops and supplies to mountainous sectors in North and North-East.
- These are also used for humanitarian and disaster relief operations such as transportation of relief supplies and mass evacuation of refugees.
  - Chinooks have a unique twin engine and tandem rotor design, one of the most visibly recognised symbols of the American armed forces.

## 22. DHANUSH HOWITZERS INDUCTED INTO INDIAN ARMY

**Context:** Four indigenous Dhanush Howitzer guns were inducted to the Indian Army.

### Key facts:

- Dhanush Long Range Artillery Guns are the first ever indigenous 155 mm x 45 calibre long-range artillery guns.
- They are equipped with inertial navigation-based sighting system, auto-laying facility, on-board ballistic computation and an advanced day and night direct firing system.
- They are improved version of Bofors guns acquired by India between 1987 and 1991.
- It has a new maximum effective range of 38 kilometers in salvo mode.

## 23. ABHEDYA

**What is it?** It is Indian Navy's state of the art Nuclear, Biological and Chemical Training Facility (NBCTF) which was inaugurated recently at INS Shivaji, Lonavala.

- The new facility is expected to help train personnel of naval ships fitted with nuclear, biological and chemical detection and protection systems.
- The nuclear training facility will help Indian Navy in providing realistic simulation of Nuclear, Chemical and Biological warfare to its personnel during their NBC damage control training, which was till now largely limited to theoretical training.

## 24. INSTITUTIONS IN NEWS- NALSA

- **Why in News?** President Nominates Justice SA Bobde As NALSA Executive Chairman.

### About NALSA:

- NALSA has been constituted under the Legal Services Authorities Act, 1987, to provide free legal services to weaker sections of society. The aim is to ensure that opportunities for securing justice are not denied to any citizen by reasons of economic or other disabilities.
- **As per section 3(2) of Legal Service Authorities Act,** the Chief Justice of India shall be the Patron-in-Chief, and a serving or retired Judge of the Supreme Court nominated by the President, in consultation with the Chief Justice of India, shall be the Executive Chairman.

### Important functions performed by NALSA:

- NALSA organises Lok Adalats for amicable settlement of disputes.
- NALSA identifies specific categories of the marginalised and excluded groups and formulates various schemes for the implementation of preventive and strategic legal service programmes.
- Services provided by the agency include free legal aid in civil and criminal matters for the poor and marginalised people who cannot afford the services of a lawyer in any court or tribunal.
- Free legal services include provision of aid and advice to beneficiaries to access the benefits under the welfare statutes and schemes and to ensure access to justice in any other manner.

## 25. INSTITUTIONS IN NEWS- NATIONAL CENTRE FOR GOOD GOVERNANCE (NCGG)

- **National Centre for Good Governance (NCGG)** and Indian Institute of Corporate Affairs (IICA) sign an MoU.

### National Centre for Good Governance (NCGG):

- It has been set up by the Government of India (GoI) under the aegis of Department of Administrative Reforms and Public Grievances, Ministry of Personnel, Public Grievances and Pensions.
- It aims to promote good governance through Capacity Building on Public Policy and Governance both at National and International Level and carrying out studies/ action research on issues relating to governance.

## 26. CERT-IN (THE INDIAN COMPUTER EMERGENCY RESPONSE TEAM)

- **Context:** Indian cyber security agencies are tracking a massive leak of data from at least 16 online platforms — websites as well as apps — several of which are widely used by Indians.
- The National Computer Emergency Response Team (NCERT), in collaboration with global cyber intelligence agencies, are currently trying to gauge the extent of the damage.

### About CERT-In:

- **What is it?** CERT-In (the Indian Computer Emergency Response Team) is a government-mandated information technology (IT) security organization.
- CERT-In was created by the Indian Department of Information Technology in 2004 and operates under the auspices of that department.

### It's purpose:

- The purpose of CERT-In is to respond to computer security incidents, report on vulnerabilities and promote effective IT security practices throughout the country.

- According to the provisions of the Information Technology Amendment Act 2008, CERT-In is responsible for overseeing administration of the Act.

