



# INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

**CURRENT AFFAIRS**

**NOVEMBER 2018**

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INSIGHTSIAS

# GENERAL STUDIES - I

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

## 1. GUJARAT GOVERNMENT WANTS TO RENAME AHMEDABAD AS KARNAVATI

**What to study?**

- **For Prelims:** Karnavati- background.
- **For Mains:** Renaming of cities- trend, challenges and issues associated.

**Context:** Gujarat government is planning to rename Ahmedabad as Karnavati.

**Historical background:**

- Historically, the area around Ahmedabad has been inhabited since the 11th century, when it was known as Ashaval.
- **Chaulukya ruler Karna of Anhilwara (modern Patan) had waged a successful war against the Bhil king of Ashaval and established a city called Karnavati on the banks of the Sabarmati river.**
  - Sultan Ahmed Shah in 1411 A.D. Had laid the foundation of a new walled city near Karnavati and named it Ahmedabad after the four saints in the area by the name Ahmed.

Sources: toi.

## 2. UNESCO ASIA-PACIFIC AWARD FOR CONSERVATION

**What to study?**

- **For Prelims:** About the awards, awardees and important sites in India.
- **For Mains:** Significance of these sites and challenges in conservation of these sites.

**Context:** UNESCO Asia-Pacific Awards for Cultural Heritage Conservation have been announced.

**Various awardees:**

- **Award of Distinction:** Restoration of LAMO Center from a state of partial ruin in Ladakh.
- **Honourable Mention:** Rejuvenation of iconic Rajabai Clock Tower and Ruttonjee Muljee Jetha Fountain in Mumbai, along with a project in China.
- **Award of Excellence:** Shijo-cho Ofune-hoko Float Machiya, of Kyoto, Japan.
- **New Design in Heritage Contexts:** Kaomai Estate 1955, Chiang Mai (Thailand) and Harts Mill, Port Adelaide, (Australia).

**Facts for Prelims:**

- Mumbai has won 19 recognitions since the inception of the awards in 2000 – the most for any city in India.

**About the award:**

- **Launched in 2000**, UNESCO Asia-Pacific awards for cultural heritage conservation programme is aimed at acknowledging the efforts taken to restore and conserve historical structures without affecting their heritage value in the region comprising 48 countries.
- **The awards are classified under four categories** — Award of Excellence, Awards of Distinction, Awards of Merit and Award for New Design in Heritage Context.
- **They are being given to encourage** the efforts of all stakeholders and the public in conserving and promoting monuments and religious institutes with rich heritage in the Asia-Pacific region.

Sources: pib.

## 3. KAMBALA

**What to study?**

- **For Prelims:** Key facts on Kambala.
- **For Mains:** Kambala- For and Against issues.

**Context:** The coastal districts of Dakshina Kannada and Udupi are all set for the kambala. The races would be held under the auspices of the District Kambala Committee.

**Background:**

- Karnataka government had promulgated **Prevention of Cruelty to Animals (Karnataka Amendment) Ordinance, 2017** on July 20 last year. The President gave his assent to the Prevention of Cruelty to Animals (Karnataka Amendment) Bill making Kambala a legal rural sport in Karnataka. The Bill seeks to exempt kambala and bullock-cart racing from the ambit of the Prevention of Cruelty to Animals (PCA) Act, 1960.

**About Kambala:**

- **What is it?** Kambla in its traditional form is non-competitive with buffalo pairs made to race one after another in paddy fields, which is considered a thanksgiving to the Gods for protecting the animals from diseases.
- **Why it has become controversial?** Over the years, it has however become an organised sport with animal rights activists claiming that the buffaloes run in the race due to fear of being beaten, which the organizers dismiss, saying no violence is involved and that several modifications had been made to ensure that it is an animal friendly event.

Sources: the hindu.

## 4. SANGAI TOURISM FESTIVAL

**What to study?**

- **For Prelims:** About Sangai festival, key facts on Sangai.
- **For Mains:** Threats to Sangai and its conservation related issues.

**Context:** Every year the State of Manipur celebrates the "**Manipur Sangai Festival**" from 21st to 30th November.

**About the Sangai festival:**

- **What is it?** Sangai Festival is an annual cultural extravaganza in Manipur. The festival is labelled as the grandest festival of the State today and helps promote Manipur as a world class tourism destination. Every edition of the festival showcases the tourism potential of the state in the field of Arts & Culture, Handloom, Handicrafts, Indigenous Sports, Cuisine, Music and Adventure sports of the state etc.
- **Background:** The 'Festival' is named after **the State animal, Sangai, the brow-antlered deer found only in Manipur**. It started in the year 2010 and has grown over the years into a big platform for Manipur to showcase its rich tradition and culture to the world.
- **Focus areas:** The festival will reflect the State's proud cultural heritage and the love for art which is inherent amongst various tribes inhabiting the State of Manipur. The State's classical dance form, '**Ras Leela**' is quite famous all over the world for its distinctiveness from any other dance forms in India. The Ras Leela will form an important part of the dance performances at the Manipur Sangai Festival besides the various other folk dance performances like the Kabui Naga dance, Bamboo dance, Maibi dance, Lai Haraoba dance, Khamba Thoibi dance etc. which will be showcased at the festival.
- **Indigenous sports** will also be a major highlight of the State's biggest tourism festival this year. Manipur's famous martial arts- **Thang Ta** (a combination Spear & Sword skills), Yubi-Lakpi (a game played with greased coconut like rugby), Mukna Kangjei (a game that combines hockey and wrestling), and Sagol Kangjei- Modern Polo (believed to have evolved in Manipur) will all form part of the festival.

**Sangai Deer:**

- The sangai is **an endemic and endangered subspecies of brow-antlered deer found only in Manipur, India**. It is found in its natural habitat only at **Keibul Lamjao National Park** over the floating biomass locally called "phumdi" in the south eastern part of Loktak Lake.
- **Its IUCN status:** Endangered.

Sources: pib.

## 5. KARTARPUR SAHIB PILGRIM CORRIDOR

**What to study?**

- **For Prelims and Mains:** Location and significance of the corridor, issues involved in its construction.

**Context:** In a significant decision, the Union Cabinet approved the building and development of the **Kartarpur corridor from Dera Baba Nanak in Gurdaspur district to the international border, in order to facilitate pilgrims**

**from India to visit Gurdwara Darbar Sahib Kartarpur on the banks of the Ravi river**, in Pakistan, where Shri Guru Nanak Devji spent eighteen years. Pilgrims would then be able to visit the holy shrine throughout the year.

**Key facts:**

- The Kartarpur corridor will be implemented as an integrated development project with Government of India funding, to provide smooth and easy passage, with all the modern amenities.
- Government of India will put in place suitable facilities for smooth passage of pilgrims. Government of Pakistan will be urged to recognize the sentiments of the Sikh community and to develop a corridor with suitable facilities in their territory as well.

#### The shrine:

- The gurdwara in Kartarpur stands on the bank of the Ravi, about 120 km northeast of Lahore. It was here that Guru Nanak assembled a Sikh community and lived for 18 years until his death in 1539.
- The shrine is visible from the Indian side, as Pakistani authorities generally trim the elephant grass that would otherwise obstruct the view. Indian Sikhs gather in large numbers for darshan from the Indian side, and binoculars are installed at Gurdwara Dera Baba Nanak.

#### Access to gurdwaras in Pakistan:

- Sikh jathas from India travel to Pakistan on four occasions every year — for Baisakhi, the martyrdom day of Guru Arjan Dev, the death anniversary of Maharaja Ranjit Singh, and the birthday of Guru Nanak Dev. These Indian pilgrims are given access to all gurdwaras in Pakistan.

#### Complex issue:

- The “corridor” would bring Pak infrastructure right up to the Indian border. Over the past year, gurdwaras in Pakistan have been used for a pro-Khalistan campaign.
- Earlier this year, a gurdwara displayed posters and distributed pamphlets for the so-called “Sikh Referendum 2020”, and Pakistan denied permission to the Indian envoy and diplomats to visit it.
- Pakistan’s intent also remains suspect, and Indian officials are wary of the corridor being misused by both state and non-state actors in that country.

Sources: pib.

## 6. CHAR DHAM PILGRIMAGE

#### What to study?

- **Static Part: About Char Dham project and its geographical location.**
- **Dynamic and Current: Significance of the project, environmental concerns, NGT and Supreme Court’s views.**

**Context:** Government’s ambitious plan to connect the **Char Dham pilgrimage spots in Uttarakhand by all-weather highways** was put under a question mark.

The Supreme Court (SC) has sought the Centre’s response on why it should not stay the National Green Tribunal’s (NGT) clearance to the project.

#### What’s the issue?

- The proposed four-lane expressway to Gangotri, Yamunotri, Kedarnath and Badrinath in the hill state has been among the flagship projects of the Ministry of Road Transport and Highways.
- But the idea of the 900-kilometre road network in the sensitive mountains of Uttarakhand drew scepticism from environmental activists who fear the highways and the tourists they would bring in will be at the cost of the ecological balance.



### **About Chardham project:**

- The project involves developing and widening 900-km of national highways connecting the holy Hindu pilgrimage sites of; Badrinath, Kedarnath, Gangotri, and Yamunotri at an estimated cost of Rs.12,000 crores.
- The highway will be called **Char Dham Mahamarg** (Char Dham Highway) and the highway construction project will be called as **Char Dham Mahamarg Vikas Pariyojana** (Char Dham Highway Development Project).
- The roads will be widened from 12m to 24m and the project will involve construction of tunnels, bypasses, bridges, subways and viaducts.

Sources: the hindu.

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

## **1. RENAMING OF JHARSUGUDA AIRPORT IN ODISHA**

### **What to study?**

- **For Prelims and Mains: About Veer Surendra Sai and his role as a freedom fighter.**

**Context:** The Union Cabinet has approved renaming of Jharsuguda Airport in Odisha as “Veer Surendra Sai Airport, Jharsuguda”.

### **Who was Veer Surendra Sai?**

Veer Surendra Sai who is well-known freedom fighter and a tribal leader of Odisha.

- Born in 1809 in Khinda in Sambalpur, he was direct descendant of Madhukar Sai and was legally entitled to be crowned as king of Sambalpur after demise of king Maharaja Sai in 1827. But he was not acceptable to British power and ignored his claim for succession.
- He revolted against the British for throne after it allowed widow of Madhukar Sai Rani Mohan Kumari to succeed him and then followed by succession of Narayan Singh, a descendant of royal family but born of low caste as king of Sambalpur.
- The aim of Surendra Sai’s revolt was to drive the British out of Sambalpur. His revolution against the British commenced from 1827 when he was only 18 years of age and continued till 1862 when he surrendered and even after that, until he was finally arrested in 1864.

Sources: pib.

## **2. RS 75 COMMEMORATIVE COIN TO MARK ANNIVERSARY OF TRICOLOUR HOISTING BY BOSE**

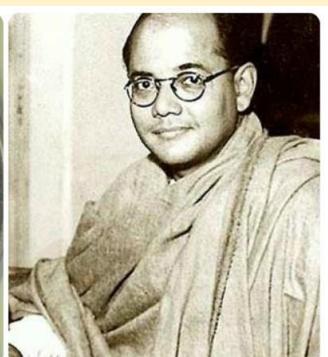
### **What to study?**

- **For Prelims and Mains: Features of the commemorative coin, flag hoisting by Bose, its significance, impact and the outcome.**

**Context:** The Union Ministry of Finance has decided to release a Rs 75 commemorative coin on the occasion of 75th anniversary of the hoisting of Tricolour for the first time by Netaji Subhash Chandra Bose at Port Blair.

### **Hoisting of Tricolour:**

- During his visit to Andaman in on December 30, 1943, Subhash Chandra Bose hoisted the Tricolor for the first time at Cellular Jail of Port Blair, much before India attained Independence declaring the island as the free territory from the British rule.
- On the same occasion, he announced the freedom of Andaman & Nicobar Islands, the first Indian Territory, from the British rule. The island at that time was liberated from British rule by Japan which captured it during the World War – II.
- **Bose named Andaman Island as Shaheed and Nicobar Island as Swaraj and appointed INA General AD Loganathan as the governor of the Islands.** Azad Hind Government was not merely a Government in Exile anymore but had its own land, own currency, civil code and stamps.



### 3. RANI LAKSHMIBAI OF JHANSI

#### What to study?

- For Prelims and Mains: Rani Lakshmibai-related facts, overview of 1857 revolt and Doctrine of Lapse.

**Context:** November 19 is the birth anniversary of Rani Lakshmibai.

#### Who was Rani Lakshmibai?

- Rani Lakshmibai, one of the warriors of India's struggle for Independence, was born as **Manikarnika Tambe** in 1828 in Varanasi.
- In 1842, Lakshmibai got married to **Gangadhar Rao Newalkar**, the Maharaja of Jhansi and got the name of Rani Lakshmibai. Few years after marriage, in 1851, Manikarnika gave birth to a boy but he couldn't survive and died after four months.
- Then Lakshmibai and Gangadhar Rao adopted Rao's cousin's son, **Anand Rao**, who was later renamed as **Damodar**.
- Soon after they adopted Anand, Maharaja died due to an illness in 1853. Rani Lakshmibai was just 18 at that time.
- The East India Company took advantage of the Maharaja's death and applied the **Doctrine of Lapse**. The British rulers did not accept little Damodar Rao, as the legal heir of late Maharaja Gangadhar Rao and Rani Lakshmi Bai. Their plan was to annex Jhansi on the ground that it did not have any legal heir.
- In March 1854, Rani of Jhansi was granted an annual pension of 60,000 and was ordered to leave the Jhansi fort. She was firm on the decision not to give up the dominion of Jhansi to the British. She died on June 17, 1858, martyring her life for India's freedom.



Sources: pib.

### 4. GOVERNMENT OF INDIA TO OBSERVE THE REMEMBRANCE OF 100 YEARS OF THE HISTORICAL JALLIANWALLA BAGH MASSACRE

#### What to Study?

- Static:** Jallianwala Bagh Massacre timeline and who is responsible for it. The day is remembered as?
- Dynamic and Current:** Ministry of Culture and Ministry of Tourism initiatives.

Government of India has decided to mark the remembrance of 100 years of the historical **Jallianwala Bagh Massacre** next year.

A number of commemorative as well as constructive activities will be taken up during the remembrance period.

#### Coin and Postage Stamps:

- The commemorative coin and postage stamps will be released on 13<sup>th</sup> April 2019 (the day the incident took place 100 years ago).
- Ministry of Culture** will organize cultural activities like kavi sammelan, plays, exhibition, seminars, etc. across the country.
- A Committee is constituted to ensure timely implementation to Renovate, upgrade and beautify the Jallianwala Bagh Memorial, and Develop **Virtual Reality Theme Based** show at the Memorial.

#### Development of Virtual Reality Theme Based show:

- The **Ministry of Tourism** earmarked an amount of Rs. 8 crore under **Swadesh Darshan Scheme** for development of Virtual Reality Theme Based show at the Memorial.
- The **Ministry of Culture** will provide additional funds, if needed.



### **Background:**

- It is also known as the **Amritsar Massacre** (dated April 13, 1919) at **Jallianwala Bagh, Amritsar, Punjab**.
- On 13<sup>th</sup> April 1919, thousands of people were gathered at Jallianwala Bagh. **This day marks the beginning of New Year for the Sikhs**, also celebrated as Baisakhi festival all over Punjab.
- **Colonel Reginald Dyer** had announced curfew and a ban on all processions that even prohibited a group of 4 or more people to meet publicly. However, General Dyer sensed the number of people present there and the secret meeting that was about to take place. Thus, he arrived with armed troops and ordered to open fire.
- The troops were ordered to start shooting; this heinous act of violence resulted in extreme mass killing.
- To keep in mind this significance of this place, a trust was founded in 1920 to build a memorial site at Jallianwala Bagh. **American architect, Benjamin Polk**, built the memorial site which was inaugurated by the then President of India, **Rajendra Prasad** on 13 April 1961.

Source: PIB

**Topic:** Salient features of Indian Society, Diversity of India, Social empowerment.

## **1. WHO ARE THE SENTINELESE?**

### **What to study?**

- **For Prelims: Who are Sentinelese? Where is North Sentinel Island located?**
- **For Mains: Threats and challenges faced by tribes in India, how they shall be protected, legal and legislative measures necessary.**

**Why in News?** An American national was killed allegedly by the Sentinelese tribe in the Andaman and Nicobar Islands after he illegally entered the protected zone on November 16.

### **Who are the Sentinelese?**

- The Sentinelese are **a negrito tribe** who live on the **North Sentinel Island of the Andamans**. The inhabitants are connected to the Jarawa on the basis of physical, as well as linguistic similarities. Their numbers are believed to be less than 150 and as low as 40.
- Based on carbon dating of kitchen middens by the Anthropological Survey of India, Sentinelese presence was confirmed in the islands to 2,000 years ago. Genome studies indicate that the Andaman tribes could have been on the islands even 30,000 years ago.



### **How are they protected?**

- The Govt. of India issued the **Andaman and Nicobar Islands (Protection of Aboriginal Tribes) Regulation, 1956** to declare the traditional areas occupied by the tribes as reserves. **It prohibited entry of all persons except those with authorisation. Photographing or filming the tribe members is also an offence.** The rules were amended later to enhance penalties.
- But **restricted area permits** were relaxed for some islands recently. In a major step earlier this year, the Indian government excluded this island and 28 others in the Union Territory from the Restricted Area Permit or RAP regime till December 31, 2022. The lifting of RAP means foreigners can go to the island without permission from the government.

### **Restricted Area Permit (RAP) regime**

**RAP regime was notified under the Foreigners (Restricted Areas) Order, 1963.**

- Under it, foreign nationals are not normally allowed to visit protected or restricted area unless Government is satisfied that there are extra-ordinary reasons to justify their visit.
- Every foreigner, except citizen of Bhutan, who desires to enter and stay in protected or restricted area, is required to obtain special permit from competent authority having power to issue such permits to foreigner, seeking it.
- Citizens of Afghanistan, China and Pakistan and foreign nationals of Pakistani origin are exception and are not allowed to enter such areas.

### **Why are they said to be vulnerable?**

- It is said they have made little to no advancement in the over 60,000 years and still live very primitive lives, surviving mainly on fish and coconuts.
  - They are very vulnerable to germs since they have not had contact with the outside world. Even a common flu virus carried by a visitor could wipe out the entire tribe.
  - Since the 1960s, there have been a handful of efforts to reach out to the tribe but all have largely failed. They have repeatedly, aggressively made it clear that they want to be isolated.

Sources: the hindu.

## **2. 'HAUSLA-2018' WAS INAUGURATED IN THE CAPITAL**

- The **Ministry of Women and Child Development** has launched the **National Festival for Children of Child Care Institutions (CCIs) – Hausla 2018**.
- The inter-Child Care Institution festival draws children from 18 States for the various events like painting competition, athletics meet, football, chess competition and speech writing as part of the Festival.

### **Reason behind Hausla:**

- To provide a national platform for the children from CCIs across India to showcase their talent.
- To make them realize the hidden talent they possess
- To help take it forward in their life.

**Theme of the Event – "Child Safety"**

**Topic:** *Role of women and women's organization, population and associated issues, poverty and developmental issues.*

## **1. PRADHAN MANTRI MATRU VANDANA YOJANA**

### **What to study?**

- **Static part: Key Highlights of the PMMVY, funding and beneficiaries.**
- **Dynamic and Current Part: Performance of the scheme, how it has helped empower women, has it met its stated objectives? Why do we need such schemes?**

**Context:** As per the latest data released by the **Centre for Digital Financial Inclusion (CDFI)** that uses technology for financial inclusion, the government has transferred over Rs 1,600 crore to eligible mothers under **Pradhan Mantri Matru Vandana Yojana** through direct benefit transfer so far. Rs 16,04,66,63,000 has been transferred through direct benefit transfer to 48.5 lakh women.

### **CAS (Common Application Software) System:**

- **CDFI is a non-profit organisation.** It had conceptualised, designed and implemented the PMMVY-CAS (Common Application Software) System through which disbursements were made.

### **About PMMVY:**

- Pradhan Mantri Matru Vandana Yojana (PMMVY) is **a maternity benefit rechristened from erstwhile Indira Gandhi Matritva Sahyog Yojana (IGMSY)**. The IGMSY was launched in 2010.
- The scheme is **a conditional cash transfer scheme** for pregnant and lactating women of 19 years of age or above for first live birth.
- It provides **a partial wage compensation** to women for wage-loss during childbirth and childcare and to provide conditions for safe delivery and good nutrition and feeding practices.
- **Exceptions:** The maternity benefits under Pradhan Mantri Matru Vandana Yojana (PMMVY) are available to all **Pregnant Women & Lactating Mothers (PW&LM)** except those in regular employment with the Central Government or State Government or Public Sector Undertaking or those who are in receipt of similar benefits under any law for the time being in force.



- **Funding:** The scheme is a **Centrally Sponsored Scheme** under which cost sharing ratio between the Centre and the States & UTs with Legislature is 60:40 while for North-Eastern States & three Himalayan States; it is 90:10. It is 100% Central assistance for Union Territories without Legislature.

#### **Need for special attention:**

- **Under-nutrition** continues to adversely affect majority of women in India. In India, every third woman is undernourished and every second woman is anaemic. An undernourished mother almost inevitably gives birth to a low birth weight baby. When poor nutrition starts in-utero, it extends throughout the life cycle since the changes are largely irreversible.
- Owing to economic and social distress many women continue to work to earn a living for their family right up to the last days of their pregnancy. Furthermore, they resume working soon after childbirth, even though their bodies might not permit it, thus preventing their bodies from fully recovering on one hand, and also impeding their ability to exclusively breastfeed their young infant in the first six months.

Sources: the hindu.

## 2. SHE-BOX

### **What to study?**

- **For Prelims and Mains: She-Box, objectives and significance.**

**Context:** The Ministry of Women and Child Development has linked SHe-Box, the online portal to report complaints of Sexual Harassment at Workplace, to all the Central Ministries, Departments and 653 districts across 33 States/Union Territories.

- For prompt disposal of complaints on SHe-Box, each case goes directly to the central/ state authority concerned having jurisdiction to take action in the matter. Cases on She-Box can be monitored by the complainants and Ministry WCD, reducing the time taken in case disposal.

### **About SHe-box:**

- **What is it?** It is an online complaint management system for registering complaints related to sexual harassment at workplace. It was launched by the Ministry of Women and Child Development. The complaint management system has been developed to ensure the effective implementation of Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act (the SH Act), 2013.
- **How it works?** Once a complaint is submitted to the portal, it will be directly sent to the Internal Complaints Committee (ICC) of the concerned Ministry/Department/PSU/Autonomous Body etc. having jurisdiction to inquire into the complaint. Through this portal, WCD as well as complainant can monitor the progress of inquiry conducted by the ICC.

### **Significance of the portal:**

- This portal is an initiative to provide a platform to women working or visiting any office of Central Government (Central Ministries, Departments, Public Sector Undertakings, Autonomous Bodies and Institutions etc.) to file complaints related to sexual harassment at workplace under the SH Act.
- Those who had already filed a written complaint with the concerned Internal Complaint Committee (ICC) constituted under the SH Act are also eligible to file their complaint through this portal.

- It is also an effort to provide speedier remedy to women facing sexual harassment at workplace as envisaged under the SH Act.

Sources: pib.

### 3. INTERNATIONAL DAY FOR THE ELIMINATION OF VIOLENCE AGAINST WOMEN (IDEVAW)

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

- **Static Part:** About IDEVAW, theme and its significance.
- **Dynamic and Current Part:** Challenges faced by women, international efforts to empower them, challenges remaining and what else needs to be done?

**Context:** International Day for the Elimination of Violence against Women (IDEVAW) is observed every year across the world on 25 November.

- **Aim:** To raise awareness about violence against women and girls, end violence against women. It also seeks to show that prevention is possible against violence of women.
- **Theme and its significance:** “Orange the World: #HearMeToo”. It aims to reinforce UNiTE Campaign’s commitment to create world free from violence for all women and girls and reaching out to most marginalized people including migrants, refugees, indigenous peoples, minorities and populations affected by natural disasters and conflicts.

#### **Background:**

- International Day for the Elimination of Violence against Women was instituted by **United Nations General Assembly (UNGA)** in December 1999.
- This day is commemorated in memory of **Mirabal sisters** who were three political activists from Dominican Republic. They were brutally assassinated during the Rafael Trujillo dictatorship (1930-1961) in 1960.

#### **Why we must eliminate violence against women?**

- Violence against women and girls (VAWG) is one of the most widespread, persistent and devastating **human rights violations** in our world today, remains largely unreported due to the impunity, silence, stigma and shame surrounding it.
- In general terms, it manifests itself in physical, sexual and psychological forms, encompassing:
  - Intimate partner violence (battering, psychological abuse, marital rape, femicide).
  - Sexual violence and harassment (rape, forced sexual acts, unwanted sexual advances, child sexual abuse, forced marriage, street harassment, stalking, cyber- harassment).
  - Human trafficking (slavery, sexual exploitation).
  - Female genital mutilation.
  - Child marriage.

#### **Alarming Figures:**

- 1 in 3 women and girls experience physical or sexual violence in their lifetime, most frequently by an intimate partner.
- Only 52% of women married or in a union freely make their own decisions about sexual relations, contraceptive use and health care.
- Worldwide, almost 750 million women and girls alive today were married before their 18th birthday; while 200 million women and girls have undergone female genital mutilation (FGM).



#### **Violence against women- definition:**

- The **Declaration on the Elimination of Violence Against Women** issued by the UN General Assembly in 1993, defines violence against women as “any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.”

- 1 in 2 women killed worldwide were killed by their partners or family in 2012; while only 1 out of 20 men were killed under similar circumstances.
- 71% of all human trafficking victims worldwide are women and girls, and 3 out of 4 of these women and girls are sexually exploited.
- Violence against women is as serious a cause of death and incapacity among women of reproductive age as cancer, and a greater cause of ill health than traffic accidents and malaria combined.

Sources: the hindu.

## 4. EMERGENCY RESPONSE SUPPORT SYSTEM (ERSS) FOR HIMACHAL PRADESH

- Himachal Pradesh is the first state to launch pan-India single emergency number '112' under ERSS.
- It will connect to Police, Fire, Health and other helplines through an Emergency Response Centre in the State.

### A "SHOUT" Feature:

- To ensure safety of women, a SHOUT feature has been introduced in 112 India mobile app to seek immediate assistance from registered volunteers in the vicinity apart from the immediate assistance from Emergency Response Centre.
- This feature is exclusively available for women.

Central Government has allocated Rs 321.69 crore under Nirbhaya Fund for implementation of ERSS project across the country.

Source: PIB

### What is Nirbhaya Fund?

- In order to eradicate violence against women and girls, Central Government has set up Nirbhaya Fund.
- It is administered by the Department of Economic Affairs, Ministry of Finance.
- It can be utilized for projects for women safety and security.
- Ministry of Women and Child Development is the nodal authority for appraising/recommending the proposals/schemes to be funded under Nirbhaya fund.

**Topic:** 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. EARTH'S WATER A RESULT OF ASTEROID IMPACTS AND LEFTOVER GAS FROM SUN'S BIRTH

### What to study?

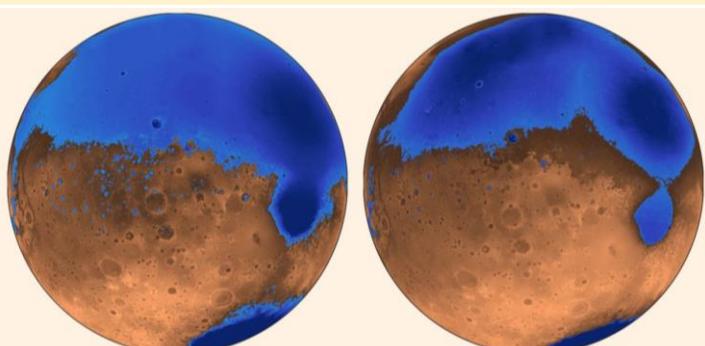
- For Prelims and Mains: Highlights and significance of the study.

**Context:** According to a recent study, Earth's global ocean water may have originated from both asteroidal material and gas left over from the formation of the Sun. The study gives insights about the development of other planets and their potential to support life.

- The study notes that since comets contain a lot of ices, it could have supplied some water. Asteroids, which are not as water-rich yet still plentiful, could be a source as well.

### Background:

- The early ocean known as Arabia was formed 4 billion years ago on Mars, while the Deuteronilus ocean was formed 3.6 billion years ago. Both coexisted with the massive volcanic province Tharsis, located on the unseen side of the planet, which may have helped support the existence of liquid water; the water is now gone, perhaps frozen underground and partially lost to space, while the ancient seabed is known as the northern plains.
- The study challenges widely-accepted ideas about hydrogen in Earth's water by suggesting the element partially came from clouds of dust and gas remaining after the Sun's formation, called the solar nebula.



### **Significance:**

- The new finding fits neatly into current theories of how the Sun and the planets formed. It also has implications for habitable planets beyond the solar system.
- Astronomers have discovered more than 3,800 planets orbiting other stars, and many appear to be rocky bodies not greatly different from our own.

Sources: the hindu.

## **2. HOW THE ANTARCTIC CIRCUMPOLAR CURRENT HELPS KEEP ANTARCTICA FROZEN?**

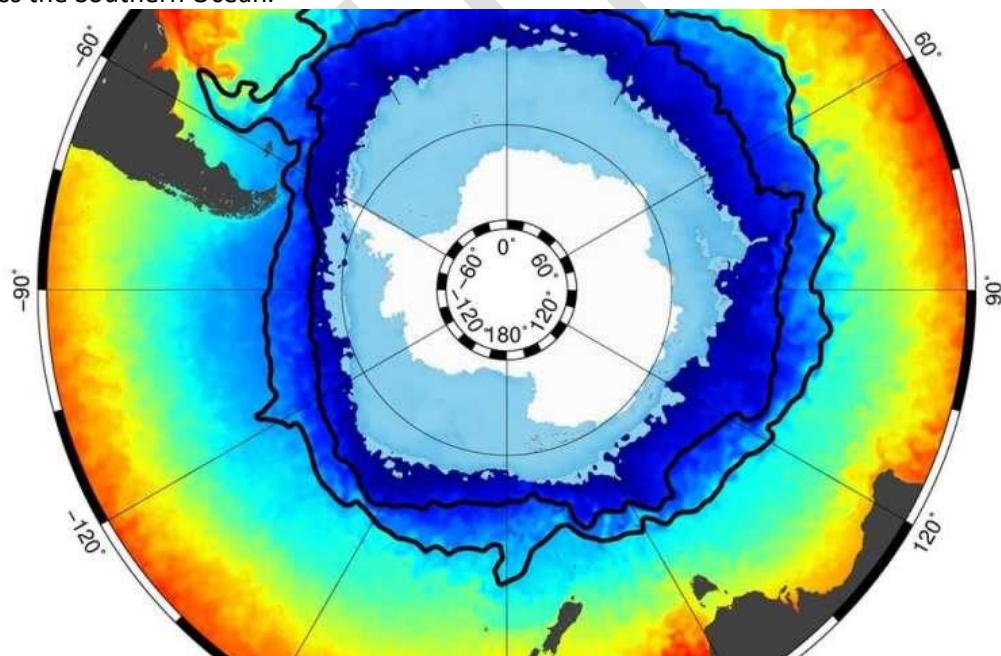
### **What to study?**

- **For Prelims and Mains: Antarctic Circumpolar Current and its role in keeping Antarctica frozen.**

**Context:** The Antarctic Circumpolar Current, or ACC is changing as the world's climate warms. Scientists are studying the current to find out how it might affect the future of Antarctica's ice sheets, and the world's sea levels.

### **It's significance:**

- The Antarctic Circumpolar Current, or ACC, is the strongest ocean current on our planet. It extends from the sea surface to the bottom of the ocean, and encircles Antarctica. It is vital for Earth's health because it keeps Antarctica cool and frozen.
- The ACC carries an estimated 165 million to 182 million cubic metres of water every second (a unit also called a "Sverdrup") from west to east, more than 100 times the flow of all the rivers on Earth. It provides the main connection between the Indian, Pacific and Atlantic Oceans.
- The tightest geographical constriction through which the current flows is Drake Passage, where only 800 km separates South America from Antarctica. While elsewhere the ACC appears to have a broad domain, it must also navigate steep undersea mountains that constrain its path and steer it north and south across the Southern Ocean.



### **What is the Antarctic Circumpolar Current?**

- Antarctica is a frozen continent surrounded by icy waters. Moving northward, away from Antarctica, the water temperatures rise slowly at first and then rapidly across a sharp gradient. It is the ACC that maintains this boundary.
- The ACC is created by the combined effects of strong westerly winds across the Southern Ocean, and the big change in surface temperatures between the Equator and the poles.
- Ocean density increases as water gets colder and as it gets more salty. The warm, salty surface waters of the subtropics are much lighter than the cold, fresher waters close to Antarctica. The depth of constant density levels slopes up towards Antarctica. The westerly winds make this slope steeper, and the ACC rides eastward along it, faster where the slope is steeper, and weaker where it's flatter.

### **Fronts and bottom water:**

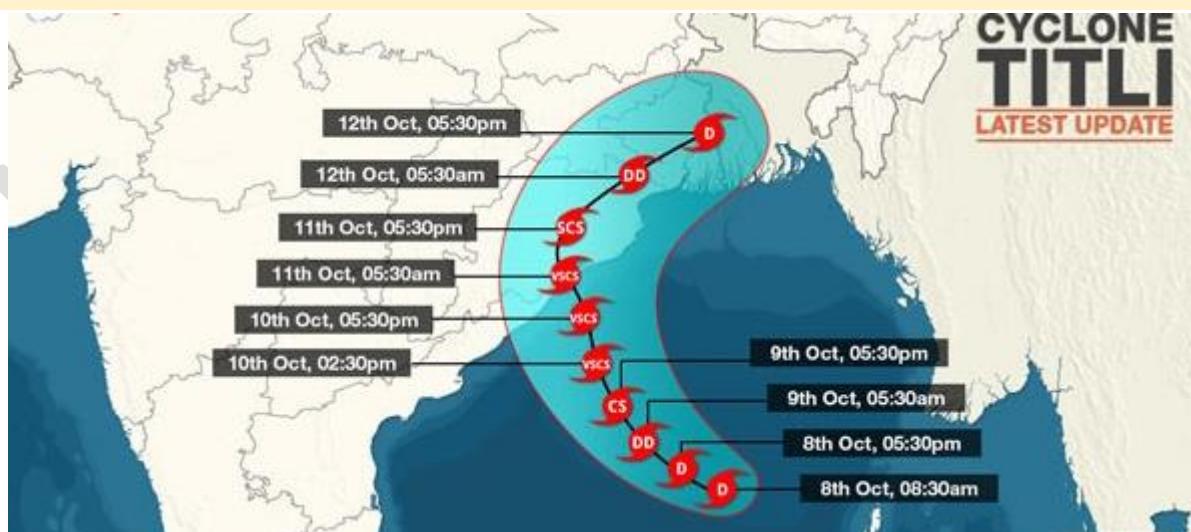
- In the ACC there are sharp changes in water density known as fronts. The Subantarctic Front to the north and Polar Front further south are the two main fronts of the ACC (the black lines in the images). Both are known to split into two or three branches in some parts of the Southern Ocean, and merge together in other parts. Scientists can figure out the density and speed of the current by measuring the ocean's height, using altimeters.
- The path of the ACC is a meandering one, because of the steering effect of the sea floor, and also because of instabilities in the current. The ACC also plays a part in the meridional (or global) overturning circulation, which brings deep waters formed in the North Atlantic southward into the Southern Ocean. Once there it becomes known as Circumpolar Deep Water, and is carried around Antarctica by the ACC. It slowly rises toward the surface south of the Polar Front.
- Once it surfaces, some of the water flows northward again and sinks north of the Subarctic Front. The remaining part flows toward Antarctica where it is transformed into the densest water in the ocean, sinking to the sea floor and flowing northward in the abyss as Antarctic Bottom Water. These pathways are the main way that the oceans absorb heat and carbon dioxide and sequester it in the deep ocean.

### **Changing current:**

- The ACC is not immune to climate change. The Southern Ocean has warmed and freshened in the upper 2,000 m. Rapid warming and freshening has also been found in the Antarctic Bottom Water, the deepest layer of the ocean.
- Waters south of the Polar Front are becoming fresher due to increased rainfall there, and waters to the north of the Polar Front are becoming saltier due to increased evaporation. These changes are caused by human activity, primarily through adding greenhouse gases to the atmosphere, and depletion of the ozone layer. The ozone hole is now recovering but greenhouse gases continue to rise globally.
  - Winds have strengthened by about 40% over the Southern Ocean over the past 40 years. Surprisingly, this has not translated into an increase in the strength of the ACC. Instead there has been an increase in eddies that move heat towards the pole, particularly in hotspots such as Drake Passage, Kerguelen Plateau, and between Tasmania and New Zealand.
  - Scientists have observed much change already. The question now is how this increased transfer of heat across the ACC will impact the stability of the Antarctic ice sheet, and consequently the rate of global sea-level rise.

Sources: science daily.

### **3. TITLI CYCLONE IS 'RAREST OF RARE'**



### **What to study?**

- **Static Part:** All about Cyclones- their origin, features and how is it different from typhoon and hurricane? About RIMES.
- **Dynamic and Current Part:** Why was Titli declared 'rarest of rare'? India's preparedness, what needs to be done?

**Context:** The *Regional Integrated Multi-Hazard Early Warning System (RIMES) for Africa and Asia* has termed 'Titli', the severe cyclonic storm that devastated Odisha in October, as 'rarest cyclone'.

#### Why?

- More than 200 years of cyclone track history in the Odisha coast reveals that the Titli cyclone is the rarest of rare in terms of its characteristics such as recurvature after landfall and retaining its destructive potential after landfall and recurvature away from the coastal areas for more than two days.

#### Background:

- Earlier, India Meteorological Department had called the formation of Titli as a 'rarest of rare' occurrence. The severe cyclone had changed its path after landfall.

#### What can we learn from this?

- The Odisha State Disaster Management Authority (OSDMA) faced challenges in anticipating and managing Titli's impact due to lack of impact-based actionable early warning information and prior experience not only in India but also elsewhere. The OSDMA, by learning the lessons from Titli cyclone, could evolve measures to minimise impacts in both coastal and non-coastal regions more effectively in future.
- The RIMES has recommended that a detailed risk assessment has to be carried out for Odisha to understand the risks in the light of the Titli devastation.

Sources: the hindu.

#### About RIMES:

- RIMES, is an *inter-governmental body registered under the United Nations*. It is being owned and managed by 45 collaborating countries in Asia Pacific and Africa Region. The programme unit of the agency is located in Thailand. At present, *India is chairing RIMES*.
- RIMES evolved from the efforts of countries in Africa and Asia, in the aftermath of the 2004 Indian Ocean tsunami, to establish a regional early warning system within a multi-hazard framework for the generation and communication of early warning information, and capacity building for preparedness and response to trans-boundary hazards.

## 4. UN PREDICTS EL NIÑO LIKELY TO FORM BY FEBRUARY

#### What to study?

- Static Part:** About El Nino, La nina and how they occur, their geological effects.
- Dynamic and Current:** Disaster risks associated, concerns, challenges and measures to be put in place.

**Context:** The *UN's World Meteorological Organization (WMO)* has predicted that there is a 75-80% chance of a weak El Niño weather pattern forming by February and a slightly lower likelihood that it will continue through the northern hemisphere winter of 2018-19.

#### Background:

- An El Niño – a warming of ocean surface temperatures in the eastern and central Pacific that typically happens every few years – last occurred in 2015-2016 and caused weather-related crop damage, fires and flash floods.

#### 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 and the subtropics.
- 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.

**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.
- The rise in sea surface temperature may be intensified by global warming. From the current study, we learn that El Nino can exacerbate global warming and hence the process could become a vicious circle.

**What is La Nina?**

- La Nina is a climate pattern that describes the cooling of surface ocean waters along the tropical west coast of South America. It is considered to have the opposite effect of El Nino.
- It brings greater than normal rainfall in Southeast Asia and Australia, and causes drier-than-normal conditions in South America and the Gulf Coast of the United States. La Nina events sometimes follow El Nino events.

**How long does it last?**

- An El Nino or La Nina episode lasts nine to 12 months. Some may prolong for years. Its average frequency is every 2 to 7 years. El Nino is more frequent than La Nina.

Sources: Down to Earth.

(Q) IMD says moderate El Nino Southern Oscillation (ENSO) conditions are currently prevalent in the equatorial Pacific Ocean region and the El Nino is likely to develop in the next two months. What do you understand by El Nino and explain its impact on India's climate?

# GENERAL STUDIES -II

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

## 1. DOUBLE JEOPARDY

### What to study?

- For Prelims and Mains: Meaning, features, significance and issues associated with Article 20 of the Constitution.

**Context:** The Supreme Court of India has ruled that **the bar of double jeopardy does not arise if an accused was discharged of a criminal offence, even before the commencement of trial, on the basis of an invalid sanction for prosecution.**

### Background:

- The judgment is based on an appeal filed by the State of Mizoram against an order passed by the Gauhati High Court in August 2015.
  - The corruption case was filed by the Aizawl police in February 2009 for misappropriation of public money. During inquiry, it was detected that the respondent had acquired valuable assets disproportionate to known sources of income.
  - The first invalid sanction for prosecution was issued by the Commissioner-Secretary, Department of Personnel & Administrative Reforms (DP & AR) directly without the Governor's approval.
  - Following the discharge of the accused by the special court, the Governor accorded a fresh sanction in December 2013. However, the high Court upheld a Special Court decision to decline to entertain a second chargesheet filed in a corruption case against the accused on the ground of double jeopardy.

### What has the Court ruled?

- Article 20 (2) of the Constitution mandates that a person cannot be prosecuted or punished twice for the same offence.
- The court held that if an accused has not been tried at all and convicted or acquitted, the principles of double jeopardy cannot be invoked at all. If an earlier order of sanction was found to be invalid, there is no bar for the competent authority to issue a proper order of sanction for prosecution.
- The courts are not to quash or stay the proceedings under any Act merely on the ground of an error, omission or irregularity in the sanction granted by the authority unless it is satisfied that such error, omission or irregularity has resulted in failure of justice, the SC observed.

### About Article 20- Protection in respect of conviction for offences:

1. No person shall be convicted of any offence except for violation of the law in force at the time of the commission of the act charged as an offence, nor be subjected to a penalty greater than that which might have been inflicted under the law in force at the time of the commission of the offence.
2. No person shall be prosecuted and punished for the same offence more than once.
3. No person accused of any offence shall be compelled to be a witness against himself.

### Doctrine of Double Jeopardy:

- Article 20(2) says that no person shall be prosecuted and punished for the same offence more than once. This is called Doctrine of Double Jeopardy. The objective of this article is to avoid harassment, which must be caused for successive criminal proceedings, where the person has committed only one crime.
- There are two aspects of Doctrine of Jeopardy viz. autrefois convict and autrefois acquit. Autrefois convict means that the person has been previously convicted in respect of the same offence. The autrefois acquit means that the person has been acquitted on a same charge on which he is being prosecuted.
- Please note that **Constitution bars double punishment for the same offence. The conviction for such offence does not bar for subsequent trial and conviction for another offence and it does not matter the some ingredients of these two offences are common.**

### Self Incrimination Law:

- Article 20(3) of the constitution says that no person accused of any offence shall be compelled to be a witness against himself.
- This is based upon a legal maxim which means that No man is bound to accuse himself.
- The accused is presumed to be innocent till his guilt is proved. It is the duty of the prosecution to establish his guilt.

#### **Key facts:**

- Article 20 has taken care to safeguard the rights of persons accused of crimes.
- Persons here **means the citizens, non-citizens as well as corporations**.
- This article **cannot be suspended even during an emergency in operation under article 359**.
- Article 20 also constitutes the limitation on the legislative powers of the Union and State legislatures.

#### **Ex-Post facto Law Article 20 (1):**

- It says that no person shall be convicted of any offence except for violation of a law in force at the time of the commission of the Act charged as an offence, nor be subjected to a penalty greater than that which might have been inflicted under the law in force at the time of the commission of the offence. This is called Ex-Post facto Law. It means that legislature can not make a law which provides for punishment of acts which were committed prior to the date when it came into force. This means that a new law can not punish an old act.

Sources: the hindu.

## **2. CONSTITUTION DAY OF INDIA**

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

- **Static Part: Meaning and significance of the day, historical background.**
- **Dynamic and Current Part: Overview of the constitution, key features and important amendments.**

#### **What is Constitution day?**

- Constitution day which is also known as the Samvidhan Divas is celebrated every year on **November 26 to mark the day on which the Constitution of India was adopted**. While the adoption of the Constitution took place on November 26, 1949, it came into effect on January 26, 1950.
- **The draft of the constitution was prepared by the drafting committee under BR Ambedkar's aegis.** According to the government notification, the Constitution Day was also a tribute to Ambedkar.
- **Earlier, this day was commemorated as National Law Day**, after a resolution by the Supreme Court Bar Association, a lawyers' body, in 1979.

#### **Celebrations this year:**

- With the collective efforts of the Buddhist Association for the blind and the Saavi Foundation and Swagat Thorat, **for the first time the constitution will be made available in Braille**.
- As part of the joint project, the constitution will be made available in five parts in Braille for the benefit of visually challenged individuals.

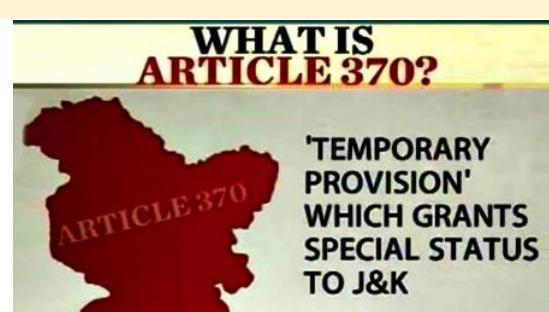
Sources: the hindu.

## **3. ARTICLE 370**

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

- **Static Part: Key features of Article 370 and related facts.**
- **Dynamic and Current: Arguments in favour and against the removal of Article 370, what is the right move and can an amendment solve the issue?**

**Context:** The Supreme Court has refused to entertain a fresh petition on Article 370, which gives special autonomous status to Jammu and Kashmir, and said that the issues raised in it were already part of the pending pleas.



#### **What was the plea all about?**

- The petition sought a declaration that Article 370 of the Constitution had lapsed with the dissolution of constituent assembly of Jammu and Kashmir on January 26, 1957 and it cannot be treated as mandatory for exercise of powers of the President.
- The plea has also sought that the Constitution of Jammu and Kashmir be declared as "arbitrary, unconstitutional and void", claiming that it was against the supremacy of the Indian Constitution and contrary to the dictum of "One Nation, One Constitution, One National Anthem and One National Flag".

- It has sought declaring as arbitrary some provisions of the Jammu and Kashmir Constitution, which deals with permanent residency and flag of the valley among other issues, for being violative of the Preamble and the Indian Constitution.
- The petition has said that continuance of two parallel constitutions, one for the Centre and other for the state of Jammu and Kashmir, “reeks of a weird dichotomy” as most of the provisions of the Indian Constitution has already been extended to the state.
- It has alleged that due to vote bank politics, successive governments did nothing to repeal Article 370 and Constitution of Jammu and Kashmir was adopted much after the Indian Constitution came into force. It also added that the instrument of accession of October 26, 1947 does not talk about separate Constitution or constituent assembly for the state.

#### **What is Article 370?**

- Article 370 of the Indian Constitution is **a ‘temporary provision’** which grants special autonomous status to Jammu & Kashmir.
- **Under Part XXI of the Constitution of India**, which deals with “Temporary, Transitional and Special provisions”, the state of Jammu & Kashmir has been accorded special status under Article 370.
- All the provisions of the Constitution which are applicable to other states are not applicable to J&K.

#### **Important provisions under the article:**

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

Sources: the hindu.

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

**Topic:** Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.

## **1. J&K ALL SET FOR PRESIDENT’S RULE**

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

- **For Prelims and Mains: Difference between President’s Rule under Article 356 and Governor’s Rule in J&K, Special status for J&K under Article 370.**

**Context:** If the state assembly is not dissolved in two months, Jammu and Kashmir may come under President’s rule in January.

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

- Since J&K has a separate Constitution, Governor's rule is imposed under Section 92 for six months after an approval by the President. In case the Assembly is not dissolved within six months, President's rule under Article 356 is extended to the State. Governor's rule expires in the State on January 19.

### **Governor's rule in J&K:**

- The imposition of governor's rule in J&K is slightly different than that in other states. In other states, ***the president's rule is imposed under the Article 356 of Constitution of India.***
- In J&K, ***governor's rule is mentioned under Article 370 section 92 – 'Provisions in case of failure of constitutional machinery in the State.'***

### **Article 370 section 92: Provisions in case of failure of constitutional machinery in the State:**

- If at any time, the Governor is satisfied that a situation has arisen in which the Government of the State cannot be carried on in accordance with the provisions of this Constitution, the Governor may by Proclamation:
  - Assume to himself all or any of the functions of the Government of the State and all or any of the powers vested in or exercisable by anybody or authority in the State.
  - Make such incidental and consequential provisions as appear to the Governor to be necessary or desirable for giving effect to the objects of the Proclamation, including provisions for suspending in whole or in part the operation of any provision of this Constitution relating to anybody or authority in the State.

### **Related key facts:**

- Any such Proclamation may be revoked or varied by a subsequent Proclamation. Any such Proclamation whether varied under subsection (2) or not, shall except where it is a Proclamation revoking a previous Proclamation, cease to operate on the expiration of six months from the date on which it was first issued.
- If the Government or by a Proclamation under this section assumes, to himself any, of the powers of the Legislature to make his laws, any law made by him in the exercise of that power shall, subject to, the terms thereof continue to have effect until two years have elapsed from the date on which the proclamation ceases to have effect, unless sooner.
- No Proclamation under this section shall, except where it is a Proclamation revoking a previous Proclamation, be laid before each House of the Legislature as soon as it is convened.

### **What is President's Rule in the Indian context?**

- The imposition of Article 356 of the Constitution on a State following the failure of constitutional machinery is called President's Rule in India.
- Once the President's Rule has been imposed on a state, the elected state government will be temporarily dissolved, and the Governor, who is appointed by the government at the Centre, will replace the Chief Minister as the chief executive of the State.
  - The state will fall under the direct control of the Union government, and the Governor will continue to be head the proceedings, representing the President of India – who is the Head of the State.
  - ***The imposition of the President's rule requires the sanction of both the houses of Parliament.*** If approved, it can go on for a period of six months. However, the imposition cannot be extended for more than three years, and needs to be brought before the two houses every six months for approval.

Sources: the hindu.

## **2. PRIVATE MEMBER'S BILL**

### **What to study?**

- ***Static Part: Private Member's Bill- introduction and procedure followed.***
- ***Dynamic and Current: Issues associated and why are they not taken into account seriously.***

**Context:** A BJP lawmaker from Karnataka has said he will move a Private Members' Bill during the winter session of parliament to facilitate the construction of a Ram temple at Ayodhya.

- ***Who is a Private Member?*** Any MP who is not a Minister is referred to as a private member.

### **Introduction in the House:**

- The **admissibility of a private member's Bill is decided by the Rajya Sabha Chairman**. In the case of Lok Sabha, it is **the Speaker**; the procedure is roughly the same for both Houses.
- The **Member must give at least a month's notice** before the Bill can be listed for introduction; the House secretariat examines it for compliance with constitutional provisions and rules on legislation before listing.
- Up to 1997, private members could introduce up to three Bills in a week. This led to a piling up of Bills that were introduced but never discussed; Chairman K R Narayanan, therefore, capped the **number of private member's Bills to three per session**.
- While government Bills can be introduced and discussed on any day, **private member's Bills can be introduced and discussed only on Fridays**.
- Fourteen private member's Bills — five of which were introduced in Rajya Sabha — have become law so far.

Sources: prsindia.

(Q) "The concept of private members' bill is central to a deliberative democracy." Discuss in the Indian context.

### **What are Government Bills?**

- Bills introduced by Ministers are referred to as government bills.
- They are backed by the government, and reflect its legislative agenda.
- Private member's bills purpose is to draw the government's attention to what individual MPs see as issues and gaps in the existing legal framework, which require legislative intervention.

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

## 1. COMPETITION COMMISSION OF INDIA

### **What to study?**

- For Prelims and Mains: CCI- features, composition, functions and significance, Key features of the Competition Act.

**Context:** A 'National Conference on Public Procurement & Competition Law' is being organised by the **Competition Commission of India (CCI)** with a view to scale up Competition Advocacy and reach out to important stakeholders in public procurement ecosystem.

- The National Conference is being organised in association with Indian Institute of Corporate Affairs (IICA), a think tank under the aegis of Ministry of Corporate Affairs.
- Ashok Kumar Gupta has been appointed as the chairperson of the Competition Commission of India (CCI). It was approved by the Appointments Committee of the Cabinet (ACC).

### **About Competition Commission Of India:**

- The Competition Commission of India (CCI) was established under the **Competition Act, 2002** for the administration, implementation and enforcement of the Act, and was duly constituted in March 2009.
- Chairman and members are appointed by the central government.

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

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

### **Functions of the commission:**

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

### **Committee to review the Act:**

- In pursuance of its objective of ensuring that Legislation is in sync with the needs of strong economic fundamentals, the Government recently constituted a **Competition Law Review Committee to review the Competition Act headed by Secretary, Ministry of Corporate Affairs**.

### **The Competition Act:**

- The Competition Act, 2002, as amended by the Competition (Amendment) Act, 2007, prohibits anti-competitive agreements, abuse of dominant position by enterprises and regulates combinations

(acquisition, acquiring of control and M&A), which causes or likely to cause an appreciable adverse effect on competition within India.

## 2. NATIONAL TIGER CONSERVATION AUTHORITY (NTCA)

### What to study?

- For Prelims: NTCA- role, composition and functions.
- For Mains: Conservation of tiger reserves- issues and challenges.

**Why in News?** The National Tiger Conservation Authority (NTCA) has commissioned a report from the Maharashtra Forest Department on how tigress Avni (T1) was killed.

### Background:

- Maharashtra government had permitted a hunter to kill the tigress- Avni. This move was widely criticised by the activists. The tigress, which is said to have killed 13 people, was shot dead in Yavatmal on November 2 by civilian hunter Asgar Ali, who was with a team of Forest Department officials.



### About NTCA:

- The National Tiger Conservation Authority is a **statutory body under the Ministry of Environment, Forests and Climate Change** constituted under enabling provisions of the **Wildlife (Protection) Act, 1972**, as amended in 2006, for strengthening tiger conservation, as per powers and functions assigned to it under the said Act.
- The National Tiger Conservation Authority has been fulfilling its mandate within the ambit of the Wildlife (Protection) Act, 1972 for strengthening tiger conservation in the country by retaining an oversight through advisories/normative guidelines, based on appraisal of tiger status, ongoing conservation initiatives and recommendations of specially constituted Committees.

### The functions of NTCA are as follows:

- Ensuring normative standards in tiger reserve management
- Preparation of reserve specific tiger conservation plan
- Laying down annual/ audit report before Parliament
- Instituting State level Steering Committees under the Chairmanship of Chief Minister and establishment of Tiger Conservation Foundation.
- According approval for declaring new Tiger Reserves.

Sources: the hindu.

## 3. DREDGING CORPORATION OF INDIA

### What to study?

- For Prelims and Mains: About Dredging Corporation of India- composition, objectives and functions.

**Context:** Cabinet Committee on Economic Affairs (CCEA) has approved strategic disinvestment of 100% Government of India's shares in Dredging Corporation of India Limited (DCIL) to consortium of four ports.

- The consortium of four ports consists of Vishakhapatnam Port Trust (Andhra Pradesh), Paradeep Port Trust (Odisha), Jawahar Lal Nehru Port Trust (Maharashtra) and Kandla Port Trust (Gujarat).

### Present status:

- Presently, Central Government holds 73.44% shares in DCIL.

### Benefits:

- Strategic sale of DCIL will further facilitate linkage of dredging activities with ports, keeping in view the role of DCIL in expansion of dredging activity in the country as well as potential scope for diversification of ports into third party dredging.
- The co-sharing of facilities between company as well as ports shall lead to savings for ports. This will also further provide opportunities for larger investment in DCIL as integration with ports shall help ineffective vertical linkage in value chain.

### About Dredging Corporation of India Limited (DCIL):

- It is miniratna public sector unit (PSU) engaged in the business of dredging. It was established in March 1976 and is headquartered in Visakhapatnam, Andhra Pradesh. It reports to the Ministry of Shipping.

- It does dredging for Indian seaports exclusively. It is involved in capital dredging, beach nourishment, and land reclamation.

## 4. NATIONAL BODY SET UP TO STUDY MONOGENIC DIABETES

### What to study?

- For Prelims and Mains:** Monogenic diabetes- symptoms, causes, categories, spread and prevention.