## 27. SECURITIES APPELLATE TRIBUNAL

- SAT is a statutory body established under the provisions of Section 15K of the Securities and Exchange Board of India Act, 1992.**
- To hear and dispose of appeals against orders passed by the Securities and Exchange Board of India or by an adjudicating officer under the Act and to exercise jurisdiction, powers and authority conferred on the Tribunal by or under this Act or any other law for the time being in force. It covers the whole of India.

## 28. NATIONAL PHARMACEUTICAL PRICING AUTHORITY (NPPA)

- NPPA is an organization of the Government of India which was established, inter alia, to fix/ revise the prices of controlled bulk drugs and formulations and to enforce prices and availability of the medicines in the country, under the Drugs (Prices Control) Order, 1995.
- The organization is also entrusted with the task of **recovering amounts overcharged by manufacturers for the controlled drugs from the consumers**. It also monitors the prices of decontrolled drugs in order to keep them at reasonable levels.

### Functions of National Pharmaceutical Pricing Authority:

- To implement and enforce the provisions of the Drugs (Prices Control) Order in accordance with the powers delegated to it.
- To deal with all legal matters arising out of the decisions of the Authority.
- To monitor the availability of drugs, identify shortages, if any, and to take remedial steps.
- To collect/ maintain data on production, exports and imports, market share of individual companies, profitability of companies etc, for bulk drugs and formulations.
- To undertake and/ or sponsor relevant studies in respect of pricing of drugs/ pharmaceuticals.
- To recruit/ appoint the officers and other staff members of the Authority, as per rules and procedures laid down by the Government.
- To render advice to the Central Government on changes/ revisions in the drug policy.
- To render assistance to the Central Government in the parliamentary matters relating to the drug pricing.

## 29. G.B. PANT NATIONAL INSTITUTE OF HIMALAYAN ENVIRONMENT & SUSTAINABLE DEVELOPMENT

- It was established in 1988-89, during the birth centenary year of Bharat Ratna Pt. Govind Ballabh Pant.

- It is an autonomous Institute of the Ministry of Environment, Forest & Climate Change (MoEF&CC), Govt. of India.**
- It has been identified as a focal agency to advance scientific knowledge, to evolve integrated management strategies, demonstrate their efficacy for conservation of natural resources, and to ensure environmentally sound development in the entire Indian Himalayan Region (IHR).

## 30. PFC BECOMES INDIA'S SECOND LARGEST STATE-OWNED FINANCIAL FIRM

- With the acquisition of majority stake in REC Ltd, **State-owned Power Finance Corporation (PFC) has become the second-largest government-owned financial player in the country** based on the current market capital after State Bank of India (SBI) and also PFC will be the third-highest profit-making financial player in India.

## 31. ODISHA GOVT LAUNCHES BOAT AMBULANCE FOR REMOTE VILLAGES

- The Odisha government has launched boat ambulance service for those living in the remote villages near Bhitarkanika National Park** in Kendrapara district.
- It is meant to ferry people to hospitals and clinics in case of emergency.

## 32. PROJECT VARSHADHARE

- What is it?** It is a cloud seeding project flagged off by the Karnataka government to enhance the amount of precipitation from the clouds to generate more rain. Special aircraft will disperse the chemical silver iodide as they fly through rain-bearing clouds that will trigger and enhance the precipitation.

## 33. 30<sup>TH</sup> BIRTHDAY OF WORLD WIDE WEB

- Context:** Google Doodle marked the 30 years of the innovation of World Wide Web on March 12, 2019 with a GIF doodle, which featured an old, plugged-in computer with a rotating globe.

### What is WWW?

- The inventor of WWW, Sir Tim Berners-Lee**, was 33 when he first submitted the 'Information Management: A Proposal' for World Wide Web while working at Europe's CERN lab. He submitted his proposal on March 12, 1989, which led to the invention of World Wide Web. Today, it nearly has 2 billion websites online.
- Berners started out with his invention by typing out the basic HTML language, the HTTP application, and WorldWideWeb.app, which became the first web browser and page editor. And by 1991, the external Web servers were up and running.
- The web was made public in April 1993, after which the first search engine was launched called Mosaic.
- The World Wide Web has been central to the development of the Information Age and is the

primary tool billions of people use to interact on the Internet.