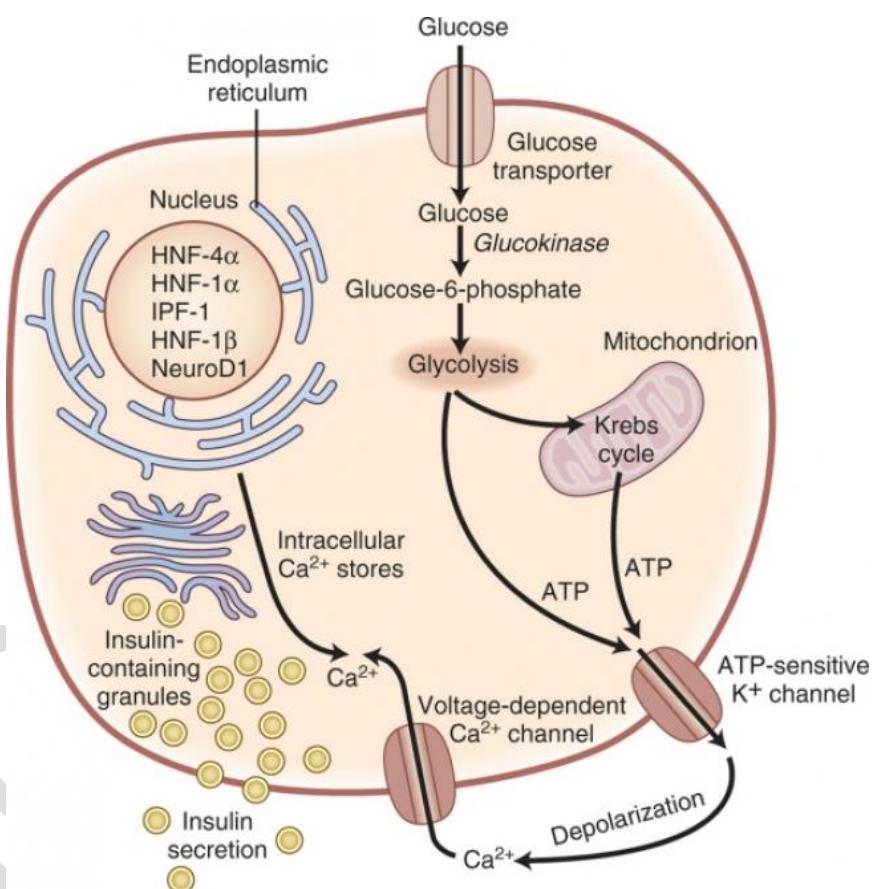
**Context:** A National Monogenic Diabetes Study Group has been formed to identify cases of monogenic diabetes across the country. Supported by the Indian Council of Medical Research (ICMR), the Madras Diabetes Research Foundation (MDRF) and Dr. Mohan's Diabetes Specialities Centre (DMDSC) will be the national coordinating centre for the study group.

### What is Monogenic Diabetes?

- Monogenic diabetes is a group of disorders where mutation of a single gene causes diabetes; the three commonest forms being – Maturity Onset Diabetes of the Young (MODY), Neonatal Diabetes Mellitus (NDM) and Congenital Hypoglycaemia.

### Factors of Monogenic diabetes:

- Monogenic diabetes is usually passed on in an autosomal dominant gene, (a sex independent gene that's inherited from one of the parents). This means only one copy of the mutation is needed to develop diabetes.
- There is usually a strong family history of diabetes and in multiple generations, (although it's possible for someone to have a spontaneous mutation). Diagnosis, therefore, involves genetic testing for these diabetes-causing gene mutations that disrupt insulin production.
- Monogenic diabetes patients are also usually antibody negative, (though there are cases where low levels of antibodies have been detected). Once treatment for the diabetes begins, the antibodies usually resolve.



In addition to blood sugar issues, some of the forms of Monogenic diabetes involve metabolic issues such as:

- Growth problems.
- Impaired glycogen storage in the liver.
- Impaired fatty acid metabolism.
- Exocrine pancreatic insufficiency.

Sources: the hindu.

## 5. NATIONAL GREEN TRIBUNAL (NGT)

### What to study?

- For Prelims:** All about NGT.
- For Mains:** Pollution in Delhi, how staple burning is related to this event?, what needs to be done now?

**Context:** Stating that State governments had failed to curb stubble burning, the National Green Tribunal (NGT) has directed the Chief Secretaries of Delhi, Punjab, Haryana and Uttar Pradesh to draw up a plan to provide economic incentives and disincentives to farmers.

**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.

**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.

**About the National Green Tribunal (NGT):**

- **What is it?** NGT has been established under the National Green Tribunal Act 2010 for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.
- **Ambit:** The tribunal deals with matters relating to the enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property.

**Members:**

- **Sanctioned strength:** currently, 10 expert members and 10 judicial members (although the act allows for up to 20 of each).
- **Chairman:** is the administrative head of the tribunal, also serves as a judicial member and is required to be a serving or retired Chief Justice of a High Court or a judge of the Supreme Court of India.
- **Selection:** Members are chosen by a selection committee (headed by a sitting judge of the Supreme Court of India) that reviews their applications and conducts interviews. The Judicial members are chosen from applicants who are serving or retired judges of High Courts.
- **Expert members** are chosen from applicants who are either serving or retired bureaucrats not below the rank of an Additional Secretary to the Government of India (not below the rank of Principal Secretary if serving under a state government) with a minimum administrative experience of five years in dealing with environmental matters. Or, the expert members must have a doctorate in a related field.

**Other facts:**

- The Tribunal is not bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice.
- The Tribunal's dedicated jurisdiction in environmental matters shall provide speedy environmental justice and help reduce the burden of litigation in the higher courts.
- The Tribunal is mandated to make and endeavour for disposal of applications or appeals finally within 6 months of filing of the same.

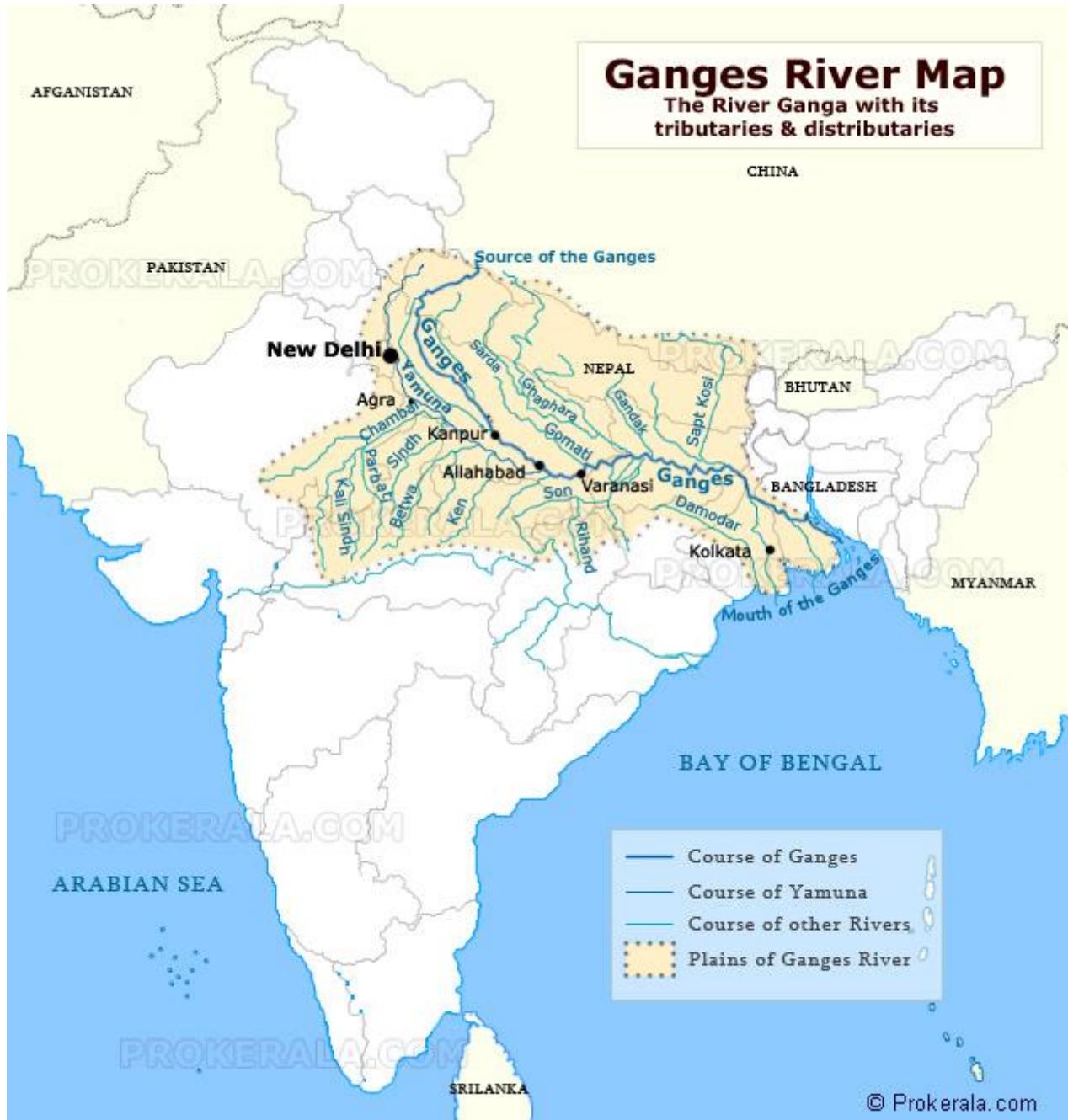
Sources: the hindu.

## 6. CENTRAL WATER COMMISSION

**What to study?**

- **Static Part: About CWC- composition and objectives.**
- **Dynamic and Current: River Ganga and its conservation related issues, why disband CWC and what needs to be done?**

**Context:** The Central Water Commission should be disbanded, experts and activists said at India River Week (IRW)-2018. This will be one of the many demands in the **Citizens Report from IRW-2018 for rejuvenation of the Ganga**.



### Why disband CWC?

- According to the experts, ***the panel has too much on its plate and it needs to go for better regulatory framework.*** It is a body which is doing multiple jobs—collecting data, making policies, giving technical and financial approvals to various projects, monitoring and what not. It is not capable of doing all this.

### Long- and short-term measures to save Ganga (Experts views):

- For restoring the e-flows, ***all proposed projects in the Ganga River Basin should be cancelled.*** The construction of all projects in the headstreams of the river should also be cancelled.
- Among medium-term measures, ***old dams should be decommissioned.*** The ***inland waterways and riverfront development projects should be withdrawn*** as they are harming the Ganga.

### About CWC:

- Central Water Commission is a premier Technical Organization of India in the field of Water Resources and is presently functioning as an ***attached office of the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India.***
- Functions:*** The Commission is entrusted with the general responsibilities of initiating, coordinating and furthering in consultation of the State Governments concerned, schemes for control, conservation and utilization of water resources throughout the country, for purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development. It also undertakes the investigations, construction and execution of any such schemes as required.

- **An autonomous institute for the Ganga** should be established rather than a one controlled only by the government.
- On policy front, **a national river policy and a separate national urban water policy** to govern the urban use of water resources should be put in place.
- **No use of machinery to extract sand and other boulders** from the riverbed should be proposed.
- To improve the base flows, **improve upon crop pattern and better irrigation methods**.
- **Other suggestions include-** reducing groundwater extraction from the Ganga, promoting rainwater harvesting, ensuring better functioning of existing sewage treatment plants in the Ganga basin (to ensure clean river), comprehensive Ganga law on the lines of the draft given by late G D Agarwal, establishing protected zones in origin stretches of all major rivers and tributaries (for biodiversity conservation), teaching ecology in all science and engineering curricula across the country and studying of climate change impacts on the Ganga, among many others.

Sources: Down to Earth.

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

## 1. DEAL INKED FOR BIOFUEL RESEARCH

### What to study?

- **For Prelims: Sustainable biofuels, Mission Innovation and Biofuture platform.**
- **For Mains: Biofuels- significance, challenges and solutions.**

**Context:** The Department of Biotechnology (DBT) has signed a three-year, ₹11 crore deal with The Energy and Research Institute to set up a centre to produce “advanced biofuels and bio-commodities.”

### Key facts:

- This is the **fifth such dedicated centre for bioenergy-research and development set up by the Department**. The others are located at the Indian Agricultural Research Institute, New Delhi; the Indian Institute of Technology-Guwahati; Transtech Green Power Limited, Jaipur; and the Oil and Natural Gas Energy Centre in the National Capital Region.
- The bio-centre would be focussed on not only developing technology but also commercialising it.
- Other than fuel, by-products envisaged at the TERI-DBT Centre include food, feed, nutrition supplements, bio-plastics and novelty speciality chemicals.

### Significance of Biofuels:

- Globally, biofuels have caught the attention in last decade and it is imperative to keep up with the pace of developments in the field of biofuels.
- Biofuels in India are of strategic importance as it augers well with the ongoing initiatives of the Government such as Make in India, Swachh Bharat Abhiyan, Skill Development and offers great opportunity to integrate with the ambitious targets of doubling of Farmers Income, Import Reduction, Employment Generation, Waste to Wealth Creation.

Sources: the hindu.

### Classification of Biofuels:

- **1st generation biofuels** are also called conventional biofuels. They are made from things like sugar, starch, or vegetable oil. Note that these are all food products. Any biofuel made from a feedstock that can also be consumed as a human food is considered a first generation biofuel.
- **2nd generation biofuels** are produced from sustainable feedstock. The sustainability of a feedstock is defined by its availability, its impact on greenhouse gas emissions, its impact on land use, and by its potential to threaten the food supply. No second generation biofuel is also a food crop, though certain food products can become second generation fuels when they are no longer useful for consumption. Second generation biofuels are often called “advanced biofuels.”
- **3rd generation biofuels** are biofuel derived from algae. These biofuels are given their own separate class because of their unique production mechanism and their potential to mitigate most of the drawbacks of 1st and 2nd generation biofuels.

## 2. LOCATION TRACKING DEVICES, EMERGENCY BUTTONS MANDATORY FOR NEW PUBLIC SERVICE VEHICLES

### What to study?

- **For Prelims:** Nothing much.
- **For Mains:** Need for VLT and its significance.

**Context:** The Union Ministry of Road Transport and Highways has notified that all new public service vehicles, except auto rickshaws and e-Rickshaws, registered on and after January 1, 2019 will have to be mandatorily equipped with Vehicle Location Tracking (VLT) and Emergency Buttons.

- In case of older public service vehicles, registered up to December 31, 2018, the respective State Governments will notify the date by which these vehicles have to install Vehicle Location Tracking Device and Panic Buttons.

### About VAHAN:

- VAHAN is a highly flexible and comprehensive system that takes care of all the activities of Vehicle Registration, leaving the Transport Department to deal with more important business issues.
- The software enables the processes at RTO/DTO/MLO/SDM involving vehicle registration, fitness, taxes, permits and enforcement to get computerised.

### Operational procedure for implementation of VLT cum Emergency buttons:

- The States are required to ensure execution of this order and check fitment and functional status of the VLT device in the public service vehicles at the time of checking of the vehicles for fitness certification.
- Command and Control Centres will be setup by the State or VLT manufacturers or any other agency authorised by the State Government.
- These centres will provide interface such as state emergency response centre, the transport department or Regional Transport Offices and its designated agencies.
- These centres will also provide feed to the 'VAHAN' data base or the relevant data base of the State with regard to the over speeding device 'healthstatus'.
- The details of each VLT device will be uploaded on the VAHAN database by the VLT device manufacturer using its secured authenticated access.

### Roles of various stakeholders involved:

- **The VLT device manufacturers or their authorised dealers** will install the VLT devices in public service vehicles and register the devices along with details of vehicle on the corresponding backend systems in real-time.
- **The public service vehicle owners** have to ensure that the VLT devices installed in their vehicles are in working condition and regularly send required data to the corresponding backend system.
- **VLT device manufacturers** will get their devices tested for conformity of production every year after the first certification from the testing agencies referred to in Rule126 of the Central Motor Vehicles Rules, 1989.
- **The testing agencies** will upload the details of the VLT devices certified by them on the VAHAN database.
- **The State or Union Territories** will publish Internet Protocol address (IP address) and Short Message Service Gateway (SMS gateway) details of their respective emergency response system where VLT devices will send the emergency alerts on press of emergency button.

Sources: pib.

## 3. COMPANIES AMENDMENT (ORDINANCE), 2018

### What to study?

- **For Prelims and Mains:** Highlights of the amendment and key features of the Companies Act.

**Context:** The President has given his assent to the **Companies Amendment (Ordinance), 2018**. The Ordinance is promulgated to review offences under the Companies Act, 2013.

### Key Amendments:

- **Shifting of the jurisdiction of 16 types of corporate offences** from the special courts to in-house adjudication, which is expected to reduce the case load of Special Courts by over 60%, thereby enabling them to concentrate on serious corporate offences.
- **The penalty has been reduced to half** for small companies and one person companies of that applicable to normal companies.

- **Instituting a transparent and technology driven in-house adjudication mechanism** on an online platform and publication of the orders on the website.
- **Strengthening in-house adjudication mechanism** by necessitating a concomitant order for making good the default at the time of levying penalty, to achieve the ultimate aim of achieving better compliance.
- **Declogging the NCLT** by enlarging the pecuniary jurisdiction of Regional Director, vesting in the Central Government the power to approve the alteration in the financial year of a company and vesting the Central Government the power to approve cases of conversion of public companies into private companies.

Sources: pib.

## 4. REGIONAL CONNECTIVITY SCHEME (RCS)

### **What to study?**

- **For Prelims: Key features of RCS.**
- **For Mains: Significance, challenges and potential of RCS.**

**Context:** Opening the third round of the Regional connectivity scheme (RCS), the Ministry of Civil Aviation has invited proposals for air routes that include tourist destinations. The deadline for submitting applications is November 20.

- Under this scheme, the government has allowed seaplanes to operate commercial passenger flights. Included among the 10 destinations that the government proposes to connect through seaplanes are the recently unveiled Statue of Unity at Sardar Sarovar Dam, Sabarmati Riverfront in Ahmedabad, Tehri Dam in Uttarakhand and Nagarjuna Sagar in Telangana.

### **About UDAN (Ude Desh ka Aam Nagrik) scheme:**

- UDAN (Ude Desh Ka Aam Nagrik) is the Government's initiative to make air travel to India's tier II and tier III cities affordable to the aam aadmi. The idea is to put smaller cities and remote regions on the aviation map, by getting domestic airlines to ply more regional routes.
  - Under the scheme, the Government offers incentives to airlines to flag off new flights to neglected smaller cities and towns by providing Viability Gap Funding to make these operations profitable.
  - Airlines are required to bid for exclusive rights to fly on the regional routes opened up under the scheme. They must sell a specific number of seats on each flight at a fixed fare of ₹2,500 for one hour of flying. In the case of helicopter operations, allowed for the first time now, fares are capped at ₹2,500 for a 30-minute flight.

### **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.

## 5. GANGA GRAM PROJECT

### **What to study?**

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

**Context:** Ganga Gram Swachhata Sammelan was recently organized at Chyavan Rishi Ashram in Chousa Village of Buxar district in Bihar.

### **About Ganga Gram project:**

- Ganga Gram vision is an integrated approach for holistic development of villages situated on the banks of River Ganga with active participation of the villagers.
- **The objectives of Ganga Gram Project** include solid and liquid waste management, renovation of ponds and water resources, water conservation projects, organic farming, horticulture, and promotion of medicinal plants.

### **About Namami Gange Programme:**

- Namami Gange programme was launched as a mission to achieve the target of cleaning river Ganga in an effective manner with the unceasing involvement of all stakeholders, especially five major Ganga basin States – Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal.
- The programme envisages: River Surface Cleaning, Sewerage Treatment Infrastructure, River Front Development, Bio-Diversity, Afforestation and Public Awareness.

### **Implementation:**

- The program would be implemented by the National Mission for Clean Ganga (NMCG), and its state counterpart organizations i.e., State Program Management Groups (SPMGs). In order to improve implementation, a three-tier mechanism has been proposed for project monitoring comprising of a) High level task force chaired by Cabinet Secretary assisted by NMCG at national level, b) State level committee chaired by Chief Secretary assisted by SPMG at state level and c) District level committee chaired by the District Magistrate.
- The program emphasizes on improved coordination mechanisms between various Ministries/Agencies of Central and State governments.

Sources: pib.

## **6. STRATEGIC PETROLEUM RESERVES (SPR)**

### **What to study?**

- **For Prelims:** India's strategic oil reserves- locations, ISPRL.
- **For Mains:** Energy security, need for SPR.

**Context:** The Union Cabinet has approved the filling of Padur Strategic Petroleum Reserves (SPR) in Karnataka by overseas National Oil Companies (NOCs).

### **Key facts:**

- The filling of the SPR will be under PPP model and is being undertaken to reduce budgetary support of Union Government. The SPR facility at Padur is underground rock cavern with total capacity of 2.5 million metric tonnes (MMT) having four compartments of 0.625 MMT each.

### **Background:**

- India has built 5.33 million tons of underground reserves in three locations, including Padur, under an earlier phase that can meet 9.5 days of the country's oil needs.
- The government purchased crude to fill the caverns in Visakhapatnam in Andhra Pradesh and half of another facility in Mangalore in Karnataka, while leasing out the other half to Abu Dhabi National Oil Co.

### **About SPR programme:**

- To ensure energy security, the Government of India had decided to set up **5 million metric tons (MMT)** of strategic crude oil storages at three locations namely, **Visakhapatnam, Mangalore and Padur** (near Udupi).
- These strategic storages would be in addition to the existing storages of crude oil and petroleum products with the oil companies and would serve as a cushion during any external supply disruptions.
  - In the 2017-18 budget, it was announced that two more such caverns will be set up **Chandikhole** in Jajpur district of Odisha and **Bikaner** in Rajasthan as part of the second phase.
  - The construction of the Strategic Crude Oil Storage facilities is being managed by Indian Strategic Petroleum Reserves Limited (ISPRL), a Special Purpose Vehicle, which is a wholly owned subsidiary of Oil Industry Development Board (OIDB) under the Ministry of Petroleum & Natural Gas.

### **Need for strategic oil reserves:**

- In 1990, as the Gulf war engulfed West Asia, India was in the throes of a major energy crisis. By all accounts India's oil reserves at the time were adequate for only three days. While India managed to avert the crisis then, the threat of energy disruption continues to present a real danger even today.
  - It is unlikely that India's energy needs will dramatically move away from fossil fuels in the near future. Over 80% of these fuels come from imports, a majority of which is sourced from West Asia. This is a major strategic risk and poses a massive financial drain for an embattled economy and its growing current account deficit.

- To address energy insecurity, the Atal Bihari Vajpayee government mooted the concept of strategic petroleum reserves in 1998. Today, with India consuming upwards of four million barrels of crude every day (January 2015 figures), the case for creating such reserves grows stronger.

## 9. ISPRL, ADNOC SIGN MOU TO EXPLORE STORAGE OF CRUDE OIL AT PADUR

### **What to study?**

- **For Prelims:** ISPRL, Strategic petroleum reserves.
- **For Mains:** Significance of these reserves, need and potential.

**Context:** The Indian Strategic Petroleum Reserves Ltd (ISPRL) has signed a Memorandum of Understanding (MoU) with the Abu Dhabi National Oil Company (ADNOC) in Abu Dhabi to explore the possibility of storing ADNOC crude oil at ISPRL's underground oil storage facility at Padur in Karnataka, which has a 2.5 million tonne capacity. Under the agreement, ADNOC is expected to store crude in compartments at Padur.

### **Key facts:**

- ISPRL is an Indian government-owned company mandated to store crude oil for emergency needs.
- ADNOC is the only foreign oil and gas company, so far, to invest by way of crude oil in India's strategic petroleum reserves program.

### **Benefits of the agreement:**

- India is an important oil market and the MoU underscores the strategic energy partnership between the UAE and India that leverages the UAE and ADNOC's expertise and oil resources.
- The agreement will allow ISPRL to explore, with ADNOC, opportunities related to the possible storage of ADNOC crude at Padur, which would help to significantly strengthen the country's strategic petroleum reserves.
- It also reflects the strong bonds of cooperation between India and the UAE and provides a foundation for strengthening and expanding the strategic energy relationship between the two nations.

### **Background:**

- ISPRL has already built 5.33 million tonnes of underground storage capacity at three locations – Visakhapatnam (1.33 million tonnes), Mangalore (1.5 million tonnes) and Padur (2.5 million tonnes), that can meet around 9.5 days of the country's oil needs as per consumption data of last financial year.
- In June 2018, the Union Government had announced the creation of two new reserves, a 4 million tonnes storage facility at Chandikhol in the eastern state of Odisha and an additional 2.5 million-tonne facility at Padur.

## 7. GOVERNMENT APPROVES MECHANISM FOR SALE OF ENEMY SHARES

### **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 Union Cabinet has approved a mechanism for sale of enemy shares which at the current price is estimated at around Rs 3,000 crore. Sale proceeds are to be deposited as disinvestment proceeds in the government account maintained by the Ministry of Finance. The Department of Investment and Public Asset Management has been authorised to sell the shares.

- A total number of 6,50,75,877 shares in 996 companies of 20,323 shareholders are under the custody of Custodian of Enemy Property of India (CEPI).

### **Significance:**

- The decision will lead to monetisation of movable enemy property lying dormant for decades and the proceeds will be used for development and social welfare programmes.

### **Background:**

- Total shares, known as "enemy shares numbering 6,50,75,877 worth Rs 3,000 crore, are lying unutilised because enemy property act includes movable and immovable property.
- Of these 996 companies, 588 are functional/ active companies, 139 of these are listed with remaining being unlisted.

### **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.

#### **Enemy properties Act:**

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

Sources: pib.

## **8. INSPIRE 2018**

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

- **For Prelims and Mains: Features and significance of INSPIRE programme, about EESL and EERF.**

**Context:** The second edition of International Symposium to Promote Innovation & Research in Energy Efficiency (INSPIRE) is being held in New Delhi. The symposium will focus on enhancing grid management, e-Mobility, financial instruments and technologies for energy efficiency in India.

#### **About INSPIRE 2018:**

- INSPIRE 2018 has been organised in collaboration with the Bureau of Energy Efficiency (BEE), The Energy & Resources Institute (TERI), Asian Development Bank (ADB), the United Nations Environment Program (UNEP), and the Administrative Staff College of India (ASCI).
- The event is bringing together policy-makers, influencers, innovators, thought leaders, researchers, leading energy-efficient companies, government agencies, business leaders and other stakeholders to deliberate on key energy policies, market transformation strategies, and sustainable business models that will help leverage the full potential of energy efficiency and bring its multiple co-benefits to the fore.

#### **About Energy Efficiency Revolving Fund (EERF):**

- Alongside, to support investments in new, innovative and scalable business models, EESL and Asian Development Bank (ADB) have signed an agreement for a Global Environment Facility (GEF) grant of USD 13 million to establish an Energy Efficiency Revolving Fund (EERF).
- EERF aims to expand and sustain investments in the energy efficiency market in India, build market diversification, and scale up existing technologies.

#### **About EESL:**

- Energy Efficiency Services Limited (EESL), under the administration of Ministry of Power, Government of India, is working towards mainstreaming energy efficiency and is implementing the world's largest energy efficiency portfolio in the country.
  - Driven by the mission of Enabling More – more transparency, more transformation, and more innovation, EESL aims to create market access for efficient and future-ready transformative solutions that create a win-win situation for every stakeholder. By 2020, EESL seeks to be a US\$ 1.5 billion (INR 10,000 crore) company.
  - EESL has pioneered innovative business approaches to successfully roll-out large-scale programs that allow for incentive alignment across the value chain and rapidly drive transformative impact. EESL aims to leverage this implementation experience and explore new overseas market opportunities for diversification of its portfolio. As on date, EESL has begun its operations in UK, South Asia and South-East Asia.

Sources: pib.

## 10. 'YUVA SAHAKAR-COOPERATIVE ENTERPRISE SUPPORT AND INNOVATION SCHEME'

### What to study?

- **For Prelims:** Key features of the scheme, NCDC.
- **For Mains:** Significance of the scheme of the role of youth in cooperatives, hurdles and measures needed.

**Context:** To cater to the needs and aspirations of the youth, the **National Cooperative Development Corporation (NCDC)** has come up with a youth-friendly scheme '**Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme**' for attracting them to cooperative business ventures.

### Key facts:

- The scheme would encourage cooperatives to venture into new and innovative areas.
- NCDC has created **a dedicated fund** with liberal features enabling youth to avail the scheme. The scheme will be linked to Rs 1000 crore '**Cooperative Start-up and Innovation Fund (CSIF)**' created by the NCDC. It would have more incentives for cooperatives of North Eastern region, Aspirational Districts and cooperatives with women or SC or ST or PwD members.
- **The funding for the project** will be up to 80% of the project cost for these special categories as against 70% for others. The scheme envisages 2% less than the applicable rate of interest on term loan for the project cost up to Rs 3 crore including 2 years moratorium on payment of principal. All types of cooperatives in operation for at least one year are eligible.

### About NCDC:

- National Cooperative Development Corporation (NCDC) was established by an Act of Parliament in 1963 as **a statutory Corporation under Ministry of Agriculture & Farmers Welfare**.
- It has many regional centres to provide the financial assistance to Cooperatives/Societies/Federations.

Sources: pib.

## 11. SWADESH DARSHAN SCHEME

### What to study?

- **For Prelims:** Key features of the scheme, various circuits covered under the scheme and their geographical locations.
- **For Mains:** Significance of the scheme and the need for the scheme.

**Context:** Two important projects under Swadesh Darshan Scheme of Ministry of Tourism, Government of India have been inaugurated at PTSO Lake in Tawang, Arunachal Pradesh.

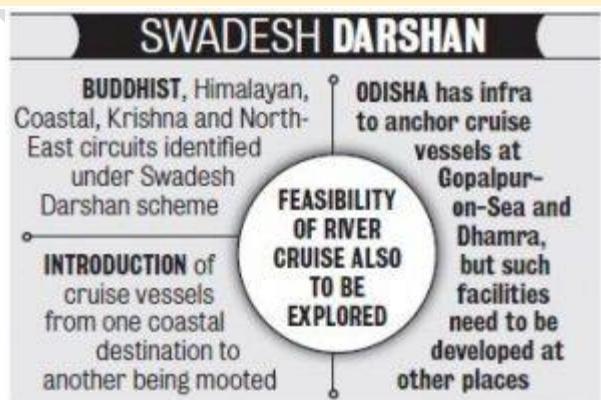
- **These projects are** "Development of North East Circuits: Bhalukpong- Bomdila – Tawang Project & Nafra- Seppa- Pappu, Pasa, Pakke Valleys- Sangdupota- New Sagalee- Ziro- Yomcha Project".

### About Swadesh Darshan Scheme:

- The Tourism Ministry had launched 'Swadesh Darshan' scheme with an objective to develop theme-based tourist circuits in the country. These tourist circuits will be developed on the principles of high tourist value, competitiveness and sustainability in an integrated manner.

### Features of Swadesh Darshan Scheme:

- The scheme is **100% centrally funded** for the project components undertaken for public funding.
  - To leverage the voluntary funding available for **Corporate Social Responsibility (CSR)** initiatives of Central Public Sector Undertakings and corporate sector.
  - Funding of individual project will vary from state to state and will be finalised on the basis of detailed project reports prepared by **PMC (Programme Management Consultant)**.
  - A **National Steering Committee (NSC)** will be constituted with Minister in charge of M/O Tourism as Chairman, to steer the mission objectives and vision of the scheme.



- A **Mission Directorate** headed by the Member Secretary, NSC as a nodal officer will help in identification of projects in consultation with the States/ UTs governments and other stake holders.
- PMC will be a national level consultant to be appointed by the Mission Directorate.

Sources: pib.

## 12. WITNESS PROTECTION SCHEME

### **What to study?**

- **For Prelims:** *Highlights of the draft.*
- **For Mains:** *Need for the scheme, need for protection of witness, challenges and issues associated.*

**Context:** The Supreme Court of India has directed all the states to implement the draft witness protection scheme framed by the Centre in consultation with the **National Legal Services Authority (NALSA)**.

### **Background:**

- In April this year, the Centre had informed the top court that it had framed a draft witness protection scheme and it was circulated among the states and Union Territories administration for comments. The court had asked the Centre to finalise the scheme after getting response from the states and Union Territories.
- In November last year, the court had asked the Centre as to why a draft scheme cannot be formulated for witness protection in the country when specific provisions in this regard were already there in the National Investigation Agency (NIA) Act.

### **Objectives of the Witness Protection Scheme-2018:**

- To enable a witness to give testimony in a judicial setting or to cooperate with law enforcement and investigations without fear of intimidation or reprisal.
- To ensure that the investigation, prosecution and trial of criminal offences is not prejudiced because witnesses are intimidated or frightened to give evidence without protection from violent or other criminal recrimination.
- To promote law enforcement by facilitating the protection of persons who are involved directly or indirectly in providing assistance to criminal law enforcement agencies and the overall administration of Justice.
- To give witnesses the confidence to come forward to assist law enforcement and Judicial Authorities with full assurance of safety.
- To identify a series of measures that may be adopted to safeguard witnesses and their family members from intimidation and threats against their lives, reputation and property.

### **Need for the scheme:**

- Victims and witnesses of serious crimes are particularly **at risk when the perpetrator is powerful, influential, or rich** and the victims or witnesses belong to a socially or economically marginalised community. Girls and women who report sexual violence are often even more vulnerable and face extreme pressure or direct threats from the accused.
- Also, witnesses **need to have the confidence** to come forward to assist law enforcement and prosecutorial authorities. They need to be assured that they will receive support and protection from intimidation and the harm that criminal groups may seek to inflict upon them in attempts to discourage or punish them from co-operating. Hence, legislative measures to emphasise prohibition against tampering of witnesses have become the imminent and inevitable need of the day.

Sources: the hindu.

## 13. SUB-CATEGORIZATION OF OTHER BACKWARD CLASSES

### **What to study?**

- **For Prelims and Mains:** *Constitutional provisions on Backward Classes, need for sub- categorization and its significance, issues associated.*

**Context:** Cabinet approves extension of the term of the Commission to examine the issue of Sub-categorization of Other Backward Classes in the Central List till 31st May 2019.

### **Terms of references of the Commission are as follows:**

- To examine the extent of inequitable distribution of benefits of reservation among the castes/ communities included in the broad category of OBCs, with reference to the OBCs included in the Central list.
- To work out the mechanism, criteria, norms and parameters, in a scientific approach, for sub-categorization within such OBCs.
- To take up the exercise of identifying the respective castes/communities/ sub-castes/ synonyms in the Central List of OBCs and classifying them into their respective sub-categories.

### **Is sub-categorisation permissible under the law?**

- The Supreme Court in its order in *Indra Sawhney and others vs. Union of India* observed that there is no Constitutional or legal bar to a State categorizing backward classes as backward or more backward and had further observed that if a State chooses to do it (sub-categorization), it is not impermissible in law.

### **How are OBC reservations offered at present?**

- At present, there is a single Central OBC list, with entries from each State. People belonging to all of these castes can seek reservation from within the single 27% OBC reservation pie for Central government jobs and Central educational institutions.
- Nine States, however, have already sub-categorised OBCs.
- These are Andhra Pradesh, Telangana, Puducherry, Karnataka, Haryana, Jharkhand, West Bengal, Bihar, Maharashtra and Tamil Nadu.
- OBC reservation became a reality after the implementation of the Mandal Commission report, which categorised many castes as constituting backward classes and deserving of quotas. New castes have been added to the list over the years.

### **Need for subcategorization:**

- Sub categorization of the OBCs will ensure that the more backward among the OBC communities can also access the benefits of reservation for educational institutions and government jobs.
- At present, many feel that the more advanced OBC castes corner the lion's share of the benefits and have become influential. Not only will such a move offer more opportunities to the most backward castes among the OBCs but also give the government and the ruling party an opportunity to carve out a new political constituency.

Sources: pib.

## **14. ALLIED AND HEALTHCARE PROFESSIONS BILL, 2018**

### **What to study?**

- **For Prelims and Mains: Key features of the Bill and Significance of Allied and Healthcare Professionals (A&HPs) and the challenges they face.**

**Context:** The Union Cabinet has approved the **Allied and Healthcare Professions Bill, 2018** for regulation and standardisation of education and services by allied and healthcare professionals.

### **Highlights of the Bill:**

- It provides for the **Establishment of a Central and corresponding State Allied and Healthcare Councils**; 15 major professional categories including 53 professions in Allied and Healthcare streams.
- **The Bill provides for Structure, Constitution, Composition and Functions of the Central Council and State Councils**, g. Framing policies and standards, Regulation of professional conduct, Creation and maintenance of live Registers, provisions for common entry and exit examinations, etc.
- **The Central Council** will comprise 47 members, of which 14 members shall be ex-officio representing diverse and related roles and functions and remaining 33 shall be non-ex-officio members who mainly represent the 15professional categories.
- **The State Councils** are also envisioned to mirror the Central Council, comprising 7 ex-officio and 21 non-ex officio members and Chairperson to be elected from amongst the non-ex officio members.
- **Professional Advisory Bodies** under Central and State Councils will examine issues independently and provide recommendations relating to specific recognised categories.
- The Bill will also have **an overriding effect** on any other existing law for any of the covered professions.
- The State Council will undertake **recognition of allied and healthcare institutions**.

- **Offences and Penalties** clause have been included in the Bill to check malpractices.
- The Bill **also empowers the Central and State Governments to make rules**.
- Central Govt. also has the power to issue directions to the Council, to make regulations and to add or amend the schedule.

**Major Impact, including employment generation potential:**

- Bring all existing allied and healthcare professionals on board during the first few of years from the date of establishment of the Council.
- Opportunity to create qualified, highly skilled and competent jobs in healthcare by enabling professionalism of the allied and healthcare workforce.
- High quality, multi-disciplinary care in line with the vision of Ayushman Bharat, moving away from a ‘doctor led’ model to a ‘care accessible and team based’ model.
- Opportunity to cater to the global demand (shortage) of healthcare workforce which is projected to be about 15 million by the year 2030, as per the WHO Global Workforce, 2030 report.

**Number of beneficiaries:**

- It is estimated that the Allied and Healthcare Professions Bill, 2018 will directly benefit around 8-9 Lakh existing Allied and Healthcare related professionals in the country and several other graduating professionals joining workforce annually and contributing to the health system.
- However, since this Bill is directed to strengthen the healthcare delivery system at large, it may be said that the entire population of the country and the health sector as a whole will be benefited by this Bill.

**Need for this legislation:**

- Allied and Healthcare Professionals (A&HPs) constitute an important element of the health human resource network, and the skilled and efficient Allied and Healthcare Professionals (A&HPs) can reduce the cost of care and dramatically improve the accessibility to quality driven healthcare services.
- Though such professionals have existed in the Indian healthcare system for many decades, a considerable gap in the allied and healthcare space is because of a lack of a comprehensive regulatory framework and absence of standards for education and training of A&HPs.
- The Bill thus seeks to establish a robust regulatory framework which will play the role of a standard-setter and regulator for Allied and Healthcare professions.

Sources: pib.

## 15. ATMOSPHERE & CLIMATE RESEARCH-MODELLING OBSERVING SYSTEMS & SERVICES (ACROSS) SCHEME

**What to study?**

- **For Prelims and Mains: Highlights and significance of the scheme.**

**Context:** The Cabinet Committee has approved continuation of the nine sub-schemes of the umbrella scheme “**Atmosphere & Climate Research-Modelling Observing Systems & Services (ACROSS)**” during 2017-2020.

**Background:**

- The Ministry of Earth Sciences has a mandate to carry out research and development activities to develop and improve capability to forecast weather, climate and natural hazard related phenomena. Towards this direction, MoES has taken several initiatives to formulate specific schemes like weather and climate modelling, monsoon-research, climate change science & climate services etc.
- These schemes involve multi-institutes wherein each unit has a designated role for accomplishing the aforesaid tasks. As a result, all these schemes with specific objectives and budget are implemented in an integrated manner and are put together under the umbrella scheme “ACROSS”.

**ACROSS Scheme:**

- ACROSS scheme pertains to the atmospheric science programs of the Ministry of Earth Sciences (MoES).
- It addresses different aspects of weather and climate services, which includes warnings for cyclone, storm surges, heat waves, thunderstorms etc.
- Each of these aspects is incorporated as nine sub-schemes under the umbrella scheme “ACROSS” and is implemented in an integrated.
- The ACROSS scheme consists of nine sub-programmes which are multi disciplinary and multi institutional in nature and will be implemented in an integrated manner.

- As the objective of the ACROSS scheme is to provide a reliable weather and climate forecast for betterment of society, the scheme will aim at improving skill of weather and climate forecast through sustained observations, intensive R & D.

**Benefits of the Scheme:**

- The scheme will provide improved weather, climate and ocean forecast and services, thereby ensuring transfer of commensurate benefits to the various services.
- It will also provide a sizable number of scientific and technical staff along with requisite administrative support, thereby generating employment.
- To ensure last-mile connectivity of the weather based services to the end -user, a large number of agencies like the Krishi Vigyana Kendras of ICAR, Universities and local municipalities are roped in thus generating employment opportunities to many people.

Sources: pib.

## 16. GOVERNMENT BROUGHT MOST PUBLIC AUTHORITIES UNDER RTI ACT

**What to Study?**

- Static Part: About Department of Personnel and Training, RTI Act**

**Context:** The government has brought most of the public authorities under the purview of the RTI act, which is in keeping with the commitment to ensure maximum transparency in the working of these Institutions.”

**Department of Personnel and Training (DOP&T):**

- It is the nodal department for the **Right to Information and Central Information Commission**.
- So far it has successfully covered nearly 2000 public authorities under the RTI Act.

**Background:**

- Right to Information Act 2005** mandates timely response to citizen requests for government information.
- It is an initiative taken by **Department of Personnel and Training, Ministry of Personnel, Public Grievances and Pensions** to provide a RTI Portal Gateway to the citizens for quick search of information on the details of first **Appellate Authorities, PIO, etc.**
- It replaces the erstwhile Freedom of information Act, 2002.
- Under the provisions of the Act, any citizen of India may request information from a “public authority” (a body of Government or “instrumentality of State”) which is required to reply expeditiously or within thirty days. The Act also requires every public authority to computerise their records for wide dissemination.
- The Act is applicable to whole of India except Jammu and Kashmir.

**Objective of the RTI Act:**

- To empower the citizens, promote transparency and accountability in the working of the Government, contain corruption, and make our democracy work for the people in real sense.
- It is a big step towards making the citizens informed about the activities of the Government.

## 17. “PAISA – PORTAL FOR AFFORDABLE CREDIT & INTEREST SUBVENTION ACCESS”, LAUNCHED UNDER DAY-NULM

**Context:** PAiSA – A centralized electronic platform for processing interest subvention on bank loans to beneficiaries under **Deendayal Antyodaya Yojana – National Urban Livelihoods Mission (DAY-NULM)**.

It is designed and developed by **Allahabad Bank (Nodal bank)**.

**Benefits of PAiSA:**

- Another effort by the government to **connect directly with the beneficiaries** for ensuring **greater transparency and efficiency** in delivery of services.
- DBT of subvention on monthly basis under DAY-NULM will give the necessary **financial support to small entrepreneurs** in a timely manner.
- All 35 States/UTs & all scheduled commercial banks, RRBs and Cooperative Banks are expected to be on board the PAiSA portal the year end.

## 18. 'HELI-CLINICS' FOR REMOTE AREAS

- Union Minister has mooted "Heli-Clinics"/Helicopter Clinics for remote areas, which could help to provide specialized **medical care to people living in inaccessible hilly terrains of the States like Jammu & Kashmir and Northeast.**

### Central Government's Previous Measures:

- In the last four years, which include opening of **Dialysis Centres** in every district hospital, setting up of Wellness Centres and, launch of "**Ayushman Bharat**".
- There is **need to incentivize medical practitioners to go to remote rural areas** and to provide adequately satisfactory facilities for the government doctors to be able to serve in the rural areas.

### What is Ayushman Bharat?

- **Ayushman Bharat is National Health Protection Scheme**, which will cover over 10 crore poor and vulnerable families (50 crore beneficiaries) providing **coverage upto 5 lakh rupees per family per year for secondary and tertiary care hospitalization.**
- **Ayushman Bharat – National Health Protection Mission** will subsume the on-going centrally sponsored schemes – **Rashtriya Swasthya Bima Yojana (RSBY)** and the **Senior Citizen Health Insurance Scheme (SCHIS).**

### Salient Features:

- Benefits of the scheme are **portable across the country** and a beneficiary covered under the scheme will be allowed to take **cashless benefits** from any public/private empaneled hospitals across the country.
- Ayushman Bharat will be an entitlement based scheme with entitlement decided on the basis of deprivation criteria in the SECC database.
- One of the core principles of Ayushman Bharat is to co-operative federalism and flexibility to states.
- For giving policy directions and fostering coordination between Centre and States, it is proposed to set up **Ayushman Bharat National Health Protection Mission Council (AB-NHPC)** at apex level Chaired by Union Health and Family Welfare Minister.
- States would need to have **State Health Agency (SHA)** to implement the scheme.
- In partnership with **NITI Aayog**, a robust, modular, scalable and interoperable IT platform will be made operational which will entail a paperless, cashless transaction.

Source: PIB

## 19. CITY GAS DISTRIBUTION (CGD) PROJECTS

- The Prime Minister would lay the **Foundation Stones of City Gas Distribution (CGD) Projects** in 65 Geographical Areas (GAs) in 129 districts under the 9<sup>th</sup> CGD Bidding Round recently awarded by **PNGRB (Petroleum and Natural Gas Regulatory Board).**
- This might herald the availability of convenient, environment-friendly and cheaper natural gas for nearly half of the country's population spread across 26 States and Union Territories.

### CGD Network:

- Govt of India puts thrust to promote the usage of environment friendly clean fuel i.e. natural gas as a fuel/feedstock to move towards a gas based economy.
- Development of CGD networks focuses to increase the availability of cleaner cooking fuel (i.e. PNG) and transportation fuel (i.e. CNG) to the citizens.
- The expansion of CGD network will benefit the industrial and commercial units by ensuring the uninterrupted supply of natural gas.

### At Present:

- Till September 2018, 96 cities/districts were covered for development of CGD networks.
- About 46.5 lakh households and 32 lakh CNG vehicles are availing the benefit of clean fuel through existing CGD networks.
- As per commitment made by various entities in this bidding round, around 2 crore PNG (Domestic) connections and 4600 CNG stations are expected to be installed in next 8 years across the country (This expanded the coverage of CGDs to about 50% of the population over 35% of India's area).

- Additionally, PNGRB has also initiated the process of 10<sup>th</sup> CGD bidding round for additional 50 new GAs covering 124 districts in 14 States to increase the coverage to nearly 53% of the country's area covering 70% of the population.

#### **Why Natural Gas:**

- Natural Gas is a superior fuel, environment friendly, safe and cheaper when compared to coal and other liquid fuels.
- Natural Gas is supplied through pipelines just like water from the tap. Hence, it saves space by not using cylinders.
- Natural Gas (as CNG) is cheaper by 60% as compared with petrol and 45% w.r.t. Diesel.
- Natural Gas (as PNG) is cheaper by 40% as compared with market price LPG.
- An auto-rickshaw owner can save Rs. 7000-8000 on his monthly fuel bill by conversion from petrol to CNG.
- Share of Natural Gas in India's energy basket is 6.2% as against 23.4% globally. The Gujarat state itself has 25%.
- If Gujarat can achieve share of gas consumption more than global average, rest of India can also.

#### **Background:**

- India has made a commitment in COP21 Paris Convention in December 2015 that by 2030; it would reduce carbon emission by 33% of 2005 levels.
- Natural gas, as domestic kitchen fuel, as fuel for transport sector and fuel for industries and commercial units, will play an imperative role in reducing carbon emission.

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

## **1. PNEUMONIA AND DIARRHOEA IN INDIA**

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

- **For Prelims:** Pneumonia and Diarrhoea- causes, symptoms and treatment.
- **For Mains:** Concerns raised by the report and what needs to be done?

**Context:** The Pneumonia and Diarrhoea Progress Report 2018 has been released.

- The report is released by the International Vaccine Access Center (IVAC) at the Johns Hopkins Bloomberg School of Public Health.
- The report, released ahead of the 10th annual World Pneumonia Day, on November 12, reviews progress and gaps in coverage of interventions to "protect against, prevent and treat" pneumonia and diarrhoea.

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

- Even as vaccine coverage has significantly improved in India, other interventions against pneumonia and diarrhoea, the two major causes of child deaths in the country, declined in last one year.
- ORS coverage dropped by 13 percentage points, exclusive breastfeeding by 10 percentage points, whereas access to pneumonia care decreased by four percentage points in one year.
- With a total of 2,60,990 deaths of children under 5 years of age due to pneumonia and diarrhoea, India continues to top the list of 15 countries with the most casualties. While 1,58,176 children under 5 died of pneumonia, diarrhoea accounted for 1,02,813 deaths in 2016.
- Female children in India lose out on vaccination despite improvements in full immunisation coverage. Only 78 females were fully immunised for every 100 males fully immunised in poor areas of Delhi. Addressing these disparities can help reduce pneumonia and diarrhoea burden.
- Globally, pneumonia and diarrhoea cause 1.36 million deaths in children in the same category in 2016. Over two thirds of the global burden of pneumonia and diarrhoea mortality occurs in just 15 countries. Despite significant reductions of disease in recent years with improvements in access to and use of health interventions, nearly half a million pneumonia and diarrhoea deaths still occurred in just India and Nigeria.
- The report lists exclusive breastfeeding, vaccination, access to care and use of antibiotics, oral rehydration solution, and zinc supplementation as key interventions to help prevent and treat pneumonia and diarrhoea.

Sources: the hindu.

## 2. TRANS FATTY ACIDS (TFAS)

### What to study?

- **For Prelims and Mains:** Transfats- what are they, uses, concerns and the need for reduction in their usage.

**Context:** Kerala is planning to launch an initiative to enforce dietary guidelines, involving the reduction of trans fatty acids (TFAs), salt and sugar in commercially available foods in the State.

### Significance:

- The initiative, with technical support from the World Bank, WHO and the Food Safety and Standards Authority of India (FSSAI), is being launched as unhealthy diet is pushing up metabolic syndrome and premature deaths due to non-communicable diseases (NCDs) among Keralites.
- Latest estimates put the prevalence of metabolic syndrome (MS) in Kerala between 24-33%, indicating that one in three or four persons — predominantly women — have this condition.
- **Metabolic syndrome (MS)** is a cluster of metabolic abnormalities — high blood pressure, high blood sugar, abdominal obesity, abnormal cholesterol or triglyceride levels — that occur together, raising risk of heart disease, stroke and diabetes.

### Trans fats:

- Trans fatty acids (TFAs) or Trans fats are the most harmful type of fats which can have much more adverse effects on our body than any other dietary constituent. These fats are largely produced artificially but a small amount also occurs naturally. Thus in our diet, these may be present as Artificial TFAs and/ or Natural TFAs.
- Artificial TFAs are formed when hydrogen is made to react with the oil to produce fats resembling pure ghee/butter.
- In our diet the major sources of artificial TFAs are the partially hydrogenated vegetable oils (PHVO)/vanaspati/ margarine while the natural TFAs are present in meats and dairy products, though in small amounts.

### Harmful effects:

- TFAs pose a higher risk of heart disease than saturated fats. While saturated fats raise total cholesterol levels, TFAs not only raise total cholesterol levels but also reduce the good cholesterol (HDL), which helps to protect us against heart disease. Trans fats consumption increases the risk of developing heart disease and stroke.
- It is also associated with a higher risk of developing obesity, type 2 diabetes, heart disease, metabolic syndrome, insulin resistance, infertility, certain types of cancers and can also lead to compromised fetal development causing harm to the yet to be born baby.

### Why they are increasingly being used?

- TFA containing oils can be preserved longer, they give the food the desired shape and texture and can easily substitute 'Pure ghee'. These are comparatively far lower in cost and thus add to profit/saving.

### Permissible limit:

- WHO recommends that trans fat intake be limited to **less than 1%** of total energy intake and has called for the total elimination of TFAs in global food supply by 2023.
- FSSAI has proposed to limit TFA limit in foods to 2% and eliminate trans fats from foods by 2022.

Sources: the hindu.

## 3. ALLIED AND HEALTHCARE COUNCIL OF INDIA

**Context:** Cabinet approves Allied and Healthcare Council of India and corresponding State Allied and Healthcare Councils.

- The Union Cabinet has approved the establishment of an **Allied and Healthcare Council of India** and corresponding **State Allied and Healthcare Councils** which will play the role of standard-setters and facilitators for professions of Allied and Healthcare.

### Features of the Central and State Allied and Healthcare Councils:

- It includes 15 major professional categories including 53 professions in Allied and Healthcare streams.

- The **Professional Advisory Bodies** under Central and State Councils will examine issues in detail and provide recommendations relating to specific recognized categories.
- The **Allied and Healthcare Professionals (A&HPs)** constitute an important element of the health human resource network. And it can reduce the cost of care and dramatically improve the accessibility to quality driven healthcare services.

#### **Additional Benefits of the Allied and Healthcare Council:**

- It will bring all existing allied and healthcare professionals on board within a few years from the date of establishment of the Council.
- It provides an opportunity to create qualified, highly skilled and competent manpower in healthcare and enable professionalism of the allied and healthcare workforce.
- It paves the way for high quality multi-disciplinary care in line with the vision of “Ayushman Bharat”.

#### **Ayushman Bharat:**

- It is an attempt to move from sectoral and segmented approach of health service delivery to a comprehensive need-based health care service.
- It aims to undertake path breaking interventions to holistically address health (covering prevention, promotion and ambulatory care), at primary, secondary and tertiary level.

#### **Background:**

- Globally, Allied and Healthcare Professionals attend undergraduate degree programme to begin with and may attain up to PhD level qualification in their respective streams. However, in India, the institutions which provide such courses, lack standardization.
- Many countries possess a statutory licensing or regulatory body to license and certify the qualifications and competence of such professionals, particularly those involved in direct patient care (like physiotherapist, nutritionist, etc.) or those whose occupation impact patient care directly (like lab technologists, dosimetrists, etc.).
- Though such professionals have existed in Indian healthcare system for decades, a certain gap in the allied and healthcare space is there due to lack of a comprehensive regulatory framework and absence of standards for education and training of A&HPs.

## **4. LEADERSHIP FOR ACADEMICIANS PROGRAM (LEAP)**

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

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

**Context:** The government has launched Leadership for Academicians Programme (LEAP) for higher education faculty.

#### **About the Leadership for Academicians Programme (LEAP):**

- Leadership for Academicians Programme (LEAP) is a three weeks Flagship leadership development training programme (2 weeks domestic and one week foreign training) **for second level academic functionaries in public funded higher education institutions.**
- **The main objective** is to prepare second tier academic heads who are potentially likely to assume leadership roles in the future.
- **The programme would provide** senior faculty, with high academic credentials, the required leadership and managerial skills including skills of problem-solving, handling stress, team building work, conflict management, developing communication skills, understanding and coping with the complexity and challenges of governance in HEIs, financial & general administration.
- **The implementation** of LEAP Programme will be through 15 NIRF top ranked Indian Institutions namely. The foreign Universities identified for the training are also within the top 100 in the world global rankings.

Sources: pib.

## **5. ANNUAL REFRESHER PROGRAMME IN TEACHING (ARPIT)**

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

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

**Context:** The Centre has launched Annual Refresher Programme in Teaching (ARPIT) for higher education faculty.

**About Annual Refresher Programme in Teaching (ARPIT):**

- Annual Refresher Programme in Teaching (ARPIT) is a major and unique **initiative of online professional development of 15 lakh higher education faculty using the MOOCs platform SWAYAM.**
  - For implementing ARPIT, 75 discipline-specific institutions have been identified and notified as National Resource Centres (NRCs) in the first phase, which are tasked to prepare online training material with focus on latest developments in the discipline, new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum.
  - **ARPIT will be an ongoing exercise** so that every year NRCs will continuously develop new refresher module in their earmarked discipline each year. The training materials will be uploaded and made available through SWAYAM. NRC will publish the list of the faculty who have been certified. The NRCs will revolutionize professional development of faculty by catering to massive numbers by leveraging ICT and online technology platform of SWAYAM.
  - **NRCs are located** in a mixed range of institutions such as, Central Universities, IISc, IUCAA, IITs, IISERs, NITs, State Universities under the Ministry's Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT); UGC's Human Resource Development Centres (HRDCs), National Institutes for Technical Teachers Training (NITTTRs), IITs and IGNOU.

Sources: pib.

## 6. UNESCO GLOBAL EDUCATION MONITORING REPORT 2019

**What to study?**

- **For Prelims: Highlights of the report.**
- **For Mains: What hinders the spread of education and how migration is affecting?**

**Context:** UNESCO global education monitoring report 2019 has been released.

**Highlights of the report:**

**Literacy levels in rural households of India dip with seasonal migration:**

- In India, 10.7 million children aged 6 to 14 lived in rural households with a seasonal migrant in 2013. About 28% of youth aged 15 to 19 in these households were illiterate or had not completed primary school, compared to 18% of the cohort overall.
- About 80% of seasonal migrant children in seven cities lacked access to education near work sites, and 40% are likely to end up in work rather than education, experiencing abuse and exploitation.

**Inter-State Migration:**

- Inter-State migration rates have doubled between 2001 and 2011. An estimated 9 million migrated between States annually from 2011 to 2016. The report also warns of the negative impact on education for children who are left behind as their parents migrate.

**The worst hit- Construction labors:**

- The construction sector absorbs the majority of short-term migrants. A survey in Punjab state of 3,000 brick kiln workers in 2015-16 found that 60% were inter-State migrants. Between 65% and 80% of all children aged five to 14 living at the kilns worked there seven to nine hours per day. About 77% of kiln workers reported lack of access to early childhood or primary education for their children.

**What has been done in this regard?**

India has taken steps to address the issue.

- **The Right to Education Act** in 2009 made it mandatory for local authorities to admit migrant children.
- **National-level guidelines** were issued, allowing for flexible admission of children, providing transport and volunteers to support with mobile education.
- **The policies** were attempted to create seasonal hostels and aiming to improve coordination between sending and receiving districts and states.
- Some **State governments have also taken steps** for migrant children's education.