## 34. UK ISSUES NEW BLACK HOLE COIN IN HONOUR OF STEPHEN HAWKING

**Context:** The British Royal Mint has commemorated professor Stephen Hawking in a new 50p coin, which references the late physicist's pioneering work on black holes.

- The honorary coin, which is available in three metal finishes, aims to celebrate the life and "ground-breaking" achievements of Hawking, who passed away in 2018.
- It features Hawking's name in capital letters above a rippling drawing of concentric circles, intended to represent a black hole.



- Also on the coin is the formula for arguably Hawking's most important scientific contribution. It references his discovery that black holes are not completely black, and instead emit radiation, meaning they eventually evaporate and disappear.

## 35. U.S. MATHEMATICIAN BECOMES FIRST WOMAN TO WIN ABEL PRIZE, 'MATH'S NOBEL'

**Context:** The Abel Prize in mathematics was awarded to Karen Uhlenbeck of the U.S. for her work on partial differential equations, the first woman to win the award.

About Abel Prize:

- It is a Norwegian prize awarded annually by the King of Norway to one or more outstanding mathematicians. The prize is named after the 19th century Norwegian mathematician Niels Henrik Abel.
- It was established by the Norwegian government in 2002 on the occasion of the 200th anniversary of Niels Henrik Abel's birth.
- The main objective of the Abel Prize is to recognize pioneering scientific achievements in mathematics.
- The prize comes with a cheque for \$7,03,000.

## 36. SWINE FLU

- **What is it?** Swine Influenza (swine flu) is a respiratory disease of pigs caused by type A influenza viruses that causes regular outbreaks in pigs. H1N1 is a flu virus. When it was first detected in 2009, it was called "swine flu" because the virus was similar to those found in pigs.

- **Transmission from Pigs to Humans:** The H1N1 virus is currently a seasonal flu virus found in humans. Although it also circulates in pigs, one cannot get it by eating properly handled and cooked pork or pork products.
- **Pandemic:** In 2009, H1N1 was spreading fast around the world, so the World Health Organization called it a pandemic.
- **Spread:** Swine flu is contagious, and it spreads in the same way as the seasonal flu. When people who have it cough or sneeze, they spray tiny drops of the virus into the air. If a person comes in contact with these drops or touch a surface that an infected person has recently touched, the person can catch H1N1 swine flu.
- **Pregnant women who contract the H1N1 infection are at a greater risk** of developing complications because of hormonal changes, physical changes and changes to their immune system to accommodate the growing foetus.

## 37. WOOD SNAKE

**Context:** A species of wood snake that wasn't seen for 140 years has resurfaced in a survey conducted by scientists in the Meghamalai Wildlife Sanctuary. **The species is endemic to the Meghamalai forests and the Periyar Tiger Reserve landscape.**

## 38. ORANGE-BELLIED 'STARRY DWARF FROG' DISCOVERED IN INDIAN MOUNTAINS

**Context:** Starry dwarf frog- a thumbnail-sized species was recently discovered in India's Western Ghats, one of the world's "hottest" biodiversity hotspots.



- Scientists have named the frog *Astrobatrachus kurichiyanus* for its constellation-like markings and the indigenous people of Kurichiyamala, the hill range where it was found.
- *kurichiyanus* is not only a new species to science. It's the sole member of an ancient lineage, a long branch on the frog tree of life that researchers have classified as a new subfamily, Astrobatrachinae.
- Dark brown with a bright orange underbelly and speckled with pale blue dots, the frog camouflages well in wet leaf litter, and only a few individuals have been found.

## 39. GREY HYPOCOLIUS

**Context:** The Grey Hypocolius (*Hypocolius ampelinus*), a small migratory bird that usually makes its home in West Asia and North Africa and is a regular visitor to Kutch, has been sighted in Western Rajasthan for the first time on March 4, 2019.