**Pending Issues:**

- Most interventions are focused on keeping children in home communities instead of **actively addressing the challenges faced by those who are already on the move.**

- ***There is growth of slums and informal settlements*** where schools are often scarce due to migration as a challenge. The report shows there is only one urban planner for every 1, 00,000 people in India, while there are 38 for every 1, 00,000 in the United Kingdom.

Sources: the hindu.

## 7. 'INSTITUTION'S INNOVATION COUNCIL (IIC)' PROGRAM

### What to study?

- **For Prelims: About IIC Program.**
- **For Mains: Significance of the programme and the need for promotion of innovation in the country.**

**Context:** The government has launched the 'Institution's Innovation Council (IIC) program under Innovation cell of MHRD.

### About 'Institution's Innovation Council (IIC) program:

- The purpose of formation of network of Institution's Innovation Councils (IICs) is to encourage, inspire and nurture young students by exposing them to new ideas and processes resulting in innovative activities in their formative years.
- The program aims to institutionalize innovation and develop a scientific temperament in the country.
- More than 1000 Higher Education Institutions (HEIs) have already formed IICs in their campuses and enrolled for the IIC network managed by MHRD's Innovation cell to promote innovation through multitudinous modes leading to an innovation promotion eco-system in their campuses.

### Way ahead:

- The educational advancement in higher education can only be achieved by encouraging best practices in innovation and advance research and Innovation Cell has undertaken many initiatives in this direction such as implementing programs like Atal Ranking of Institutions on Innovation Achievement (ARIIA), Smart India Hackathon (SIH)- 2019, etc.

### Innovation cell:

- **Ministry of Human Resource Development** has established an "Innovation Cell" at **AICTE**, to systematically foster the culture of Innovation in all **Higher Education Institutions (HEIs)** across the country.

Sources: pib.

### Aim of Institution's Innovation Councils (IICs):

- To encourage, inspire and nurture young students by exposing them to new ideas and processes resulting in innovative activities in their formative years.

### Major Focus of IIC –

- To create a vibrant local innovation ecosystem.
- Start-up supporting Mechanism in HEIs.
- Prepare institute for Atal Ranking of Institutions on Innovation Achievements Framework.
- Establish Function Ecosystem for Scouting Ideas and Pre-incubation of Ideas.
- Develop better Cognitive Ability for Technology Students.

### Why HEIs should join IICs Network?

- No major capital investment required for establishing IIC as it will make use of existing local ecosystem.
- Students/Faculty associated with IIC will get exclusive opportunity to participate in various Innovation related initiatives and competitions organized by MHRD.
- Win exciting Prizes/Certificates every month.
- Meet/Interact with renowned Business Leaders and top-notch academicians.
- Opportunity to nurture and prototype new ideas.
- Mentoring by Industry Professionals.
- Experimentation with new/latest technologies.
- Visit new places and learn a new culture.

**Topic:** Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and bodies constituted for the protection and betterment of these vulnerable sections.

## 1. HIMALAYAN STATE REGIONAL COUNCIL

### What to study?

- **For Prelims: About the council, objectives, functions and composition.**

- **For Mains: Himalayan states- uniqueness, need for special attention, challenges to development and measures needed.**

**Context:** NITI Aayog has constituted the '**Himalayan State Regional Council**' to ensure sustainable development of the Indian Himalayan region.

**About the Council:**

- **Composition:** The Himalayan State Regional Council will be chaired by the Dr VK Saraswat, Member, NITI Aayog and will consist of the Chief Secretaries of the Himalayan States as well as the Secretaries of key Central Ministries, senior officers of NITI Aayog as well as special invitees.
- **Objective:** The Council has been constituted to review and implement identified action points based on the Reports of five Working Groups, which were established along thematic areas to prepare a roadmap for action.
- **Functions:** The Himalayan States Regional Council will be the nodal agency for the Sustainable development in the Himalayan Region which consists of the twelve States namely Jammu &Kashmir, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, two districts of Assam namely Dima Hasao and KarbiAnglong and Darjeeling and Kalimpong in West Bengal.
- **The terms of reference** of the Council states that it shall monitor the implementation of action points for Central Ministries, Institutions and 12 Himalayan State Governments in Indian Himalayan Region which include river basin development and regional cooperation, spring mapping and revival across Himalayas in phased manner for water security; develop, implement and monitor tourism sector standards as well as bring policy coherence, strengthen skill & entrepreneurship with focus on identified priority sectors, among other action points.

**Background:**

- Recognizing the uniqueness of the Himalayas and the challenges for sustainable development, Five Working Groups were constituted by NITI Aayog on June 2, 2017. The five thematic reports were released by the NITI Aayog in August, 2018 and framed the action points for the Terms of Reference of the Council constituted.
- These Working Groups were tasked with preparing a roadmap for action across five thematic areas namely:
  1. Inventory and Revival of Springs in Himalayas for Water Security
  2. Sustainable Tourism in Indian Himalayan Region.
  3. Shifting Cultivation: Towards Transformation Approach.
  4. Strengthening Skill & Entrepreneurship (E&S) Landscape in Himalayas.
  5. Data/Information for Informed Decision Making.

Sources: pib.

## 2. AADI MAHOTSAV

**What to study?**

- **For Prelims: About Aadi Mahotsav, its theme and objectives, about TRIFED.**
- **For Mains: Various schemes for the welfare of tribal people and their significance.**

**Context:** "Aadi Mahotsav" a National Tribal Festival is being organized in New Delhi by the Ministry of Tribal Affairs and TRIFED to celebrate, cherish and promote the spirit of tribal craft, culture, cuisine and commerce.

- **The theme of the festival is:** "A Celebration of the Spirit of Tribal Culture, Craft, Cuisine and Commerce".

**About Aadi Mahotsav:**

- The Mahotsav will comprise of display and sale of items of tribal art and craft, tribal medicine & healers, tribal cuisine and display of tribal folk performance, in which tribal artisans, chefs, folk dancers/musicians from 23 States of the country shall participate and provide glimpse of their rich traditional culture.
- The festival will feature exhibition-cum-sale of tribal handicrafts, art, paintings, fabric, jewellery and much more through 100 stalls. Over 200 tribal artisans and artists from different States creating a Mini-India will be participating in the festival.

### **Significance of the event:**

- As the name of this event Aadi Mahotsav suggests, it is its 'Adi' factor that is important about them. The Adivasi way of life is guided by primal truths, eternal values and a natural simplicity. The greatness of the tribes lies in this that they have managed to retain the primal skills and natural simplicity.
- Their creations issue from the depths of time. This quality gives their arts and crafts a timeless appeal. The crudest tribal handicraft instantly touches a primal instinct in all of us. This is particularly true in tribal music and dance.

## **3. MATERNITY BENEFIT ACT**

### **What to study?**

- **For Prelims: Maternity Benefit Act- key features.**
- **For Mains: Significance of the act and challenges in its implementation, what needs to be done?**

**Context:** In a bid to encourage employers, especially in the private sector, to implement the extended 26-week maternity leave law, the Labour Ministry is planning to refund them for seven weeks' worth of wages for women workers with a wage ceiling up to ₹ 15,000 per month. The Ministry is in the process of getting budgetary approvals for the ₹400 crore incentive scheme.

### **Need for incentives:**

- In March 2017, the Centre amended the Maternity Benefit Act to increase paid maternity leave from 12 to 26 weeks for all women employees in establishments employing ten or more people. However, while implementation of the provision was good in the public sector, it was poor for those with private sector or contract jobs.
- There is also a wide perception that private entities are not encouraging women employees because if they are employed, they may have to provide maternity benefit to them, particularly 26 weeks of paid holiday. Therefore, the extended maternity leave has become a deterrent for female employees who are asked to quit or retrenched on flimsy grounds before they go on maternity leave.

### **The Maternity Benefit Act:**

- The Maternity Benefit Act, 1961, applies to establishments employing 10 or more than 10 persons in factories, mines, plantation, shops & establishments and other entities.
- **The main purpose of this Act** is to regulate the employment of women in certain establishments for certain period before and after child birth and to provide maternity benefit and certain other benefits. The Act was amended through the Maternity Benefit (Amendment) Act, 2017.

### **The amendment has brought in major changes to the law relating to maternity benefits. These are:**

- **It extends the period of maternity benefit from 12 weeks to 26 weeks** of which not more than eight weeks can precede the date of the expected delivery. This exceeds the International Labour Organisation's minimum standard of 14 weeks and is a positive development. However, a woman who has two or more surviving children will be entitled to 12 weeks of which not more than six weeks can precede the date of the expected delivery.
- Women who legally adopt a child below the age of three months or a "**commissioning mother**" will be entitled to maternity benefit for 12 weeks from the date on which the child is handed over to her. A commissioning mother is defined as a biological mother who uses her egg to create an embryo implanted in another woman.
- **It gives discretion to employers to allow women to work from home** after the period of maternity benefit on mutually agreeable conditions. This would apply if the nature of work assigned to the woman permits her to work from home
- **It requires establishments having 50 or more employees to have a crèche facility**, either separately or along with common facilities. Further, employers should allow the woman to visit the crèche four times a day, which "shall also include the interval for rest allowed to her."
- **It introduces a provision which requires every establishment to intimate a woman at the time of her appointment of the maternity benefits available to her.** Such communication must be in writing and electronically.



## **The Maternity Benefits Act, 1961**

## 4. MINIMUM WAGES ACT FOR DOMESTIC WORKERS

### What to study?

- **Static Part:** Key features of the proposed National Policy on Domestic Workers, International Labour Organisation's Convention 189 on Decent Work for Domestic Workers.
- **Dynamic and Current:** Need for a policy and guidelines on this, vulnerability and challenges faced by domestic workers, international experience.

**Context:** A petition has been filed in the Supreme Court seeking its intervention to bring dignity to "India's invisible workforce in the informal sector" — the domestic workers.

### Demands:

- The petition asked the Supreme Court to lay down guidelines to protect the workers' rights.
- The petition sought the recognition of domestic work under the Minimum Wages Act, 1948.
- Their work hours should be reduced to eight a day and they should be given a mandatory weekly off as a basic right under Article 21.

### Need for guidelines:

- Indian homes have witnessed a 120% increase in domestic workers in the decade post liberalisation. While the figure was 7,40,000 in 1991, it has increased to 16.6 lakh in 2001.
  - However, **latent classism and lack of education make domestic workers prone to violence and abuse at the hands of their employers and placement agencies.**
  - Worsening their vulnerabilities are the **absence of proper documentation**, which also increases their reliance on employers to access social security benefits.
  - As employment is largely through word of mouth or personal referrals, employment contracts are rarely negotiated, leaving **the terms of employment to the whims of the employer**.
  - **Other issues include-** Major incidences of violence (physical and sexual) by employers and the lack of redressal machinery for workers in this rapidly developing domestic services industry.

### Who is a domestic worker?

- A domestic worker is a person who is involved in domestic work like cleaning, washing, cooking etc.
- He/she plays an important role in the wellbeing of the family but are often neglected and abused by the members of family and the society.

### Way ahead:

- If the domestic workers are taken as assets & human resource, their standard of living will increase if minimum wage is fixed.
- It is also important to create awareness about the significant role played by the domestic workers in the wellbeing of the members of family and society as a whole, thereby imparting behavioural change.

### Backgrounder- International Labour Organisation's Convention 189 on Decent Work for Domestic Workers:

- **The ILO convention 189 on domestic workers** mainly aims to provide domestic worker a decent working condition with daily and weekly (at least 24 h) rest hours, entitlement to minimum wage, to choose the place where they live and spend their leave and protective measures against violence etc.

### Why India has not ratified the convention?

- Daily household work is not considered as an economic activity in Indian society.
- Lack of education, awareness and domestic worker unions among domestic workers which are mainly women centric.
- Labour legislation comes under state government.
- The national laws and practices are not fully into conformity with the provisions of the Convention.
- One of the clauses of convention mentions "written contracts". Chances of misuse as many domestic workers are illiterate.
- Fear of misuse of unionisation: one of the clauses says "freedom of association and the effective recognition of the right to collective bargaining".

Sources: the hindu.

(Q) Why is India unwilling to ratify the International Labour Organisation's Convention 189 on Decent Work for Domestic Workers? Comment whether India should ratify this Convention or not.

(Q) Why is there a need for the Parliament to urgently enact a comprehensive law covering the rights of the country's roughly 20 million domestic workers? Examine.

**Topic:** Development processes and the development industry the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

## 1. PARTIAL CREDIT ENHANCEMENT (PCE)

### What to study?

- For Prelims and Mains: Meaning, features and significance of PCE and NBFCs.

**Context:** The Reserve Bank of India (RBI) has allowed banks to provide partial credit enhancement (PCE) to bonds issued by systemically important non-deposit taking non-banking financial companies (NBFCs) registered with the RBI and housing finance companies (HFCs) registered with the National Housing Bank.

### Significance:

- The move is aimed at enhancing the credit rating of the bonds and enabling these NBFCs to access funds from the bond market on better terms.
- PCE is expected to help NBFCs and HFCs raise money from insurance and provident or pension funds who invest only in highly-rated instruments.

### Key facts:

- The tenure of these bonds shall not be less than three years and proceeds from them shall only be utilized to refinance existing debt.
- Banks shall introduce appropriate mechanisms to monitor and ensure that the end-use condition is met.
- The central bank has restricted the exposure of a bank through PCEs to bonds issued by each such NBFC or HFC to 1% of capital funds of the bank within the current single and group borrower exposure limits.
- Banks are allowed to provide PCE as non-funded subordinated facility in the form of a contingent line of credit to be used in case of shortfall in cash flows for servicing the bonds and thereby improve the credit rating of the bond issue.

### Background:

- The incentive comes at a time when NBFCs and HFCs have requested the government and regulators to ensure that confidence returns to the market.
- They have sought relaxations of the National Housing Bank's credit rating norms related to refinance, lowering of the criterion on years of existence to one year, providing for 10% of the loan loss by the government and capital infusion in banks.

### BENEFITS FOR THE ISSUER:

- Typically, bonds issued by subsidiaries or special purpose vehicles (SPVs) of infrastructure companies seek enhancement. Since the projects take a long time to become operational and generate money, along with the risk of implementation, often their formal credit rating is not very high. Through the credit enhancement facility, the existing rating can be improved at an early stage, which enables the issuer to raise funds at a relatively lower yield. Higher the credit rating, lower is the cost of raising funds.
- Since these bonds are long-term in nature, they appeal to institutional investors like pension funds and insurers. However, these investors, especially pension funds, invest mostly in investment grade securities which are at least AA-rated. Credit enhancement makes the bonds more attractive by improving the rating enough so that institutional investors become interested in adding these to their portfolios.

### BENEFIT FOR THE INVESTOR:

- For the investor, the facility provides a sort of insurance in case of hard times. Basically, the credit enhancement gets used only when there is a shortfall in either paying interest or repaying principal.
- Hence, investors are more secure about repayment even if there is uncertainty regarding cash flows for some time.

### What is credit enhancement?

- Credit enhancement means improving the credit rating of a corporate bond. For example, if a bond is rated BBB, credit enhancement, which is basically an assurance of repayment by another entity, can improve the rating to AA. This is done to provide an additional source of assurance or guarantee to service the bond.
- RBI has now allowed banks to provide credit enhancement up to 20% of the total bond issue. This means banks (one or many together) can assure repayment of dues related to a bond issue up to 20% of the value. Other than banks, organisations such as India Infrastructure Finance Co. Ltd also provide this facility.

#### **BENEFITS FOR THE BOND MARKET:**

- The bond market will benefit as more issues get placed, which will help in developing the secondary market. This is useful in giving investors an early exit route, and in adding stability to secondary market transactions in long-term corporate bonds.
- At present, however, there is not much trading happening in long-term corporate bonds from infrastructure companies in the secondary market.

Sources: the hindu.

## **2. GLOBAL IT CHALLENGE FOR YOUTH WITH DISABILITIES 2018**

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

- **For Prelims: Objectives, features and organizers of the event.**
- **For Mains: Significance of the event, role of ICT in the welfare of people with disabilities.**

**Context:** The Global IT Challenge for Youth with Disabilities, 2018, being organised by the Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment in association with Rehabilitation International Korea and their associated partner LG Electronics, is being held in New Delhi.

#### **About the Global ICT Challenge for Youth with Disabilities:**

- The Global ICT Challenge for Youth with Disabilities is a capacity building project that helps youth with disabilities to overcome their limitations and challenge themselves for a better future by providing them with access to ICT and related experiences, improving their ability to leverage information and social participation while setting ICT agendas for participant countries related to disabilities and boosting international cooperation and exchange.
  - **The objective** of the event is to leverage IT skills among youth with disabilities and also to spread awareness about the application of Information and Computer Technology (ICT) in enhancing the quality of life of persons with disabilities especially in Asia-Pacific region.
  - **Participants:** This year around 100 youth with disabilities (visual disability, hearing disability, locomotor disability and intellectual disability/developmental disorder) from 18 countries are participating in the event.
  - **The competition is focused on** strategies for strengthening IT skills of youth with disabilities as a critical requirement for enhancing their access to information and communication services on an equal basis with others. It is being held with a total of four events including e-Tool Challenge to evaluate the skills of using the MS Office programme and e-Life Map Challenge to evaluate the online information search ability in specific situations.

#### **Significance of ICT:**

- Today, we have plethora of applications and softwares across the world that can be used for improving the life skills of persons with disabilities to enable them to lead the dignified life such ICT tools can work as communication bridge for the persons with disabilities.
- The use of ICT can reduce digital divide and expand social integration of persons with disabilities across communities and counties by creating an accessible global information network.

#### **Way ahead:**

- India has always been in the forefront of software development in the world. However, there is a need to create deeper and wider awareness about the application of ICT at the grass root level for empowering the person with disabilities.

Sources: pib.

## **3. INDIAN HEALTH FUND**

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

- **For Prelims: About the Fund, objectives and usage.**
- **For Mains: Significance and the need for such funds, significance of public participation in matters of health.**

**Context:** Tata Trust and The Global Fund backed Indian Health Fund (IHF) has chosen four innovators for early detection of tuberculosis (TB), malaria to effectively tackle these eradicate diseases.

#### **Key Facts:**

- The aim for selecting these innovators aims at leveraging technology for improving early detection and prompt treatment along with promoting diagnostics feasible for primary health care facilities.
- It also aims to support national efforts to effectively tackle eradicate these diseases which are crucial health challenges in India.
- Government has set a target of eliminating TB by 2025 and malaria by 2030. India contributes to 27% of the global TB burden and 68% of all malaria cases in the Southeast Asia region

#### **What is Indian Health Fund (IHF)?**

- IHF was launched in 2016 by Tata Trusts in collaboration with The Global Fund, to drive innovations towards key infectious disease challenges in India.
- It supports individuals and organisations with already germinated innovative strategies, services, products, such that they become sustainable and scalable solutions in addressing TB and malaria.
- The initiative is a long-term exercise aligned with country's goal of eliminating TB by 2025 and malaria by 2030. It will promote innovative solutions such that they are widely accessible and are affordable.

Sources: the hindu.

## **4. RAMAYANA EXPRESS**

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

- **For Prelims: About Ramayan Circuit and Swadesh Darshan scheme.**
- **For Mains: Significance of the circuit and the scheme.**

**Context:** The Shri Ramayana Express, a special tourist train to run on the Ramayana circuit to cover major spots related to the Hindu epic was recently flagged off from Safdarjung Railway Station in Delhi. The train will complete its journey till Rameswaram in Tamil Nadu, in 16 days covering all important destinations associated with the life of Lord Ram.

#### **All you need to know about Ramayan Circuit:**

- Ramayana Circuit is one of the fifteen thematic circuits identified for development under Swadesh Darshan scheme of Ministry of Tourism. Sitamarhi, Buxar, Darbhanga in Bihar are among the fifteen sites identified initially for development under this circuit in the country.
  - The destinations are chosen according to the places where Lord Ram is believed to have travelled across India.
  - The 15 destinations are — Ayodhya, Shringverpur and Chitrakoot in Uttar Pradesh, Sitamarhi, Buxar and Darbhanga in Bihar, Chitrakoot in Madhya Pradesh, Nandigram in West Bengal, Mahendragiri in Odisha, Jagdalpur in Chhattisgarh, Bhadrachalam in Telangana, Rameshwaram in Tamil Nadu, Hampi in Karnataka and Nashik and Nagpur in Maharashtra.

Sources: the hindu.

## **5. INTERNATIONAL TOURISM MART**

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

- **For Prelims and Mains: About ITM, its objectives and significance.**

**What is it?** The Ministry of Tourism, Government of India, in association with the Department of Tourism, Government of Tripura and the North Eastern States is organizing the 7<sup>th</sup> "International Tourism Mart" in Agartala, Tripura.

#### **Key facts:**

- **This is the 7th edition of the International Tourism Mart**, an annual event organised in the North Eastern region with the objective of highlighting the tourism potential of the region in the domestic and international markets.
  - It brings together the tourism business fraternity and entrepreneurs from the eight North Eastern States.



- The event has been planned and scheduled to facilitate interaction between buyers, sellers, media, Government agencies and other stakeholders.
- The International Tourism Marts are organised in the North Eastern States on rotation basis. The earlier editions of this mart have been held in Guwahati, Tawang, Shillong, Gangtok and Imphal.

**Background:**

- The North East Region of India comprising the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim, is endowed with diverse tourist attractions and products.
- The varied topography of the region, its flora and fauna, the ethnic communities with their rich heritage of ancient traditions and lifestyles, its festivals, arts and crafts, make it a holiday destination waiting to be explored.

**Need and significance of the event:**

- The ITM will see wide participation of International buyers and media delegates from countries around the world and from different regions of the country.
- They will be engaging in business-to-business meetings with sellers from the North Eastern Region.
- This will enable the tourism product suppliers from the region to reach out to international and domestic buyers, with the objective of promoting tourism to the region.

Sources: pib.

**Topic:** *Important aspects of governance, transparency & accountability and institutional and other measures.*

## PREVENTION OF CORRUPTION ACT

**What to study?**

- **Static Part: Proposed amendments to the Prevention of Corruption Act.**
- **Dynamic and Current: Need for Amendments, concerns associated and what needs to be done?**

**Context:** The Supreme Court has ordered the government to respond to a petition challenging two amendments to the Prevention of Corruption Act.

**Background:**

The amendments were:

- **The introduction of S. 17 A (1)** by which prior permission for investigation of corruption offences was required from the government.
- **The removal of S. 13 (1) (d) (ii)** (criminal misconduct) from the Act. It had earlier made it an offence for a public servant to abuse his position to give pecuniary or other advantage to a third party.

**Highlights of the Prevention of Corruption (Amendment) Bill, 2018:**

- **Punishment for bribe-taking enhanced:** Minimum punishment of 3 yrs, extendable up to 7 yrs with fine; from the earlier 6 months, with extension up to 3 yrs.
- **'Undue Advantage' expanded:** The earlier limited definition of "undue advantage" expanded to now include "anything other than legal remuneration".
- **Gifts criminalised:** Gifts received for established undue advantage/mala-fide motive are now considered an act of corruption.
- **Collusive bribe-givers criminalised:** For the first time, the giving of bribe has now been made a direct offence on par with taking of bribe. At the same time, protection has been built-in against coercive bribery, as long as the victim comes forward within 7 days.
- **Corporate bribery criminalised:** Superiors to be held if employee/agent has bribed with their approval, for advancement of the organisation's interests.
- **Immediate forfeiture:** Law enforcement empowered for immediate attachment & forfeiture of illegal property of a public servant, invoking provisions of the Prevention of Money Laundering Act (PMLA).
- **Timely trial mandated:** To conclude the investigation and trial within 2 yrs, extendable up to 4 yrs.

Sources: the hindu.

(Q) The amendments to Prevention of Corruption Act does a nice balancing act between avoiding policy paralysis and creating deterrence against corruption in public offices. Critically examine.

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

## 1. FIRST INDIA-NEPAL PASSENGER TRAIN ON BROAD GAUGE TO MAKE FIRST RUN IN DECEMBER

### What to study?

- For Prelims: Key facts on train between India and Nepal.
- For Mains: Implications of this train journey on India and how deepening friendship between the two countries may affect India and its security.

**Context:** The first passenger train to run on broad gauge between India and Nepal will run from December this year.

### Key facts:

- The train will run from Jayanagar in Bihar to Kurtha in Dhanusa district in Janakpur Zone of south-eastern Nepal, which is a 34 km stretch.
- **No visa** will be required for Indian and Nepalese nationals crossing the border through this stretch.

### Significance:

- After Beijing decided to extend its railway network up to Kathmandu, New Delhi proposed the construction of new railway links during Prime Minister K P Sharma Oli's recent visit to India. The move is being seen as part of efforts to counter China's plans to forge rail links with Nepal.

Sources: the hindu.

## 2. CHABAHAR PORT

### What to study?

- For Prelims: Location of Chabahar port.
- For Mains: Significance of the port for India, Challenges to its development.

**Context:** The United States has exempted India from imposition of certain sanctions for the development of the strategically-located Chabahar port in Iran, along with the construction of the railway line connecting it with Afghanistan.

- The decision by the Trump administration is seen as a recognition by Washington of India's role in development of the port on the Gulf of Oman, which is of immense strategic importance for the development of war-torn Afghanistan.



### Background:

- The US has imposed "the toughest ever" sanctions on a defiant Iran aimed at altering the Iranian regime's "behaviour".
- The sanctions cover Iran's banking and energy sectors and reinstate penalties for countries and companies in Europe, Asia and elsewhere that do not halt Iranian oil imports.

### Where is Chabahar port?

- Iran's Chabahar port is located on the Gulf of Oman and is the only oceanic port of the country.
- The port gives access to the energy-rich Persian Gulf nations' southern coast and India can bypass Pakistan with the Chabahar port becoming functional.

### Why Chabahar port is crucial for India?

- The first and foremost significance of the Chabahar port is the fact that **India can bypass Pakistan in transporting goods to Afghanistan**. Chabahar port will boost India's access to Iran, the key gateway to the International North-South Transport Corridor that has sea, rail and road routes between India, Russia, Iran, Europe and Central Asia.
- Chabahar port will be beneficial to India in **countering Chinese presence in the Arabian Sea** which China is trying to ensure by helping Pakistan develop the Gwadar port. Gwadar port is less than 400 km from Chabahar by road and 100 km by sea.

- With Chabahar port being developed and operated by India, ***Iran also becomes a military ally to India.*** Chabahar could be used in case China decides to flex its navy muscles by stationing ships in Gwadar port to reckon its upper hand in the Indian Ocean, Persian Gulf and Middle East.
- With Chabahar port becoming functional, ***there will be a significant boost in the import of iron ore, sugar and rice to India.*** The import cost of oil to India will also see a considerable decline. India has already increased its crude purchase from Iran since the West imposed ban on Iran was lifted.
- Chabahar port will ***ensure in the establishment of a politically sustainable connectivity between India and Afghanistan.*** This is will, in turn, lead to better economic ties between the two countries.
- From a diplomatic perspective, ***Chabahar port could be used as a point from where humanitarian operations could be coordinated.***

Sources: ndtv.

### 3. QUAD COUNTRIES TO FOCUS ON MARITIME SECURITY

#### What to study?

- For Prelims:** Members of the Quad grouping, countries in the Indian ocean region, Chinese military bases.
- For Mains:** The Quad grouping- features, significance, concerns and potential.

**Context:** The “Quad” countries, namely India, US, Japan and Australia, will hold their next meeting on the sidelines of the 13<sup>th</sup> East Asia Summit at Singapore in mid-November, with the grouping keen to step-up maritime security and disaster relief initiatives as well as economic development projects in the critical Indo-Pacific region.

#### Significance Quad- grouping for the US:

- The US believes the Quad, as one of the elements of its larger Indo-Pacific strategy for “a free, open and rules-based order” in face of an aggressive and expansionist China in the region, should eventually evolve into a ministerial-level dialogue imbued with a strong military dimension.
- But Washington also recognizes that New Delhi for now remains opposed to any militarization of the Quad, which was revived after a decade as a joint secretary-level dialogue in November 2017, with its second meeting being held in June this year. India has also made it clear that the US should not “conflate” the Indo-Pacific with the Quad, stressing the centrality of ASEAN in the former.

#### The Quad:

- Regional coalition known as the ‘Quad’, ***the quadrilateral formation includes Japan, India, United States and Australia.***
- All four nations find a common ground of being the democratic nations and common interests of unhindered maritime trade and security.
- The idea was first mooted by Japanese Prime Minister Shinzo Abe in 2007. However, the idea couldn’t move ahead with Australia pulling out of it.

#### Way ahead:

- Quad is an opportunity for like-minded countries to share notes and collaborate on projects of mutual interest. All four countries share a vision of an open and free Indo-Pacific. Each is involved in development and economic projects as well as in promoting maritime domain awareness and maritime security.
- The Quad grouping is one of the many avenues for interaction among India, Australia, Japan and the US and should not be seen in an exclusive context. Quad should not be seen in any comparative or in an exclusive context.

#### Maritime security and the need for it:

- With a vast coastline of about 7600 kilometres, island territories on both sides of the peninsula are sizeable Exclusive Economic Zone and sea borne trade, the greater part of which moves by ship; there are many strands to India’s composite maritime security including the safety of major ports plus aircraft carriers and nuclear submarines at strategic levels.

Sources: toi.

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

## 1. EAST ASIA SUMMIT

**What to study?**

- For Prelims and Mains: EAS- composition, objectives, significance for India and issues associated.

**Context:** 13th East Asia Summit is being held in Singapore.

- India has been participating in the EAS since its very inception in 2005.

**About East Asia Summit:**

- The East Asia Summit (EAS) is a forum held annually by leaders of, initially, 16 countries in the East Asian, Southeast Asian and South Asian regions. Membership expanded to 18 countries including the United States and Russia at the Sixth EAS in 2011.
- EAS meetings are held after annual ASEAN leaders' meetings.** The first summit was held in Kuala Lumpur, Malaysia on 14 December 2005.
- EAS is an initiative of ASEAN and is based on the premise of the centrality of ASEAN.
  - EAS has evolved as a forum for strategic dialogue and cooperation on political, security and economic issues of common regional concern and plays an important role in the regional architecture.
  - There are six priority areas of regional cooperation within the framework of the EAS. These are – Environment and Energy, Education, Finance, Global Health Issues and Pandemic Diseases, Natural Disaster Management, and ASEAN Connectivity. India endorses regional collaboration in all six priority areas.

**Evolution of EAS:**

- The concept of an East Asia Grouping was first promoted in 1991 by the then Malaysian Prime Minister, Mahathir bin Mohamad. The final report of the East Asian Study Group in 2002, established by the ASEAN+3 countries (i.e. China, Japan and ROK), recommended EAS as an ASEAN led development limited to the ASEAN +3 countries.
- However, the ASEAN Ministerial Meeting (AMM) held in Vientiane on July 26, 2005 welcomed the participation of ASEAN, China, Japan, Republic of Korea, Australia, India and New Zealand, in the first EAS. USA and the Russian Federation were formally included as members of the EAS at the 6th EAS held in Bali, Indonesia on 19 November 2011.

Sources: the hindu.

## 2. UN MIGRATION PACT

**What to study?**

- For Prelims: Global compact for migration- highlights.
- For Mains: Need for a global compact and the pattern of migration worldwide.

**Context:** The Australian Government has announced that it would not sign the UN Global Compact for Migration saying that the agreement would undermine its existing immigration policies. Australia argues that the Compact is inconsistent with its well-established policies and not in Australia's interest.

**Australia's arguments:**

- Australia believes that its immigration policy already promotes safe, orderly and regular migration. Hence, adopting the pact would risk encouraging illegal entry to Australia and reverse the hard-won successes in combating the people-smuggling trade.



#### **Background:**

- Australia's harsh immigration policy detains asylum-seekers who try to reach the country by boat on remote Pacific islands. While the policy has led to a decline in people-smuggling, hundreds of people are now being held in Papua New Guinea and Nauru.

#### **About Global Compact on Migration:**

- United Nations for first time has finalized Global Compact for Safe, Orderly and Regular Migration to better manage international migration, address its challenges, strengthen migrant rights and contribute to sustainable development.
- **The agreement will be formally adopted by world leaders in Morocco in December 2018.**

#### **Key facts:**

- The compact is the first intergovernmental agreement to cover wide-ranging dimensions of international migration in holistic and comprehensive manner, agreed upon by all the UN member states minus the United States.
- It sets out 23 objectives to deal issues ranging from factors that compel people to move, legal channels for migration, combating trafficking and smuggling, harnessing the economic benefits of migration and return of the migrants.
- It is not legally binding.

#### **Need for a global compact:**

- Over 250 million migrants worldwide account for 3% of the world's entire population, but contribute 10% of the global gross domestic production (GDP).
- Migrants remittance is huge contributor to their home countries' development.

#### **Way ahead:**

- The Global Compact for Migration (GCM) offers the international community the opportunity to improve workplace productivity and deliver decent work outcomes for migrant and national workers, as well as to shift current misperceptions of migration, by readjusting migration policies to effectively include all labour market aspects.

#### **Facts for Prelims:**

- The GCM is meant to be consistent with target 10.7 of the 2030 Agenda for Sustainable Development – in which Member States committed to cooperate internationally to facilitate orderly, safe and responsible migration.

Sources: the hindu.

### **3. PROTOCOL AMENDING INDIA-CHINA DTAA**

- The Government of Republic of India and the Government of the People's Republic of China have amended the **Double Taxation Avoidance Agreement (DTAA)** by signing a Protocol.

#### **Purpose of the amendment of DTAA:**

- For the avoidance of double taxation.
- For the prevention of fiscal evasion with respect to taxes on income.

#### **Additional changes by signing the Protocol:**

- It updates the existing provisions for exchange of information to the latest international standards.
- It incorporates changes required to implement treaty related minimum standards under the Action reports of **Base Erosion & Profit Shifting (BEPS)** Project, where India participated on an equal footing.

#### **Legal Provision:**

- Under **Section 90 of the Income-tax Act, 1961**, India can enter into an agreement with a foreign country or specified territory for the avoidance of double taxation of income, for the exchange of information for the prevention of evasion.

#### **Double Taxation Avoidance Agreement (DTAA):**

- It is referred as Tax Treaty, a bilateral economic agreement between two nations that aims to avoid or eliminate double taxation of the same income in two countries.
- A DTAA applies in cases where a tax-payer resides in one country and earns income in another.
- DTAAs can either be comprehensive to cover all sources of income or be limited to certain areas such as taxing of income from shipping, air transport, inheritance, etc.
- India has DTAAs with more than eighty countries.

## 4. PRESIDENT OF INDIA ADDRESSES NATIONAL ASSEMBLY OF VIETNAM

- The President of India held bilateral meetings with the President of Vietnam as well as led delegation-level talks.

The two countries signed and exchanged four agreements:

- An agreement between the Ministry of Information and Communication of Vietnam and the Ministry of Communications of India.
  - An agreement of cooperation between the Department of Foreign Affairs of Provinces, Ministry of Foreign Affairs, Vietnam, and the Indian Business Chamber in Vietnam.
  - An academic agreement between the Ho Chi Minh National Academy of Politics, Hanoi, and the Jawaharlal Nehru University, New Delhi.
  - An agreement between the Confederation of Indian Industry and the Vietnam Chamber of Commerce and Industry.
- Vietnam and India share a vision for the **Indo-Pacific Region**, where the **South China Sea** is a critical component.
  - Further, India has consistently supported ASEAN's unity and centrality and ASEAN-led mechanisms for regional security and economic architecture – to promote peace and prosperity in the Indo-Pacific Region.

**Indian investors are keen to strengthen their presence in Vietnam:**

- India seeks Vietnam's support in facilitating Indian investments in sectors like renewable energy, infrastructure, agriculture, textiles, pharmaceuticals, and oil and gas.
- India also looks forward to cooperation with Vietnam in improving agricultural productivity.

**Dialogue for Maritime Security:**

- India wants to enhance bilateral cooperation in the maritime domain – for instance, through our first **Bilateral Maritime Security Dialogue** to be hosted by Vietnam in early 2019.
- Maritime security, piracy, and drug trafficking using the oceans are issues of common concern.

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

## 1. WORLD'S FIRST SOVEREIGN BLUE BOND BY SEYCHELLES

**What to study?**

- For Prelims: Key features of the Blue Bond.**
- For Mains: Blue Bond- meaning, need, significance and issues associated.**

**Context:** The Republic of Seychelles has launched the world's first Sovereign Blue Bond, a financial instrument designed to support sustainable marine and fisheries projects. With this, Seychelles became the first nation to pioneer such a novel financing instrument.

- The bond raised USD 15 million from international investors. The bond demonstrates the potential for countries to harness capital markets for financing the sustainable use of marine resources.

**Key features and uses of the Blue Bond:**

- The Blue Bond is a part of an initiative that combines public and private investment to mobilise resources for empowering local communities and businesses. It will greatly assist Seychelles in achieving a transition to sustainable fisheries and safeguarding oceans.
- The Seychelles blue bond is partially guaranteed by a USD 5 million guarantee from the World Bank (IBRD) and is further supported by a USD 5 million concessional loan from the Global Environment Facility (GEF) which will partially cover interest payments for the bond.
- Proceeds from the bond will be utilised for the expansion of marine protected areas, improved governance of priority fisheries and the development of the Seychelles' blue economy.
- Proceeds from the bond will also contribute to the World Bank's South West Indian Ocean Fisheries Governance and Shared Growth Program, which supports countries in the region to sustainably manage their fisheries and increase economic benefits from their fisheries sectors.
- Grants will be provided through the Blue Grants Fund and will be managed by the Seychelles' Conservation and Climate Adaptation Trust (SeyCCAT).

- Loans will be provided through the Blue Investment Fund and will be managed by the Development Bank of Seychelles (DBS).

#### **Facts for Prelims:**

**The Seychelles is an archipelagic nation consisting of 115 granite and coral islands** in the Indian Ocean, off East Africa.

- As one of the world's biodiversity hotspots, Seychelles is balancing the need to develop economically and protect its natural resources.
- After tourism, the fisheries sector is the most important industry in the country, contributing significantly to annual GDP and employing 17 percent of the population. Fish products make up around 95% of the total value of domestic exports.

Sources: the hindu.

## **2. INDIA'S NUCLEAR TRIAD IS COMPLETE**

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

- **For Prelims: Key facts on India's nuclear triad.**
- **For Mains: NFU- need, concerns and why have it?**

**Context:** India has declared that its nuclear triad, stated in its nuclear doctrine, is operational after indigenous ballistic missile nuclear submarine INS Arihant recently achieved a milestone by conducting its first deterrence patrol.

- The submarine recently returned from its first deterrence patrol, completing the establishment of the country's survivable nuclear triad. INS Arihant is now capable of prowling the deep seas carrying ballistic missiles equipped with nuclear warheads.

#### **Significance:**

- This places India in the league of the few countries that can design, construct and operate ship submersible ballistic nuclear (SSBN).
- Given India's stated position of 'No-First-Use' (NFU) in launching nuclear weapons, the ship submersible ballistic nuclear (SSBN) is the most dependable platform for a second-strike. Because they are powered by nuclear reactors, these submarines can stay underwater indefinitely without the adversary detecting it. The other two platforms — land-based and air-launched are far easier to detect.

#### **About INS Arihant:**

- Arihant was commissioned into service in August 2016. It has a displacement of 6000 tonnes and is powered by an 83 MW pressurised light-water reactor with enriched uranium.

#### **India's NFU:**

- In 1998, India conducted nuclear tests under Pokhran-II and in 2003, it declared its nuclear doctrine based on credible minimum deterrence and a NFU policy while reserving the right of massive retaliation if struck with nuclear weapons first.

#### **What is no first use nuclear doctrine?**

- No first use (NFU) refers to a pledge or a policy by a nuclear power not to use nuclear weapons as a means of warfare unless first attacked by an adversary using nuclear weapons. Earlier, the concept had also been applied to chemical and biological warfare.
  - India first adopted a "No first use" policy after its second nuclear tests, Pokhran-II, in 1998. In August 1999, the Indian government released a draft of the doctrine which asserts that nuclear weapons are solely for deterrence and that India will pursue a policy of "retaliation only".
  - The document also maintains that India "will not be the first to initiate a nuclear first strike, but will respond with punitive retaliation should deterrence fail" and that decisions to authorise the use of nuclear weapons would be made by the Prime Minister or his 'designated successor(s)'.

#### **Why India should retain this policy?**

- Adopting a no-first use policy enables New Delhi to keep the nuclear threshold high, especially as Pakistan tries to lower the threshold by developing tactical nuclear weapons, the Hatf-9 with 60km range.
  - It must also be noted that New Delhi is not bordered by just one nuclear weapon state. China adopts a no-first use policy and, in spite of calls for Beijing to revise its no-first use doctrine, it is unlikely to do so. Hence, if New Delhi gave up its no-first use doctrine, it could give Beijing a chance to adopt a first strike policy and shift blame on India.

- In fact, India's adoption of a first strike policy would be an easy excuse for Beijing to give up its no-first use doctrine against the United States and Russia as well.
- Moreover, India has always promoted herself as a responsible nuclear weapon state. Hence, a first strike policy would severely damage India's reputation as a responsible nuclear weapon state. This means that while India would not be resilient to any nuclear attack by its adversaries, at the same time, it will not act as a villain who tries to bully its adversaries by threatening to strike first.
- Also, it is India's no first use doctrine that has enabled both Pakistan and India to keep their nuclear arsenal in a de-mated posture rather than a ready deterrent posture. This means nuclear warheads are not mated with the delivery systems. This reduces the chances of nuclear terrorism in Pakistan and also reduces the likelihood of an accidental launch of a nuclear weapon. A first strike policy by India may not have allowed Pakistan to keep their nuclear arsenal in a de-mated posture.
- There is also the issue of ballistic missile defense being developed by India which is highly destabilizing in nature and hence, New Delhi would continue to resort to using its no-first use doctrine in order to prevent instability in the South Asian region. A first-strike policy, coupled with a ballistic missile defense system, could provoke Pakistan to launch a nuclear pre-emptive strike against India.
- By adopting a no-first use doctrine, New Delhi has also made it evident that nuclear weapons are indeed the weapons of last resort. Abandoning this doctrine would make it evident that India considers the option of using nuclear weapons in the initial phases of the conflict. In fact, India's nuclear strategy is dependent on punitive retaliation. This strategy itself acts as deterrence against Pakistan.

Sources: the hindu.

### 3. INDIA VOTES AGAINST UNGA DRAFT RESOLUTION ON USE OF DEATH PENALTY

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

- **For Prelims:** Key facts on the resolution.
- **For Mains:** Significance of the resolution, India's views, capital punishment- arguments in favour and against.

**Context:** India has voted against a **United Nations General Assembly draft resolution on the use of death penalty**, saying it goes against the statutory law of the country where an execution is carried out in the “rarest of rare” cases.

#### **UN Against Death Penalty:**

- The draft resolution, taken up in the Third Committee (Social, Humanitarian, Cultural) of the General Assembly was approved with a recorded vote of 123 in favour, 36 against and 30 abstentions.
- The draft aimed to ensure that it is not applied on the basis of discriminatory laws or as a result of discriminatory or arbitrary application of the law.
- The resolution sought to promote a moratorium on executions with the aim of abolishing death penalty.
- India was among the countries that voted against the resolution, which would have the Assembly call on all States to respect international standards on the rights of those facing death penalty.

Sources: the hindu.

#### **India's views:**

- India has voted against the resolution as a whole, as it goes against statutory law in India. The death penalty is exercised in ‘rarest of rare’ cases, where the crime committed is so heinous that it shocks the conscience of the society.
- Indian law provides for all requisite procedural safeguards, including the right to a fair trial by an independent Court, presumption of innocence, the minimum guarantees for defence, and the right to review by a higher court.

## 4. E-REGISTRATION MUST FOR JOBS IN 18 COUNTRIES

### What to study?

- For Prelims: What is non- ECR status?
- For Mains: About the new rule, its significance, challenges involved and why it is needed?

**Context:** Ministry of External Affairs is planning to bring in a rule according to which Passport holders with “**non-Emigration Check Required (non-ECR)**” status will have to get themselves registered with the Ministry of External Affairs before taking up jobs abroad.

- The non-ECR category of passengers include Indians paying income tax and those with educational qualification above matriculation.
- As of now only ECR category passport holders were required to get emigration clearance from the office of the Protector of Emigrants to seek employment abroad.

### Key facts:

- The rule, which takes effect on January 1, is aimed at the welfare of Indians going abroad. It applies to jobs in 18 countries, including the six Gulf Cooperation Council nations, which have the largest number of expats.
- The objective of the directive is to protect workers with higher educational qualification from not getting into blue collar jobs. Previously only ECR stamped passport holders had to go through the mandatory e-migrate registration since 2015.
- All those seeking employment will have to register online via the website [www.emigrate.gov.in](http://www.emigrate.gov.in). Those failing to register at least 24 hours prior to actual departure will be off-loaded at the airports.

### Indians working abroad- relevant stats:

- Statistics available with the Ministry of External Affairs showed that UAE is one of the five top destination countries for Indians taking up employment. Nearly 1.5 lakh Indians had taken up employment in that country last year. This was followed by Saudi Arabia (78,611); Kuwait (56,380); Oman (43,332) and Qatar (24,759).
- The job roles were that of mason (52,833); labour (49,490); carpenter (41,588); helper (23,670); and electrician (17,703). Incidentally Uttar Pradesh has emerged as the top labour-sending State with 88,450 Indian emigrants registering with the e-migrate system. This was followed by Bihar (69,426); Tamil Nadu (38,341); West Bengal (36,599) and Rajasthan (32,184).
- The other countries where registration is required are Afghanistan, Indonesia, Iraq, Jordan, Lebanon, Libya, Malaysia, Sudan, South Sudan, Syria, Thailand and Yemen.

Sources: the hindu.

## 5. AZOV SEA AND RUSSIA-UKRAINE SEA CLASH

### What to Study?

- Static Part: Location of Azov Sea and Kerch strait.
- Dynamic and Current: Conflict on Azov sea between Russia and Ukraine, its political implications, impact on other countries, what needs to be done?

## Creating safeguards

Passport holders with the 'Emigration Check Not Required' status will have to get registered



**Rule applies to jobs in:** Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Afghanistan, Indonesia, Iraq, Jordan, Lebanon, Libya, Malaysia, Sudan, South Sudan, Syria, Thailand and Yemen

### Indians working abroad:

UAE (1.5 lakh), Saudi Arabia (78,611), Kuwait (56,380), Oman (43,332) and Qatar (24,759)

**Jobs taken:** Mason (52,833), labourer (49,490), carpenter (41,588), helper (23,670) and electrician (17,703)

**Why in News?** Russia's capture of three Ukrainian naval ships and over 20 crew members in the disputed Azov Sea has refocussed international attention on the conflict on Europe's eastern corridors and Azov sea.

#### About the conflict in the Sea of Azov:

- Ukraine and Russia accuse each other of violating international maritime law. They refer to the 1982 UN Convention on the Law of the Sea, which both states joined in the 1990s.
- Ukraine insists on freedom of movement in the Kerch Strait and the Sea of Azov in accordance with this agreement**, while the Russian side is trying to draw territorial borders. The countries also have a bilateral agreement on the free use of the Kerch Strait and the Sea of Azov, an accord that Russia has never called into question.

#### Why the Kerch Strait is important?

- The Kerch Strait is the only connection between the Black Sea and the Sea of Azov, and the only way to reach two important Ukrainian ports, Mariupol and Berdiansk. Russia has controlled the strait since annexing Crimea in 2014, which has made traffic significantly more difficult for Ukrainian ships.



**About Sea of Azov:** It is a sea in Eastern Europe. To the south it is linked by the narrow (about 4 km or 2.5 mi) Strait of Kerch to the Black Sea, and it is sometimes regarded as a northern extension of the Black Sea.

- The sea is bounded in the north and in the west by Ukraine, in the east by Russia.
- The Don and Kuban are the major rivers that flow into it.
- The Sea of Azov is the shallowest sea in the world, with the depth varying between 0.9 and 14 metres.

Sources: the Hindu.

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

## 1. UNITED NATIONS WORLD TOURISM ORGANIZATION (UNWTO)

#### What to study?

- For Prelims and Mains: UNWTO and related key facts.

**Context:** 109<sup>th</sup> session of United Nations World Tourism Organization (UNWTO) Executive Council is being held in Manama, Bahrain.

The Executive Council will discuss several topics on the agenda that are related to the development of global Tourism sector.

#### About UNWTO:

##### What is it?

- The World Tourism Organization (UNWTO) is the United Nations agency responsible for the promotion of responsible, sustainable and universally accessible tourism.

##### Members:

- UNWTO's membership includes 158 countries, 6 Associate Members and over 500 Affiliate Members representing the private sector, educational institutions, tourism associations and local tourism authorities.

##### What it does?

- As the leading international organization in the field of tourism, UNWTO promotes tourism as a driver of economic growth, inclusive development and environmental sustainability and offers leadership and support to the sector in advancing knowledge and tourism policies worldwide.

- UNWTO encourages the implementation of the Global Code of Ethics for Tourism, to maximize tourism's socio-economic contribution while minimizing its possible negative impacts, and is committed to promoting tourism as an instrument in achieving the Sustainable Development Goals (SDGs), geared towards reducing poverty and fostering sustainable development worldwide.
- UNWTO generates market knowledge, promotes competitive and sustainable tourism policies and instruments, fosters tourism education and training, and works to make tourism an effective tool for development through technical assistance projects in over 100 countries around the world.

Sources: pib.

## 2. INTERNATIONAL SOLAR ALLIANCE (ISA)

### **What to study?**

- **For Prelims:** ISA.
- **For Mains:** Renewable energy and its significance, India's leadership in the sector.

**Context:** The Union Cabinet has given ex-post facto approval for moving a Resolution in the first Assembly of the International Solar Alliance (ISA) for amending the Framework Agreement of the ISA for opening up the ISA membership to all countries that are members of the United Nations.

### **Benefits:**

- Opening the membership of the ISA will put solar energy in global agenda with the universal appeal for developing and deploying solar energy.
- It will make ISA inclusive, whereby all member countries that are members of the United Nations could become member.
- Expanding membership will lead to ISA initiative benefitting the world at large.

### **About ISA:**

The Paris Declaration establishes ISA as an alliance dedicated to the promotion of solar energy among its member countries.

- **Objectives:** The ISA's major objectives include global deployment of over 1,000GW of solar generation capacity and mobilisation of investment of over US\$ 1000 billion into solar energy by 2030.
- **What it does?** As an action-oriented organisation, the ISA brings together countries with rich solar potential to aggregate global demand, thereby reducing prices through bulk purchase, facilitating the deployment of existing solar technologies at scale, and promoting collaborative solar R&D and capacity building.
- **When it entered into force?** When the ISA Framework Agreement entered into force on December 6th, 2017, ISA formally became a de-jure treaty based International Intergovernmental Organization, headquartered at Gurugram, India.

Sources: pib.

## 3. UN HABITAT

### **What to study?**

- **For Prelims and Mains:** Composition, objectives, functions and significance of NMCG and UN Habitat, World Cities Day and its significance.

**Context:** The National Mission for Clean Ganga partnered with UN Habitat recently organized a policy dialogue-'Urban Cafe: River for Habitat' in New Delhi on the occasion of World Cities Day 2018.

- Experts in the sector got together to discuss the deep association that rivers have with various aspects of human civilization – our cities, our economy and various facets of our daily lives, the challenges to maintaining healthy river ecosystems and ways to deal with the same.

### **About UN Habitat:**

The United Nations Human Settlements Programme (UN-Habitat) is the United Nations agency for human settlements and sustainable urban development.

It was established in 1978 as an outcome of the First UN Conference on Human Settlements and Sustainable Urban Development (Habitat I) held in Vancouver, Canada in 1976.

- It is mandated by the United Nations General Assembly to promote socially and environmentally sustainable towns and cities with the goal of providing adequate shelter for all. It is a member of the United Nations Development Group.
- The mandate of UN-Habitat derives from the Habitat Agenda, adopted by the United Nations Conference on Human Settlements (Habitat II) in Istanbul, Turkey, in 1996. The twin goals of the Habitat Agenda are adequate shelter for all and the development of sustainable human settlements in an urbanizing world.
- As an inter-governmental policy making and decision making body, the Governing Council of UN-Habitat seeks to promote integral and comprehensive approach to human settlements, assist the countries and regions in addressing human settlement problems and strengthen cooperation among all countries on human settlement issue.
- UN-Habitat **reports to the United Nations General Assembly**.

#### **World Cities Day 2018:**

- World Cities Day is celebrated every year on October 31<sup>st</sup>.
- **Theme:** “Building sustainable and resilient cities”.
- **Significance:** The Day is expected to greatly promote the international community’s interest in global urbanization, push forward cooperation among countries in meeting opportunities and addressing challenges of urbanization, and contributing to sustainable urban development around the world.

Sources: pib.

## **4. SOCIETY FOR WORLDWIDE INTERBANK FINANCIAL TELECOMMUNICATION**

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

- **For Prelims:** About SWIFT, its composition and functions.
- **For Mains:** Implications of sanctions by US on Iran.

**Context:** The Head of the US Treasury Steven Mnuchin has announced that Washington wants the world-wide payment network to cut off its services to the entities that were affected by Iran sanctions and warned that otherwise SWIFT might be sanctioned as well.

#### **Background:**

- The US will reintroduce sanctions against Tehran that were earlier lifted under the Iran nuclear deal, on November 5. These sanctions will affect the country’s energy, banking, and shipping sectors.

#### **What is SWIFT?**

- The SWIFT is a global member-owned cooperative that is headquartered in Brussels, Belgium.
- It was founded in 1973 by a group of 239 banks from 15 countries which formed a co-operative utility to develop a secure electronic messaging service and common standards to facilitate cross-border payments.
- It carries an average of approximately 26 million financial messages each day. In order to use its messaging services, customers need to connect to the SWIFT environment.

#### **Functions:**

- 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.



### **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.

## **5. SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION (SAARC)**

### **What to study?**

- **For Prelims:** Features, objectives and composition of SAARC.
- **For Mains:** Significance of SAARC, role of China in SAARC, should it be given a permanent seat? Implications.

**Context:** Giving a boost to China's long standing demand, Pakistan recently said that it supported active participation of China at the platform of the South Asian Association for Regional Cooperation (SAARC).

### **Why China is demanding a greater role?**

- China has a status of an observer state in South Asia, however an observer state can get involve with SAARC members on specific initiatives, but they do not have voting rights.
- China entered SAARC as an observer in 2005, supported by most member states.

### **India's concerns and fears:**

- **If China is given a greater role, India fears that its neighbours will come together to oppose the country's interests,** particularly under the influence of Pakistan and China. India's neighbours are attracted to China, because of its greater economic resources, as also it has the potential to counter India. China's influence can be witnessed even in Nepal. To enhance strategic ties with Nepal, China has been investing heavily in that country; it has opened land-port between Nepal and Tibet named as Kyirong which will affect the regional strategic balance.
- **The growing friendship with China and Pakistan is viewed by many as a joint tactic to offset India's dominance in the South Asian region.** One of the most famous project, is China-Pakistan Economic Corridor (CPEC) which strategically aims at providing links between the overland Silk Road and maritime Silk Road. Due to this project China becomes one of the major investors in Pakistan.
- It has been agreed that China's entry in SAARC as a full-member can give a push to SAARC to grow as a regional bloc as China's global economic influence can help SAARC in international forum. But, **growing alliances between China and Pakistan may work against India and which will hamper the regional progress.** It has also been feared that China may block the projects which are both strategically and economically important for India.



### **About SAARC:**

- The South Asian Association for Regional Cooperation (SAARC) was established with the signing of the SAARC Charter in Dhaka on 8 December 1985. The Secretariat of the Association was set up in Kathmandu on 17 January 1987.
- **SAARC comprises of eight Member States:** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- **Important objectives of the Association** as outlined in the SAARC Charter are: to promote the welfare of the peoples of South Asia and to improve their quality of life; to accelerate economic growth, social progress and cultural development in the region and to provide all individuals the opportunity to live in dignity and to realize their full potentials; to promote and strengthen collective self-reliance among the countries of South Asia.

### **Way ahead:**

- China is becoming member of different regional blocs due to its growing economic and military might.
- China's active and aggressive diplomacy, trade and investments, many cooperative agreements with SAARC nations is thus enabling it to have a greater influence in south Asia. India needs to re-think its regional strategies as rise of China will impact India.
- Often it is viewed that the rise of China will decrease India's influence in South Asia.

Sources: the hindu.

## **6. INTERNATIONAL TELECOMMUNICATIONS UNION (ITU)**

### **What to study?**

- **For Prelims and Mains: ITU and related information.**

**Context:** India has been elected as a Member of the International Telecommunications Union (ITU) Council for another 4-year term (2019-2022). The elections to the Council were held during the ongoing ITU Plenipotentiary Conference 2018 at Dubai, UAE.

- By securing 165 votes, India ranked third among the 13 countries elected to the Council from the Asia-Australasia region, and eighth among the 48 countries elected to the Council globally. The ITU has 193 member states who elect representatives to the Council.

### **About International Telecommunication Union (ITU):**

- The International Telecommunication Union (ITU) is **an agency of the United Nations (UN)** whose purpose is to coordinate telecommunication operations and services throughout the world.
- Originally founded in 1865, as the International Telegraph Union, the ITU is the oldest existing international organization.
- ITU headquarters are in Geneva, Switzerland.