#### Key facts:

- The grey hypocolius (*Hypocolius ampelinus*) is a small passerine bird species. ***It is the sole member of the genus Hypocolius and it is placed in a family of its own, the Hypocoliidae.***
- This slender and long tailed bird is found in the dry semi-desert region of northern Africa, Arabia, Afghanistan, Pakistan, and western India. They fly in flocks and forage mainly on fruits, migrating south in winter.
- Because the species has a large range, and because it does not meet the population size and decline criteria of the IUCN Red List, ***the conservation status is evaluated as being of "least concern".***



#### 40. PARROTFISH IN ANDAMAN

- Context: Fishing and coral reef degradation threaten parrotfish in Andaman.** New study says presence of a protected area, live coral and algal cover, significantly influences distribution and abundance of the species.
- Bumphead parrotfish (*Bolbometopon muricatum*), is an important component of coral reef ecosystem, but is highly endangered globally. ***It is categorized as 'vulnerable' in the Red List of the International Union for Conservation of Nature (IUCN).***
- Threats: This fish is a highly prized resource,** but is threatened due to limited knowledge about its distribution and abundance in Indian waters.
- Need of the hour:** Ban night fishing for the species and implement regulations regarding reef fishing. Considering the vulnerable status of Bumphead parrotfish globally, the species could be a flagship for educational campaigns focusing on the importance of conserving similar fish groups and protecting the coral reefs.



#### 41. Dhole (ASIATIC WILD DOG)

**Why in News?** A new study has found that expansion of protected areas in the Western Ghats has not helped the lot of Dhole, commonly known as the Asiatic wild dog, even while enabling the recovery of populations of tigers and other big carnivores.

#### Key facts:

- Dhole is an apex social carnivore in the tropical forests of South and South East Asia.
- Endangered –IUCN.
- CITES – Appendix II.
- Schedule II of wildlife act.
- The dhole is a highly social animal, living in large clans without rigid dominance hierarchies and containing multiple breeding females.
- Habitat: Dhole is a habitat generalist, and can occur in a wide variety of vegetation types, including: primary, secondary and degraded forms of tropical dry and moist deciduous forests; evergreen and semi-evergreen forests; temperate deciduous forests; boreal forests; dry thorn forests; grassland–scrub–forest mosaics; temperate steppe; and alpine steppe
- Disease and pathogens: Dholes are susceptible to rabies, canine distemper, canine parvovirus and sarcoptic mange among others which are usually contracted from domestic village dogs that act as reservoirs.

#### 42. COOL-SPOTS

- 'Cool-spots' are ***the world's last refuges where high numbers of threatened species still persist.*** Cool-spots could be the result of protection or because of intact habitat that has not been cleared yet.

#### 43. YONO CASH

**Context:** The State Bank of India has launched the YONO Cash service for its customers which will allow them to withdraw cash from ATMs without their debit cards.

**You Only Need One (YONO)** is the cardless cash withdrawal service. The initiative will address concern of using debit card at the ATMs for cash withdrawals by eliminating possible risk associated with it.

#### How it works?

- SBI customers can use the YONO app on their smartphones to withdraw cash from SBI ATMs, or YONO Cash Points, without using their debit and credit cards.
- Once a request for withdrawing cash is placed, a 6-digit code will be sent to the user's phone via SMS, which will then have to be entered into a YONO Cash Point.

#### 44. SWIFT

- It is a messaging network that financial institutions use to securely transmit information and instructions through a standardized system of codes.*** Under SWIFT, each financial organization has

a unique code which is used to send and receive payments.

- **SWIFT does not facilitate funds transfer:** rather, it sends payment orders, which must be settled by correspondent accounts that the institutions have with each other.
- **The SWIFT is a secure financial message carrier** — in other words, it transports messages from one bank to its intended bank recipient.

**SWIFT India** is a joint venture of top Indian public and private sector banks and SWIFT (Society for Worldwide Interbank Financial Telecommunication). The company was created to deliver high quality domestic financial messaging services to the Indian financial community. It has a huge potential to contribute significantly to the financial community in many domains.