### **The ITU consists of three sectors:**

1. **Radiocommunication (ITU-R)** — ensures optimal, fair and rational use of the radio frequency (RF) spectrum.
2. **Telecommunication Standardization (ITU-T)** — formulates recommendations for standardizing telecommunication operations worldwide.
3. **Telecommunication Development (ITU-D)** — assists countries in developing and maintaining internal communication operations.

### **Membership:**

- There are 193 Member States of the ITU, including all UN member states except the Republic of Palau, plus the Vatican City.
- Membership of ITU is open to only UN members, which may join the Union as Member States, as well as to private organizations like carriers, equipment manufacturers, funding bodies, research and development organizations and international and regional telecommunication organizations, which may join ITU as non-voting Sector Members.

### **Functions:**

- The ITU sets and publishes regulations and standards relevant to electronic communication and broadcasting technologies of all kinds including radio, television, satellite, telephone and the Internet.
- The organization conducts working parties, study groups and meetings to address current and future issues and to resolve disputes. The ITU organizes and holds an exhibition and forum known as the Global TELECOM every four years.
- Another important aspect of the ITU's mandate is helping emerging countries to establish and develop telecommunication systems of their own.
- Although the recommendations of the ITU are non-binding, most countries adhere to them in the interest of maintaining an effective international electronic communication environment.

Sources: pib.

## **7. UNITED NATIONS POSTAL SYSTEM**

### **What to study?**

- **For Prelims and Mains: About UNPS, composition, objectives and significance.**

**Context:** United Nations Postal Administration (UNPA) has issued special stamps with Diyas lamps to commemorate India Hindu festival of Diwali.

**Key Facts:**

- The special event sheet (stamps) issued by UNPA are in denomination of US \$1.15.
- It contains ten stamps and tabs featuring festive lights and symbolic lamps known as diyas.
- The background of sheet features United Nations Headquarters building illuminated with message of "Happy Diwali" to celebrate the spirit of the festival.
- The description accompanying information about stamps mentioned that Diwali, also known as Deepawali is joyous and popular festival of lights, which is celebrated in India and by followers of many faiths across the world.
- It also said that during celebration clay lamps known as diyas are lit to signify the victory of good over evil. The festival also symbolises start of new year for many communities.

Sources: [toi](#).

**About United Nations Postal Administration (UNPA):**

- It is postal agency of United Nations. It issues postage stamps and postal stationery, denominated in United States dollars for United Nations offices in New York, in Swiss francs for offices in Geneva and in euros for the offices in Vienna.
- Postage rates charged are identical to those of the host nation.

## 8. WORLD FOOD PROGRAMME (WFP)

**What to study?**

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

**Context:** United Nations World Food Programme (WFP) and Chinese e-commerce giant Alibaba Group have formed strategic partnership to support efforts eliminate hunger globally by 2030.

- As per the agreement, Alibaba will lend its cutting-edge technology and resources to support digital transformation of WFP's operations.

**"World Hunger Map":**

- Alibaba Cloud, the cloud computing arm of Alibaba will work with WFP to develop digital "World Hunger Map".
- The map will help to monitor global hunger and operations to end scourge by 2030 which is one of UN's key Sustainable Development goals.
- It also aims to boost efficiency of interventions and shorten emergency response times.

**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.

Sources: [the hindu](#).

## 9. ADVANCED MOTOR FUELS TECHNOLOGY COLLABORATION PROGRAMME

**What to study?**

- **For Prelims and Mains: Features, significance and benefits of the programme.**

**Context:** The Union Cabinet has been apprised of India joining as Member of Advanced Motor Fuels Technology Collaboration Programme (AMF TCP) under International Energy Agency (IEA).

- The primary goal of joining AMF TCP by India to bring down emissions and achieve higher fuel efficiency in transport sector.

### **What is Advanced Motor Fuels Technology Collaboration Programme?**

- AMF TCP is **an international platform under the framework of International Energy Agency (IEA)** for co-operation among countries to promote cleaner and more energy efficient fuels & vehicle technologies.
- The activities of AMF TCP are deployment and dissemination of Advanced Motor Fuels. It looks upon the transport fuel issues in a systemic way taking into account the production, distribution and end use related aspects.
- AMF TCP also provides an opportunity for fuel analysis, identifying new/ alternate fuels for deployment in transport sector and allied R&D activities for reduction in emissions in fuel intensive sectors.

### **India and Other Members:**

- Ministry of Petroleum & Natural Gas has joined AMF TCP as its 16th member in May, 2018.
- The other member Countries of AMF TCP are USA, China, Japan, Canada, Chile, Israel, Germany, Austria, Sweden, Finland, Denmark, Spain, Republic of Korea, Switzerland and Thailand.

### **Benefits for India:**

- India's association with AMF TCP will help in furthering its efforts in identification & deployment of suitable fuels for transport sector for higher efficiency and lesser emissions.
- The benefits of participation in AMF TCP are shared costs and pooled technical resources.
- The duplication of efforts is avoided and national Research and Development capabilities are strengthened.
- There is an information exchange about best practices, network of researchers and linking research with practical implementation.
- After becoming member, India will initiate R&D in other areas of its interest in advanced biofuels and other motor fuels in view of their crucial role in substituting fossil fuel imports.

Sources: the hindu.

## **10. INDIAN OCEAN NAVAL SYMPOSIUM (IONS)**

### **What to study?**

- **For Prelims and Mains: IONS- key facts, objectives and significance.**

**Context:** The 10th anniversary celebrations of the Indian Ocean Naval Symposium (IONS) is being held in Kochi.

- The commemorative Special Cover of IONS 10th Anniversary celebrations depicts a map of the Indian Ocean and littoral countries of the IOR, signifying the geopolitical importance of the region.

### **About IONS:**

- IONS, the 21st century's first significant international maritime security initiative launched in February 2008, provides a forum for discussion of regional maritime issues and promotes friendly relationships among member nations. It presently has 24 members and eight observer navies.
- **It is a voluntary initiative** that seeks to increase maritime co-operation among navies of the littoral states of the Indian Ocean Region by providing an open and inclusive forum for discussion of regionally relevant maritime issues and, in the process, endeavors to generate a flow of information between naval professionals that would lead to common understanding and possibly agreements on the way ahead.
- Under the charter of business adopted in 2014, the grouping has working groups on Humanitarian Assistance and Disaster Relief (HADR), Information Security and Interoperability (IS&I) and anti-piracy now renamed as maritime security.

Sources: pib.

## **11. WORLD CUSTOMS ORGANISATION (WCO)**

### **What to study?**

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

**Context:** A regional meeting of World Customs Organisation (WCO) was held recently in Jaipur, Rajasthan.

### **Outcomes of the meeting:**

- The meeting deliberated upon various issues including the steps required for the capacity building and reforms in customs.

- It also discussed and deliberated upon amended Kyoto protocol, digital customs, e-commerce among other issues.
- Summary of various efforts made by National Trade Facilitation Committee (NTFC) for trade facilitation was also tabled in the meeting.

#### **World Customs Organisation (WCO):**

- **What is it?** WCO is independent intergovernmental body whose mission is to enhance effectiveness and efficiency of Customs administrations. It was established in 1952 as Customs Co-operation Council (CCC). It is the only international organization with competence in Customs matters and is considered as voice of international Customs community.
- **It is headquartered** in Brussels, Belgium.
- **Composition:** It represents 182 Customs administrations across the globe that collectively process approximately 98% of world trade.
- **Functions:** It plays leading role in discussion, development, promotion and implementation of modern customs systems and procedures. It offers range of Conventions and other international instruments, as well as technical assistance and training services to its members. It also actively supports its members in their endeavours to modernize and build capacity within their national Customs administrations.
- **Objectives:** It aims to enhance efficiency and effectiveness of member customs administrations and assist them to contribute successfully to national development goals, particularly revenue collection, national security, trade facilitation, community protection, and collection of trade statistics.

Sources: the hindu.

## **12. ASIA-PACIFIC ECONOMIC COOPERATION (APEC)**

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

- **For Prelims and Mains: APEC- objectives, composition, challenges, significance and potential.**

**Context:** The 2018 APEC summit was held recently held in Papua New Guinea.

#### **Outcome of the summit:**

- It ended with no joint statement from the leaders – a first in APEC history – and with the fight for dominance in the Pacific region between Australia, the US and Japan on one side and China on the other, coming out into the open.



#### **APEC:**

- The Asia-Pacific Economic Cooperation (APEC) is a regional economic forum established in 1989 to leverage the growing interdependence of the Asia-Pacific. APEC has 21 members.
- **Aim:** to create greater prosperity for the people of the region by promoting balanced, inclusive, sustainable, innovative and secure growth and by accelerating regional economic integration.

#### **Functions:**

- APEC works to help all residents of the Asia-Pacific participate in the growing economy. APEC projects provide digital skills training for rural communities and help indigenous women export their products abroad.
- Recognizing the impacts of climate change, APEC members also implement initiatives to increase energy efficiency and promote sustainable management of forest and marine resources.
- The forum adapts to allow members to deal with important new challenges to the region's economic well-being. This includes ensuring disaster resilience, planning for pandemics, and addressing terrorism.

#### **Members:**

- APEC's 21 member economies are Australia; Brunei Darussalam; Canada; Chile; People's Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Peru; The Philippines; The Russian Federation; Singapore; Chinese Taipei; Thailand; United States of America; Viet Nam.
- APEC Members account for approximately 40% of the world's population, approximately 54% of the world's gross domestic product and about 44% of world trade.

## 13. REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP (RCEP)

### What to study?

- **Static Part:** RCEP- Key facts and Geographical location of member countries.
- **Dynamic and Current:** Why is India concerned, gains and losses from this, what India needs to do?

**Context:** With just about 40% of the agenda items having been resolved, there is still a long way to go before the Regional Comprehensive

Economic Partnership (RCEP) talks are concluded. It was agreed during the recently-concluded Singapore Ministerial meeting that the deadline for an agreement be shifted to 2019.

### Outcomes of the Singapore Ministerial Meeting:

- India had scored big diplomatic points at the Singapore meeting by getting the countries gathered to omit the phrase '**significant conclusions**' from the leaders' statements. Some major economies such as China and Japan felt that the phrasing should be that "substantial conclusions" had been achieved. India strongly opposed this.

### Why India opposed?

- India discovered that in some countries' trade parlance, 'substantial conclusions' is a legal terminology. Adopting the term would have implied that discussions on market access were over, and that those countries would have to disclose the discussions to their Parliaments, and to their public. This has serious implications because only five out of 16 chapters had been concluded, and after the meeting in Singapore only seven had been concluded. None of the 7 chapters settled had to do with market access, discussions on which would have been seriously jeopardised.
- After India pointed this out, several other countries such as Philippines, Indonesia, Malaysia, Vietnam, and Australia also took up the issue and supported India's position on the matter.

### 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.

Sources: the hindu.

(Q) RCEP negotiations hold significant importance for India, as opting out of RCEP may push India on the margins of Asia. Critically analyse.

(Q) Indian policymakers need to be mindful of domestic industry's concerns and not get into a raw deal with respect to the RCEP. Critically analyse.

## **14. UN CENTRAL EMERGENCY RESPONSE FUND**

### **What to study?**

- **Static Part: Key features of UN Central Emergency Fund- operation, funding and management.**
- **Dynamic and Current: Significance of the fund and overview of economic crisis in Venezuela.**



**Context:** The United Nations has announced \$9.2 million in health and nutritional aid for crisis-stricken Venezuela, where hunger and preventable disease are soaring amid the collapse of the country's socialist economic system.

- The U.N. Central Emergency Response Fund (CERF) will support projects to provide nutritional support to children under five years old, pregnant women and lactating mothers at risk, and emergency health care for the vulnerable.

### **Need:**

- Venezuela has been in an economic depression for at least half a decade, adding to hyperinflation and mass food shortages. Millions of citizens have left Venezuela to find more opportunity in other Latin American countries.

### **About the UN Central Emergency Response Fund:**

- It is a humanitarian fund established by the United Nations General Assembly on December 15, 2005 and launched in March 2006.
- **With CERF's objectives** to 1) promote early action and response to reduce loss of life; 2) enhance response to time-critical requirements; and 3) strengthen core elements of humanitarian response in underfunded crises, CERF seeks to enable more timely and reliable humanitarian assistance to those affected by natural disasters and armed conflicts.
- **The fund is replenished annually through** contributions from governments, the private sector, foundations and individuals.

#### **Allocations:**

The CERF grant element is divided into two windows:

1. **Rapid Responses** (approximately two thirds of the grant element)
  - The Rapid Response window provides funds intended to mitigate the unevenness and delays of the voluntary contribution system by providing seed money for life-saving, humanitarian activities in the initial days and weeks of a sudden onset crisis or a deterioration in an ongoing situation.
  - The maximum amount applied to a crisis in a given year typically does not exceed \$30 million, although higher allocations can be made in exceptional circumstances.
2. **Underfunded Emergencies** (approximately one third of the grant element).
  - The Underfunded Emergencies window supports countries that are significantly challenged by “forgotten” emergencies.

#### **What is the Venezuela crisis?**

- Hyperinflation is the biggest problem faced by Venezuela. The inflation rate there is expected to reach a stunning one million per cent this year, putting it on par with the crises of Zimbabwe in the 2000s and Germany in the 1920s, according to the International Monetary Fund.
- The government claims that the country is the victim of an “economic war” and that the major issues are due to opposition “plots” and American sanctions.

#### **What caused this increase?**

- The plummeting oil prices since 2014 is one of the main reasons why Venezuela’s currency has weakened sharply. The country, which has rich oil reserves largely depended on it for its revenue.
- But when the oil price dropped drastically in 2014, Venezuela which received 96 per cent of its revenue from the oil exports, suffered a shortage of foreign currency.
- This made import of basic essentials like food and medicines difficult.

Sources: the hindu.

## **15. UNESCO’S LIST OF INTANGIBLE CULTURAL HERITAGE**

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

- **Static Part: About UNESCO List of Intangible Cultural Heritage, Indian entries in the list, about Reggae.**
- **Dynamic and Current: Significance of the list and the need for conservation.**

**Context:** UNESCO, the United Nations Educational, Scientific and Cultural Organization, has added **reggae to its list of cultural institutions worthy of protection and preservation.**

#### **Background:**

- Each year, UNESCO adds to its Representative List of the Intangible Cultural Heritage of Humanity, and Jamaica submitted reggae for consideration earlier this year. The genre now joins a list of over 300 cultural traditions, including numerous musical ones such as Dominican merengue, Slovakian bagpipe music and Vietnamese xoan singing.

#### **About Reggae:**

- It is **Jamaican music originating from marginalized groups**, mainly in Western Kingston. It was started out as voice of marginalized. But now it is played and embraced by wide cross-section of society, including various genders, ethnic and religious groups.

#### **About UNESCO’s List of Intangible Cultural Heritage:**

- This coveted list is made up of those intangible heritage elements that help demonstrate diversity of cultural heritage and raise awareness about its importance.
- The list was established in 2008 when Convention for Safeguarding of the Intangible Cultural Heritage came into effect.
- **It has two parts viz. Representative List of Intangible Cultural Heritage of Humanity and List of Intangible Cultural Heritage in Need of urgent safeguarding.**

#### **From India the Intangible Cultural Heritages added into this list include:**

- Tradition of Vedic chanting
- Ramlila, the traditional performance of the Ramayana
- Kutiyattam, Sanskrit theatre
- Ramman, religious festival and ritual theatre of the Garhwal Himalayas.
- Mudiyettu, ritual theatre and dance drama of Kerala

- Kalbelia folk songs and dances of Rajasthan
- Chhau dance
- Buddhist chanting of Ladakh: recitation of sacred Buddhist texts in the trans-Himalayan Ladakh region, Jammu and Kashmir.
- Sankirtana, ritual singing, drumming and dancing of Manipur
- Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab
- Yoga
- Nawrouz
- Kumbh Mela

Sources: the hindu.

## 16. G20 SUMMIT 2018 BEGINS IN ARGENTINA

### **What to study?**

- **Static Part: All about G20.**
- **Dynamic and Current: Significance, composition, issues associated and need for revamping the grouping.**

**Context:** *The 2018 G20 Summit is being held in the city of Buenos Aires, Argentina.* Nineteen leaders of the world's biggest economies and a representative of the European Union will be holding a meeting on November 30 as part of the G20 summit.

### **G20 Summit 2018:**

- It will be the **13th meeting of Group of Twenty (G20) and the first G20 summit to be hosted in South America.**

### **About G20:**

- Formed in 1999, the G20 is an international forum of the governments and central bank governors from 20 major economies.
  - Collectively, the G20 economies account for around 85 percent of the Gross World Product (GWP), 80 percent of world trade.
  - To tackle the problems or the address issues that plague the world, the heads of governments of the G20 nations periodically participate in summits. In addition to it, the group also hosts separate meetings of the finance ministers and foreign ministers.
  - **The G20 has no permanent staff** of its own and its chairmanship rotates annually between nations divided into regional groupings.
  - The first G20 Summit was held in Berlin in December 1999 and was hosted by the finance ministers of Germany and Canada.

### **Objectives:**

- The Group was formed with an aim of studying, reviewing, and promoting high-level discussion of policy issues pertaining to the promotion of international financial stability.
- The forum aims to pre-empt balance of payments problems and turmoil on financial markets by improved coordination of monetary, fiscal, and financial policies.
- The forum seeks to address issues that go beyond the responsibilities of any one organisation.

### **Member Countries:**

- The members of the G20 consist of 19 individual countries plus the European Union (EU).
  - The 19 member countries of the forum are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, United Kingdom and the United States.
  - The European Union is represented by the European Commission and by the European Central Bank.
- Shaktikanta Das, the former Secretary of the Department of Economic Affairs (DEA), has been appointed as India's G20 Sherpa till December 31, 2018 for the Development Track of the G20 summit.
- A **Sherpa** is a personal representative of the leader of a member country at an international Summit meeting such as the G8, G20 or the Nuclear Security Summit and are responsible for thrashing out the details before the meeting of the leaders.

INSIGHTSIAS

# GENERAL STUDIES -III

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

## 1. PUBLIC CREDIT REGISTRY (PCR)

### What to study?

- For Prelims and Mains: PCR- features, need, significance and the recommendations made by Deosthalee committee.

**Context:** The Reserve Bank has initiated steps to set up a wide-based digital Public Credit Registry (PCR) to capture details of all borrowers, including wilful defaulters and also the pending legal suits in order to check financial delinquencies.

- The PCR will also include data from entities like market regulator SEBI, the Corporate Affairs Ministry and the Insolvency and Bankruptcy Board of India to enable banks and financial institutions to get a 360-degree profile of existing and prospective borrowers on a real-time basis.

### About Public Credit Registry:

#### What is it?

- The PCR will be an extensive database of credit information for India that is accessible to all stakeholders.
- The idea is to capture all relevant information in one large database on the borrower and, in particular, the borrower's entire set of borrowing contracts and outcomes.

#### Management of PCR:

- Generally, a PCR is managed by a public authority like the central bank or the banking supervisor, and reporting of loan details to the PCR by lenders and/or borrowers is mandated by law.
- The contractual terms and outcomes covered and the threshold above which the contracts are to be reported vary in different jurisdictions, but the idea is to capture all relevant information in one large database on the borrower, in particular, the borrower's entire set of borrowing contracts and outcomes.

#### Need for a PCR:

- A central repository, which, for instance, captures and certifies the details of collaterals, can enable the writing of contracts that prevent over-pledging of collateral by a borrower. In absence of the repository, the lender may not trust its first right on the collateral and either charge a high cost on the loan or ask for more collateral than necessary to prevent being diluted by other lenders. This leads to, what in economics is termed as, pecuniary externality – in this case, a spillover of one loan contract onto outcomes and terms of other loan contracts.
- Furthermore, absent a public credit registry, the 'good' borrowers are disadvantaged in not being able to distinguish themselves from the rest in opaque credit markets; they could potentially be subjected to a rent being extracted from their existing lenders who enjoy an information monopoly over them. The lenders may also end up picking up fresh clients who have a history of delinquency that is unknown to all lenders and this way face greater overall credit risk.

#### Benefits of having a PCR:

- A PCR can potentially help banks in credit assessment and pricing of credit as well as in making risk-based, dynamic and counter-cyclical provisioning.
- The PCR can also help the RBI in understanding if transmission of monetary policy is working, and if not, where are the bottlenecks.
- Further, it can help supervisors, regulators and banks in early intervention and effective restructuring of stressed bank credits.
- A PCR will also help banks and regulators as credit information is a 'public good' and its utility is to the credit market at large and to society in general.

#### Task force on PCR:

- The Reserve Bank of India (RBI) had formed a high-level task force on public credit registry (PCR) for India. The task force was chaired by Y M Deosthalee.

- The task force has suggested the registry should capture all loan information and borrowers be able to access their own history. Data is to be made available to stakeholders such as banks, on a need-to-know basis. Data privacy will be protected.

Sources: the hindu.

## 2. CENTRAL BOARD OF THE RBI

### **What to study?**

- For Prelims:** Central Board of RBI- composition, functions and significance.
- For Mains:** Recent issues related to the autonomy of RBI.

### **Why has the RBI Board been in the news?**

- The RBI Board recently entered the news during the public spat between the central bank and the Finance Ministry. One of the reasons for the disagreement was the government's alleged threat of invoking **Section 7 of the RBI Act**.
- Section 7** basically empowers the government to supersede the RBI Board and issue directions to the central bank if they are considered to be "necessary in public interest".

### **What is the RBI Board?**

- The RBI Board is a body comprising officials from the central bank and the Government of India, including officials nominated by the government.
- According to the RBI, the "general superintendence and direction of the affairs and business of the RBI is entrusted to the Central Board" and the Board exercises all powers and does all acts and things that are exercised by the RBI.
- The Board is also to recommend to the government the design, form and material of bank notes and also when and where they can serve as legal tender.

### **Who sits on the Board?**

- The Board consists of official directors, who include the Governor and up to four Deputy Governors, non-official directors, who include up to ten directors from various fields and two government officials, and one director from each of four local boards of the RBI.
- The Governor and Deputy Governors hold office for not more than five years, the ten directors nominated by the government hold office for four years, and the government officials are to hold a term on the RBI Board as long as the government sees fit.
- According to the RBI Act, the director of the RBI Board cannot be a salaried government official (except for the ones specifically nominated by the government), be adjudicated as insolvent or have suspended payments to creditors, an officer or employee of any bank (again, this does not include the government nominee), or, interestingly, "is found lunatic or becomes of unsound mind".

### **When does the Board meet?**

- The Governor has to call a Board meeting at least six times in a year, and at least once each quarter. A meeting can be called if a minimum of four Directors ask the Governor to call a meeting. The Governor or, if for any reason unable to attend, the Deputy Governor authorised by the him to vote for him, presides the Board meetings. In the event of split votes, the Governor has a second, or deciding vote.

Sources: the hindu.

## 3. TREASURY BILL

### **What to study?**

- For Prelims and Mains:** Meaning, features and significance of Treasury Bills.

**Context:** The National Stock Exchange (NSE) has launched an app and web-based platform, '**NSE goBID**', for retail investors to buy government securities.

### **About 'NSE goBID':**

- The app would allow investors to invest in treasury bills (T-Bills) of 91 days, 182 days and 364 days and various government bonds from one year to almost 40 years.
- The retail investors would be able to make payment directly from their bank accounts using Unified Payments Interface (UPI) and Internet banking.

- While investment could be done almost every week after a one-time registration, the app would be available to all investors registered with NSE's trading members.

#### **Significance:**

- The launch assumes significance as government securities are among the safer investment options available to retail investors as such securities are credit risk free instruments while providing portfolio diversification with longer investment durations.

#### **What you need to know about Treasury bills?**

- T-bills are short term securities issued on behalf of the government by the RBI and are used in managing short term liquidity needs of the government.
- 91-day T-bills are auctioned every week on Wednesday and 182-day and 364-day T-bills are auctioned every alternate week on Wednesdays.
- Treasury bills are issued at a discount and are redeemed at par.

Sources: the hindu.

## **4. PROMPT CORRECTIVE ACTION (PCA) FRAMEWORK**

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

- Static Part: What is PCA framework? Key facts.**
- Dynamic and Current: Why have a PCA framework, concerns and issues associated.**

**Context:** The 11 state-run banks, which are under the RBI's prompt corrective action (PCA) framework, have seen a 400 basis points increase in their share of retail loans at 19% in the four years ending September 2018.

#### **Background:**

- The RBI began to place state-run banks under the PCA framework for the first time in September 2016, when their NPAs soared beyond the regulatory tolerance levels.

#### **Negative effects:**

- Banks under the PCA have lost market share to private sector banks in corporate loans and unsecured personal loans, and it will be a Herculean task for the affected banks to claw this back. The PCA framework puts restrictions on weaker banks on many aspects, including fresh lending and expansion, and salary hikes, among others.
- The 11 banks under the PCA are:** Allahabad Bank, United Bank of India, Corporation Bank, IDBI Bank, UCO Bank, Bank of India, Central Bank of India, Indian Overseas Bank, Oriental Bank of Commerce, Dena Bank and Bank of Maharashtra. These banks together control over 20 per cent of the credit market.

#### **What are the types of restrictions?**

- There are two type of restrictions, mandatory and discretionary. Restrictions on dividend, branch expansion, directors compensation, are mandatory while discretionary restrictions could include curbs on lending and deposit. In the cases of two banks where PCA was invoked after the revised guidelines were issued — IDBI Bank and UCO Bank — only mandatory restrictions were imposed.
- Both the banks breached risk threshold 2.

## Prompt Corrective Action of RBI



#### **What is PCA?**

- PCA norms allow the **regulator to place certain restrictions** such as halting branch expansion and stopping dividend payment. It can even cap a bank's lending limit to one entity or sector.
- Other corrective action that can be imposed on banks include special audit, restructuring operations and activation of recovery plan. Banks' promoters can be asked to bring in new management, too. The RBI can also supersede the bank's board, under PCA.

#### **When is PCA invoked?**

- The PCA is **invoked when certain risk thresholds are breached**.
- There are three risk thresholds which are based on certain levels of asset quality, profitability, capital and the like.
- The third such threshold, which is maximum tolerance limit, sets net NPA at over 12% and negative return on assets for four consecutive years.

### **What will a bank do if PCA is triggered?**

- Banks are not allowed to re new or access costly deposits or take steps to increase their fee-based income. Banks will also have to launch a special drive to reduce the stock of NPAs and contain generation of fresh NPAs. They will also not be allowed to enter into new lines of business.
- RBI will also impose restrictions on the bank on borrowings from interbank market.

### **Impact:**

- Small and medium enterprises will have to bear the brunt due to this move by RBI. Since the PCA framework restricts the amount of loans banks can extend, this will definitely put pressure on credit being made available to companies especially the MSMEs.
- Large companies have access to the corporate bond market so they may not be impacted immediately. It has been predicted that if more state-owned banks are brought under PCA, it will impact the credit availability for the MSME segment.

Sources: the hindu.

## **5. NBFC MUDRA LOANS GREW FASTER THAN BANKS IN FY18**

### **What to study?**

- **Static part:** What are NBFCs, about PMMY.
- **Dynamic and Current part:** Need for special attention on MSMEs, measures in place, challenges ahead.

**Context:** According to the 2017-18 annual report of **Pradhan Mantri Mudra Yojana (PMMY)**, though NBFCs sanctioned only over ₹27,000 crore of Mudra loans in FY18 against ₹92,492.68 crore by public sector banks, their year-on-year growth was faster. While NBFC Mudra loan sanctions increased ₹21,562.63 crore from a year ago, state-run banks could raise their Mudra loans by only ₹20,539.01 crore in the same period.

- Impressively, NBFCs not only met their Mudra target of ₹9,050 crore for FY18, but their sanctions for the year were a five-fold jump from the previous year.

### **About the Pradhan Mantri MUDRA Yojana (PMMY) scheme:**

The PMMY Scheme was launched in April, 2015. The scheme's objective is to refinance collateral-free loans given by the lenders to small borrowers.

- The scheme, which has a corpus of Rs 20,000 crore, can lend between Rs 50,000 and Rs 10 lakh to small entrepreneurs.
- Banks and *microfinance institutions* (MFIs) can draw refinance under the MUDRA Scheme after becoming member-lending institutions of MUDRA.
- Mudra Loans are available for non-agricultural activities upto Rs. 10 lakh and activities allied to agriculture such as Dairy, Poultry, Bee Keeping etc, are also covered.
- Mudra's unique features include a **Mudra Card** which permits access to Working Capital through ATMs and Card Machines.

#### **There are three types of loans under PMMY:**

1. Shishu (up to Rs.50,000).
2. Kishore (from Rs.50,001 to Rs.5 lakh).
3. Tarun (from Rs.500,001 to Rs.10,00,000).

### **Objectives of the scheme:**

- **Fund the unfunded:** Those who have a business plan to generate income from a non-farm activity like manufacturing, processing, trading or service sector but don't have enough capital to invest can take loans up to Rs 10 lakh.
- **Micro finance institutions (MFI) monitoring and regulation:** With the help of MUDRA bank, the network of microfinance institutions will be monitored. New registration will also be done.
- **Promote financial inclusion:** With the aim to reach Last mile credit delivery to micro businesses taking help of technology solutions, it further adds to the vision of financial inclusion.
- **Reduce jobless economic growth:** Providing micro enterprises with credit facility will help generate employment sources and an overall increase in GDP.
- **Integration of Informal economy into Formal sector:** It will help India also grow its tax base as incomes from the informal sector are non-taxed.