#### 45. WORLD KIDNEY DAY

**Context:** World Kidney Day is observed annually on the 2nd Thursday in March.

- WKD is a joint initiative of the International Society of Nephrology (ISN) and the International Federation of Kidney Foundations (IFKF). World Kidney Day started in 2006.
- **Theme for 2019:** Kidney Health for Everyone Everywhere.

#### 46. BASANT UTSAV

- **What is it?** The famous Indian poet Rabindranath Tagore introduced Basant Utsav or Spring festival in Santiniketan, Birbhum to recreate the magic of Holi. The joyous festival is now an integral part of the Bengali culture.
- Also known as '**Dol Jatra**' or the '**Dol Utsav**', the fiesta enjoys the repute as the "Rabindrik Basanta Utsav".

#### 47. INDIA PRIDE PROJECT

**What is it?** India Pride Project (IPP) is a group of art enthusiasts who uses social media to identify stolen religious artefacts from Indian temples and secure their return.



#### 48. WORLD'S HIGHEST POLLING STATION

- **Tashigang, a small Himachal Pradesh village has got the distinction of the highest polling station in the world.**
- Tashigang is located at an altitude of 15,256 feet.
- It is located in Lahaul-Spiti and forms part of the Mandi Lok Sabha seat, the second largest constituency in India.

#### 49. MT MAKALU

- **Why in News?** First Indian Army Mountaineering Expedition to Mt Makalu (8485m) flagged off.
- **About Mt Makalu:** Among the eight mountains in Nepal above 8000m, Mt. Makalu is the fourth tallest in Nepal and fifth highest Peak on the Earth with its height 8,463m. Mt. Makalu resides in the eastern Himalayas range just 19Km southeast of the giant Mt. Everest in the border of Nepal and China. At the base of Mt. Makalu, there lies a natural wonder: The Barun Valley.

**Note:** Have a brief overview of various peaks located in the region.



#### 50. LONGEST SALT CAVE IN ISRAEL

**Context:** An area near the Dead Sea is home to the world's longest salt cave, a title previously held by Iran for the Cave of the Three Nudes on Qeshm Island.

- **The Malham salt cave in Mount Sodom** sits 170 meters below sea level at the southwestern tip of the Dead Sea.
- At 10 kilometers long, the Malham salt cave is now the world's longest salt cave, besting Iran's 6.4 km cave, and the first to reach a length in the double-digits.
- **The Malham Salt Cave is a river cave.** Water from a surface stream flowed underground and dissolved the salt, creating caves – a process that is still going on when there is strong rain over Mount Sodom about once a year.

#### 51. KAZAKHSTAN RENAMES CAPITAL ASTANA AFTER EX-PRESIDENT



- Kazakhstan has renamed its capital Astana to **Nursultan** to honour outgoing leader Nursultan Nazarbayev.

- Mr Nazarbayev served nearly 30 years as leader of the oil-rich nation.

## 52. LANGKAWI INTERNATIONAL MARITIME AERO EXPO (LIMA) 2019

- *Langkawi International Maritime Aero Expo (LIMA-2019) is being held in Langkawi, Malaysia.*
- Indian Air Force is participating in the Maritime Aero Expo for the first time, during which it will showcase its **indigenously developed LCA fighter aircraft**.

## 53. LOSE TO WIN PROGRAMME

**Context:** *The government of UAE has launched the Lose to Win Programme* to assist the overweight employees in shedding extra kilos and adopt a healthy lifestyle.

- The programme encourages those struggling with weight issues to learn how to induce positive changes in their lifestyle.

- The programme involves adopting a healthy diet and engaging in physical activity.
- It aims to help employees to lose excessive weight within eight weeks.

## 54. HIKIKOMORI

- Hikikomori is *a psychological condition which makes people shut themselves off from society, often staying in their houses for months on end.*
- There are at least half a million of them in Japan. It was once thought of as a young person's condition, but sufferers are getting older and staying locked away for longer.