Sources: livemint.

## 6. RBI CAN TRANSFER RS 1 LAKH CRORE OF EXCESS RESERVES TO GOVT: REPORT

### What to study?

- **Static Part: Provisions regulating transfer of surplus from RBI to govt.**
- **Dynamic and Current: Issues associated, the recent spat over the issue between RBI and the Centre, what is the way ahead?**

**Context:** According to Bank of America Merrill Lynch report, the Reserve Bank has “more than adequate” reserves and it can transfer over Rs 1 trillion to the government after a specially constituted panel identifies the “excess capital”.

- The report notes that the central bank can transfer Rs 1 trillion to the government if the transfer is limited to passing excess contingency reserve and can go up to Rs 3 trillion if the total capital is included.

### How does a central bank like the Reserve Bank of India (RBI) make profits?

- The RBI is a “full service” central bank — not only is it mandated to keep inflation or prices in check, it is also supposed to manage the borrowings of the Government of India and of state governments; supervise or regulate banks and non-banking finance companies; and manage the currency and payment systems. While carrying out these functions or operations, it makes profits.
  - Typically, the central bank’s income comes from the returns it earns on its foreign currency assets — which could be in the form of bonds and treasury bills of other central banks or top-rated securities, and deposits with other central banks.
  - It also earns interest on its holdings of local rupee-denominated government bonds or securities, and while lending to banks for very short tenures, such as overnight. It claims a management commission on handling the borrowings of state governments and the central government.
  - Its expenditure is mainly on the printing of currency notes and on staff, besides the commission it gives to banks for undertaking transactions on behalf of the government across the country, and to primary dealers, including banks, for underwriting some of these borrowings.

### What is the nature of the arrangement between the government and RBI on the transfer of surplus or profits?

- Although RBI was promoted as a private shareholders’ bank in 1935 with a paid up capital of Rs 5 crore, the government nationalised it in January 1949, making the sovereign its “owner”.
- What the central bank does, therefore, is transfer the “surplus” — that is, the excess of income over expenditure — to the government, in accordance with **Section 47 (Allocation of Surplus Profits) of the Reserve Bank of India Act, 1934**.

### Does the RBI pay tax on these earnings or profits?

- No. Its statute provides exemption from paying income-tax or any other tax, including wealth tax.

### How does the government build this surplus into its Budget early in the year?

- Well before the annual Budget is unveiled, senior RBI and government officials discuss the likely amount which could be transferred. Typically, the government pitches for a higher share of the surplus while the central bank sometimes prefers to set aside funds for contingencies.
- Based on these talks, and calculations such as likely income and earnings, an indicative figure is given to the government, which it puts under the head ‘non-tax revenue’ in the receipts budget.

### Is there an explicit policy on the distribution of surplus?

- No. But a Technical Committee of the RBI Board headed by Y H Malegam, which reviewed the adequacy of reserves and a surplus distribution policy, recommended, in 2013, a higher transfer to the government.
- Earlier, the RBI transferred part of the surplus to the Contingency Fund, to meet unexpected and unforeseen contingencies, and to the Asset Development Fund, to meet internal capital expenditure and investments in its subsidiaries in keeping with the recommendation of a committee to build contingency reserves of 12% of its balance sheet. But after the Malegam committee made its recommendation, in 2013-14, the RBI’s transfer of surplus to the government as a percentage of gross income (less expenditure) shot up to 99.99% from 53.40% in 2012-13.

Sources: the hindu.

(Q) What do you understand by RBI’s economic capital framework? Discuss whether RBI’s economic capital framework requires a fix?

**Topic:** Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.

## 1. SECTION 7 OF THE RBI ACT

### What to study?

- **For Prelims:** All about Section 7 of the RBI Act.
- **For Mains:** RBI autonomy- need, concerns and issues associated.

**Context:** In an unprecedented move, the government has reportedly invoked Section 7 of the Reserve Bank of India Act.

### Background:

- The issue of invoking Section 7 (1) of RBI Act came up during the hearing of Allahabad high court in a case filed by the Independent Power Producers Association of India challenging RBI's 12 February circular. The high court, in August, said the government could issue directions to RBI under Section 7 of RBI Act.
- Against this backdrop, the government issued a letter to the RBI governor seeking his views on exemption for power companies in relation to the 12 February circular. Another instance was when the government on 10 October sought the governor's views on using RBI's capital reserves for providing liquidity.

### What does Section 7 of the RBI Act say?

- **According to Section 7 of the RBI Act** the central government is empowered to issue directions it considers necessary for public interest to the central bank from time to time after consultation with the RBI governor.
- "The Central Government may from time to time give such directions to the Bank as it may, after consultation with the Governor of the Bank, consider necessary in the public interest," **Section 7(1) of the RBI Act reads.**
- **The sub-section under Section 7 further reads,** "Subject to any such directions, the general superintendence and direction of the affairs and business of the Bank shall be entrusted to a Central Board of Directors which may exercise all powers and do all acts and things which may be exercised or done by the Bank."
- **Section 7(3) reads,** "Save as otherwise provided in regulations made by the Central Board, the Governor and in his absence the Deputy Governor nominated by him in this behalf, shall also have powers of general superintendence and direction of the affairs and the business of the Bank, and may exercise all powers and do all acts and things which may be exercised or done by the Bank."
- However, complete implication of the section cannot be determined because it has never been invoked in the history of independent India.

### Why is Section 7 seen as an extreme measure?

- This section has never been used in till now. It was not used even when the country was close to default in the dark days of 1991, nor in the aftermath of the 2008 global financial crisis.
- It is not clear how this Section operates since it has never been used. The aggressive move could scandalise a section of academia and experts, while raising questions about the government's intentions and the impact on RBI's autonomy.

Sources: the hindu.

## 2. WORLD BANK'S DOING BUSINESS REPORT, 2018

### What to study?

- **For Prelims:** Key facts on Ease of Doing Business Report 2018.
- **For Mains:** India's performance and factors leading India to improve its ranking on Ease of Doing Business index and the problems that needs to be solved to further improve its performance.

**Context:** The World Bank has released its latest Doing Business Report (DBR, 2019).

The report ranks 190 economies based on how easy it is to do business there, taking into account trading regulations, property rights, contract enforcement, investment laws, the availability of credit and a number of other factors. The first report was published in 2003.

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

- **The top five overall are:** New Zealand, Singapore, Denmark, Hong Kong and Korea. The U.S. ranks 8th, down from 6th last year.
- As per the latest report, Afghanistan had moved up the most, by 16 spots, from 183rd in last year's ranking to 167th this year.
- China and India — two economies with the largest populations — are among top 10 improvers this year.
- Afghanistan, Djibouti, Azerbaijan, Togo, Kenya, Côte d'Ivoire, Turkey and Rwanda rounded out the top 10 most improved list. In addition, Djibouti and India are the only economies to make the 10 top most improved list for the second consecutive year.

### **Performance of India:**

- **India climbed 23 spots from a year ago to rank 77** out of 190 countries in the World Bank's latest report on the ease of doing business.
- It was also among the top 10 most improved economies along with countries such as China, Djibouti and Azerbaijan.
- The ease of doing business in India improved notably after a series of reforms made it easier for companies to get construction permits, pay taxes and trade across borders.

### **Areas of improvement:**

- Entrepreneurs were able to start a business more easily after India integrated multiple application forms into a general incorporation form. Reforms also "streamlined the process of obtaining a building permit and made it faster and less expensive to obtain a construction permit."
- Last year, the country amended its insolvency and bankruptcy code which prevented willful defaulters from buying up any of their own troubled assets at discounted rates. That strengthened access to credit as "secured creditors are now given absolute priority over other claims within insolvency proceedings".
- Other areas of improvement included simplifying India's complex tax structure that made it easier to pay taxes. Initiatives implemented under the National Trade Facilitation Action Plan 2017-2020 improved the efficiency of cross-border trading and reduced the time taken to meet compliance requirements.

Sources: the hindu.

## **3. SUPPORT INITIATIVES FOR MSME SECTOR**

### **What to study?**

- **For Prelims: Meaning and classification of MSMEs.**
- **For Mains: Need and significance of the new initiatives launched, challenges faced by the MSMEs.**

**Context:** The government has launched a historic support and outreach programme for the Micro, Small and Medium Enterprises (MSME) sector. As part of this programme, the Prime Minister of India recently unveiled 12 key initiatives which will help the growth, expansion and facilitation of MSMEs across the country.

### **Significance:**

- There are five key aspects for facilitating the MSME sector. These include access to credit, access to market, technology upgradation, ease of doing business, and a sense of security for employees.
- The 12 initiatives will address each of these five categories.

### **The 12 initiatives include:**

1. **59 minute loan portal** to enable easy access to credit for MSMEs. Loans upto Rs. 1 crore can be granted in-principle approval through this portal, in just 59 minutes.
2. **A 2% interest subvention** for all GST registered MSMEs, on fresh or incremental loans. For exporters who receive loans in the pre-shipment and post-shipment period, there will be an increase in interest rebate from 3% to 5%.
3. All companies with a turnover more than Rs. 500 crore, must now compulsorily be brought on the **Trade Receivables e-Discounting System (TReDS)**. Joining this portal will enable entrepreneurs to access credit from banks, based on their upcoming receivables. This will resolve their problems of cash cycle.
4. Public sector companies have now been asked to compulsorily **procure 25%, instead of 20% of their total purchases, from MSMEs**.
5. Out of the 25% procurement mandated from MSMEs, **3% must now be reserved for women entrepreneurs**.

6. All public sector undertakings of the Union Government must now ***compulsorily be a part of GeM***. He said they should also get all their vendors registered on GeM.
7. ***20 hubs will be formed across the country***, and 100 spokes in the form of tool rooms will be established.
8. ***Clusters will be formed of pharma MSMEs***. 70% cost of establishing these clusters will be borne by the Union Government.
9. ***The return under 8 labour laws and 10 Union regulations*** must now be filed only once a year.
10. Now the establishments to be visited by an Inspector will be decided through a ***computerised random allotment***.
11. Under air pollution and water pollution laws, now both these have been ***merged as a single consent***. The return will be accepted through self-certification.
12. ***An Ordinance has been brought, under which, for minor violations under the Companies Act, the entrepreneur will no longer have to approach the Courts***, but can correct them through simple procedures.

#### ***Significance of MSMEs:***

Micro-, Small and Medium-sized Enterprises are the backbone of most economies worldwide and play a key role in developing countries.

- According to the data provided by the International Council for Small Business (ICSB), formal and informal Micro-, Small and Medium-sized Enterprises (MSMEs) make up over 90% of all firms and account on average for 60-70% of total employment and 50% of GDP.
- These types of enterprises are responsible for significant employment and income generation opportunities across the world and have been identified as a major driver of poverty alleviation and development.
- MSMEs tend to employ a larger share of the vulnerable sectors of the workforce, such as women, youth, and people from poorer households. MSMEs can even sometimes be the only source of employment in rural areas. As such, MSMEs as a group are the main income provider for the income distribution at the “base of the pyramid”.

Sources: pib.

## **4. NEW INDEX TO CHECK EASE OF DOING AGRI-BUSINESS**

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

- ***For Prelims: Key features of the proposed index.***
- ***For Mains: Need, significance and potential of the index.***

***Context:*** The centre is planning to develop an online dashboard to track State performances and the Index will be rolled out in January 2019.

#### ***Ease of Doing Agri-Business Index:***

- The new Ease of Doing Agri-Business Index will rank the States on the basis of reforms in the sector as well as their investment in agriculture, increased productivity, reduction of input costs, and risk mitigation measures.
- The Agri Ministry will consider rewarding the higher performing States both in absolute and incremental terms by linking the performance with allocation from flexi funds made available in various flagship.
- The proposed index will focus on reforms, with marketing reforms (25%) and governance and land reforms (20%) carrying almost half of the weight of the parameters in its scoring system.

#### ***Parameters:***

- The parameters are process-oriented, and are meant to evolve as and when new reforms or initiatives are proposed.
- Another major parameter which States will be rated on is their success in reducing the cost of farm inputs (20%) by distributing soil health cards and encouraging organic farming and micro-irrigation.
- Risk mitigation measures such as crop and livestock insurance carry a 15% weightage, while increased productivity and investment in agriculture carry a 10% weight each.

#### ***Way ahead:***

- As agriculture is a State subject, the success of policies and reform initiatives proposed at the Centre is dependent on implementation by the States.

- To ensure that reform agenda of the government is implemented at a desired pace by all State governments, there is a need to develop a competitive spirit between the States.

Sources: the hindu.

## 5. U.K. INDIA BUSINESS COUNCIL'S EASE OF DOING BUSINESS REPORT

### **What to study?**

- For Prelims: Highlights of the report.**
- For Mains: Performance of India as per the report, areas which need to be addressed.**

**Context:** According to the latest edition of the **U.K. India Business Council's Ease of Doing Business report**, the perception among U.K. businesses that corruption is a major barrier in doing business in India has halved compared with what it was in 2015.

### **Key observations from the report:**

- There has been a considerable year-on-year fall in the number of companies that viewed 'corruption' as a major barrier – from 34% in 2016 to 25% in 2017. **It has halved since 2015, where it stood at 51%.**
- This decline shows a major improvement, indicating that the current government's efforts to mitigate corruption appear to be delivering tangible and much-desired results.
- Corruption is no longer considered a 'top-three' barrier compared to those not currently active in India.

### **What made such steadfast progress?**

- The report noted that initiative such as Aadhaar, electronic submission of government documents, acceptance of electronic signatures, and the push to file taxes online. This all have reduced face-to-face interactions where corruption is most likely to take place.
- The extent of digitalization, however, varies markedly across sectors, as does corruption, with those engaging in infrastructure projects still reporting significant issues relating to corruption.

### **Existing issues:**

- Taxation issues and Price Points overtook 'corruption' as major barriers identified by 36% and 29% of respondents, respectively. The proportion of respondents identifying 'taxation issues' was 3% lower in 2018 than 2017.
- The key issue for those outside India is increasingly market demand for their products and services relative to government and bureaucracy-related barriers.

Sources: the hindu.

## 6. EASE OF DOING BUSINESS GRAND CHALLENGE

### **What to study?**

- For Prelims: About the challenge and its objectives.**
- For Mains: About the Ease of Doing Business, significance, India's performance and challenges ahead.**

**Context:** The government has launched Ease of Doing Business Grand Challenge on resolving seven identified Ease of Doing Business problems with use of cutting edge technologies.

### **About Ease of Doing Business Grand Challenge:**

- The objective of this challenge is to tap potential of young Indians, startups and other private enterprises to provide solutions to complex problems using current technology. It is in pursuance of Government's resolve to make India one of the easiest places to conduct business in the world.
- This challenge is aimed at attracting innovative ideas on artificial intelligence (AI), Internet of Things (IoT), big data analytics, blockchain and other cutting edge technology to reform government processes. The platform for this grand challenge will be on Start Up India portal.

### **Ease of Doing business in India:**

- In World Bank's Doing Business Report (DBR, 2019), India has recorded jump of 23 positions against its rank of 100 in 2017 to be placed at 77th rank among 190 countries. India has improved its rank by 53 positions in the last two years and 65 positions in the last four years (2014-18).
- World Bank's Ease of Doing Business index ranks 190 countries based on 10 parameters, including starting a business, construction permits, getting electricity, getting credit, paying taxes, trade across borders, enforcing contracts, and resolving insolvency.

## 7. INDUSTRIAL PARK RATING SYSTEM

- The report on Industrial Park Rating System was prepared by the **Department of Industrial Policy & Promotion (DIPP)**, Ministry of Commerce & Industry.
- Manufacturing has emerged as one of the high growth sectors in India.
- It has moved 23 places up in the **World Bank's Ease of Doing Business (EODB-2019)** and achieved rank **77** out of **190** countries.
- To make India among top 50 countries in Ease of Doing Business the Ministry has undertaken this exercise in studying infrastructure across states and in 3354 industrial clusters in order to assess quality of infrastructure in industrial parks.

Further, 3000 parks are on the database and the industrial parks have been rated on 4 points:

1. Internal infrastructure
  2. External infrastructure
  3. Business services and facilities and environment
  4. Safety management
- DIPP launched the **Industrial Information System (IIS)**, a GIS-enabled database of industrial areas and clusters across the country in May 2017, to optimize resource utilization and enhance the efficiency of the manufacturing sector.

### Industrial Information System (IIS) Portal

- The portal provides all industrial information including availability of raw material – agriculture, horticulture, minerals, natural resources, distance from key logistic nodes, layers of terrain and urban infrastructure.
- In the last one year, **State Governments** and **Industrial Development Corporations** have used the portal and nominated over 200 parks for their assessment along the above parameters.
- IPRS is proposed to be translated into an annual exercise covering all the parks across India. Coverage would be widened and updated to bring in deeper qualitative assessment feedback, bring in technological intervention and develop it as a tool that helps effectively for demand driven and need based interventions both by policy makers and investors.

## 8. EASE OF DOING BUSINESS GRAND CHALLENGE

**Context:** The PM launched a **Grand Challenge** on resolving seven identified Ease of Doing Business problems by using cutting-edge technologies.

- The **Government of India** aims to make India one of the easiest places to conduct business in the world.

### Objective:

- The objective is to tap the potential of young Indians, startups and other private enterprises to provide solutions to complex problems using current technology.
- This challenge is aimed at attracting innovation ideas on **Artificial Intelligence (AI)**, **Internet of Things (IoT)**, **Big Data Analytics**, **Blockchain** and other cutting edge technology to reform government processes.
- The platform for this grand challenge will be on **Start Up India portal**.
- **Mr. Hartwig Schafer, Vice President, South Africa of the World Bank Group** mentioned that it gets tougher to improve ranks as a country moves higher up in the ranking and expressed his belief that India will continue the momentum it has gained over the last four years in its efforts in improving Ease of Doing Business.

### According to the World Bank's Doing Business Report (DBR, 2019):

- India improved its ranking from 100<sup>th</sup> position in 2017 to 77<sup>th</sup> position in 2018 (a jump of 23 positions) among 190 countries.
- Also India has improved its rank by 53 positions in the last two years and 65 positions in the last four years [2014 – 2018].

### Background:

- **World Bank's Ease of Doing Business Index** ranks 190 countries based on 10 parameters, including starting a business, construction permits, getting electricity, getting credit, paying taxes, trade across borders, enforcing contracts, and resolving insolvency.

**Topic:** Inclusive growth and issues arising from it, Sustainable development

## 1. WORLD FISHERIES DAY

### What to study?

- For Prelims and Mains: Significance, objectives of World Fisheries Day.

**Context:** World Fisheries Day is celebrated on November 21<sup>st</sup> every year to highlight the importance of healthy oceans ecosystems and to ensure sustainable stocks of fisheries in the world.

### Fisheries in India

- Fisheries is an important sector in India that provides employment to millions of people apart from contributing to the food security of the country.
- India has over 8,000 km of coastline, and an Exclusive Economic Zone (EEZ) of over 2 million sq km, and extensive freshwater resources. Thus, fisheries play a vital role in the economy of the country with the practice contributing about 1.07 per cent to the GDP (Gross Domestic Product).
- Fisheries in India makes up to 5.3 per cent to agriculture and allied activities.

### Inland fisheries:

Inland fisheries is also a vital part of fisheries in India. India's freshwater resources consist of:

- Rivers and canals (197,024 km).
- Reservoirs (3.15 million hectares).
- Ponds and tanks (235 million hectares).
- Oxbow lakes and derelict waters (1.3 million hectares).
- Brackishwaters (1.24 million hectares) and estuaries (0.29 million hectares).
- The inland capture fish production has increased from 192,000 tonnes in 1950 to 781,846 tonnes in 2007.

Sources: pib.



## 2. INCLUSIVE WEALTH REPORT 2018

### What to study?

- Static Part: Key facts and highlights of the report.
- Dynamic and Current: What is sustainable development and why is it significant, issues highlighted and what needs to be done to balance?

**Context:** Inclusive wealth index, as part of the Inclusive Wealth Report 2018 has been released by the UN Environment and partners.

- The Inclusive Wealth Report (IWR) is a biennial effort led by the UN Environment to evaluate the capacities and performance of the nations around the world to measure sustainability of economy and wellbeing of their people.

### What is Inclusive Wealth Index?

- The inclusive wealth index is a tool assessing a nation's ability to look after its wealth in a way that is sustainable and safeguards its future generations. While GDP measures the size of a country's economy, inclusive wealth index focuses on stocks of manufactured, human and natural capital.
- The Index provides important insights into long-term economic growth and human well-being. The Index measures the wealth of nations through a comprehensive analysis of a country's productive base and the country's wealth in terms of progress, well-being and long-term sustainability.

### Highlights of the report:

- The Inclusive wealth (IW) in 135 countries was higher in 2014 compared to the level in 1990 and the global growth rate of IW was 44% over the indicated period, which implies an average growth rate of 1.8% per year. However, during the same period the global GDP growth per year was 3.4%, which is close to twofold of the annual growth rate of growth in IW.

- The biennial report finds The Republic of Korea, Singapore and Malta as the nations that have had the most economic growth. The report also revealed that carbon damage is relatively larger in high-income countries.

#### **Performance of India:**

- India too sails in the same boat, the Ministry of Statistics and Programme Implementation had said last month in a report on environment accounts. It had revealed that India's economic growth took a toll on its natural assets like forests, food and clean air.
- It had added that when the average growth rate of gross state domestic product (GSDP) during 2005-15 for almost all the states was around 7-8%, 11 states registered a decline in their natural capital.

#### **Way ahead:**

- The report comes after the recent Intergovernmental Panel on Climate Change (IPCC) report said that the world has just 12 years left to limit global warming to 1.5°C.
- The health of an economy is drawn from the health of the environment. Therefore, to make the right choices that will keep us on a sustainable path, we have to be able to properly measure our progress.
- The report will equip policy-makers with the right numbers, so that they can make the right decisions to deliver results for generations to come. These reports remind the world about how important sustainable use of natural resources is.

#### **About UN Environment:**

- The United Nations Environment Programme (UN Environment) is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment. Its mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.
- The World Meteorological Organization and UN Environment established the Intergovernmental Panel on Climate Change (IPCC) in 1988. UN Environment is also one of several Implementing Agencies for the Global Environment Facility (GEF) and the Multilateral Fund for the Implementation of the Montreal Protocol, and it is also a member of the United Nations Development Group.

Sources: Down to Earth.

### **3. GENDER WAGE GAP HIGHEST IN INDIA**

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

- Static Part: Global Wage Report.**
- Dynamic and Current: Findings of the report, concerns, issues and measures necessary.**

**Context:** The International Labour Organization (ILO) has released Global Wage Report 2018-19. As per the report, women are paid the most unequally in India, compared to men, when it comes to hourly wages for labour. On average, women are paid 34% less than men.

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

- The gender wage gap has remained unchanged at 20% from 2016 to 2017.
- In advanced economies (G20), real wage growth** declined from 0.9 per cent in 2016 to 0.4 per cent in 2017, meaning near stagnation. By contrast, **in emerging economies** and developing G20 countries, real wage growth dipped marginally from 4.9 per cent in 2016 and 4.3 per cent in 2017.
- Inequality is higher in monthly wages**, with a gap of 22 per cent.
- Overall, **real wages** grew just 1.8 per cent globally (136 countries) in 2017.
- In most countries, **women and men differ significantly in respect of working time** – specifically, that part-time work is more prevalent among women than among men.

#### **Way Forward:**

- The report advocated that emphasis needs to be placed on ensuring equal pay for women and men.

Sources: the hindu.

**Topic:** 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; economics of animal-rearing.

## 1. OPERATION GREENS

**What to study?**

- For Prelims: **Operation Greens, Operation Flood- meaning, features and significance.**

**Context:** Ministry of Food Processing Industries (MoFPI) has approved the operationalisation strategy for Operation Greens.

**The Strategy will comprise of a series of measures as decided by the Ministry:**

**Short term Price Stabilisation Measures:**

- NAFED will be the Nodal Agency to implement price stabilisation measures.
- MoFPI will provide 50 percent of the subsidy on transportation of Tomato Onion Potato (TOP) Crops from production to storage; and hiring of appropriate storage facilities for TOP Crops.

**Long Term Integrated value chain development projects:**

- Capacity Building of FPOs & their consortium.
- Quality production.
- Post-harvest processing facilities.
- Agri-Logistics.
- Marketing / Consumption Points.
- Creation and Management of e-platform for demand and supply management of TOP Crops.

**About Operation Greens:**

- Operation Greens was announced in the Budget speech of 2018-19 with an outlay of Rs 500 crores to stabilize the supply of Tomato, Onion and Potato (TOP) crops and to ensure availability of TOP crops throughout the country round the year without price volatility.

**Major objectives of "Operation Greens" are as under:**

- Enhancing value realisation of TOP farmers by targeted interventions to strengthen TOP production clusters and their FPOs, and linking/connecting them with the market.
- Price stabilisation for producers and consumers by proper production planning in the TOP clusters and introduction of dual use varieties.
- Reduction in post-harvest losses by creation of farm gate infrastructure, development of suitable agro-logistics, creation of appropriate storage capacity linking consumption centres.
- Increase in food processing capacities and value addition in TOP value chain with firm linkages with production clusters.
- Setting up of a market intelligence network to collect and collate real time data on demand and supply and price of TOP crops.

**Significance of Operation greens:**

- Operation Green (OG) wants to replicate the success story of Operation Flood, in fruits and vegetables, starting with three basic vegetables—tomatoes, onions and potatoes (TOP).
- The main objective of OG is to reduce price volatility in these commodities, and thereby helping farmers augment incomes on a sustainable basis, as also provide these basic vegetables to consumers at affordable prices.

Sources: pib.

## 2. BLUE REVOLUTION

**Context:** Blue Revolution aims at doubling the income of farmers. In the last four & half years, Rs. 1915.33 crore has been released for its implementation.

- Under the Blue Revolution scheme, 29,128 hectares has been developed for aquaculture and fishermen are being benefitted. And 7441 traditional boats have been modernized and converted into motorized boats.
- The Blue Revolution mission aims at doubling the income of farmers and in the last four & half years, Rs. 1915.33 crore has been released for the implementation of Blue Revolution Schemes.

- The government has approved Rs. 7522 crore **Fisheries and Aquaculture Infrastructure Development Fund (FIDF)**.

#### **Fisheries and Aquaculture Infrastructure Development Fund (FIDF):**

- It creates **employment opportunities** to over 9.40 lakhs fishers/fishermen/ fisher folks and other entrepreneurs in fishing and allied activities.
- It **attracts private investment** in creation and management of fisheries infrastructure facilities.
- It helps in the **creation of fisheries infrastructure facilities** both in marine and inland fisheries sectors, which would boast fish production and help achieve target of Rs. 15 million tonne by 2020 under Blue revolution.
- It **aims to achieve a sustainable growth of 8% to 9%** in a move to augment fish production to the level of about 20 million tonnes by 2022-23.

Source: [pib](#).

**Topic:** *Types of irrigation and irrigation systems storage.*

## **TURGA PUMPED STORAGE**

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

- For Prelims and Mains: Location, significance and key features of the project.**

**Context:** A Loan Agreement was recently signed between India and Japan on Japanese Official Development Assistance loan for the construction of Turga Pumped Storage (I) of Yen 29.442 Billion (Rs. 1817 crore approximately).

#### **About Turga Pumped Storage project:**

- The Turga Pumped Storage Project on Turga nala is a closed loop type Pumped Storage Project located in Purulia district of West Bengal.
- The Turga Pumped Storage Project envisages utilization of rainfall in the catchment of the Turga Nala in Ayodhya hills for peak power generation for a Pumped Storage type project development.
- The project envisages construction of Upper Dam across Turga Nala, a tributary of Subarnarekha river and a water conductor system with an underground Power House on the downstream of Upper Dam and a Lower Dam having intermediate catchment of 4.37 sq. km.
- The objective of the Project is to strengthen the capability to respond to fluctuation in supply and demand of power and to improve stability of the power supply by constructing the pumped storage facilities, thereby contributing to the Industrial Development and Living Standard Improvement in the State of West Bengal.

#### **Significance:**

- India and Japan have had a long and fruitful history of bilateral development cooperation since 1958.
- In the last few years, the economic cooperation between India and Japan has steadily progressed.
- This further consolidates and strengthens the Strategic and Global Partnership between India and Japan.

Sources: [pib](#).

**Topic:** *Transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.*

## **1. MEGA FOOD PARK**

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

- For Prelims: Mega food park scheme and mega food parks in the country.**
- For Mains: Need for Mega food parks and other related agricultural issues.**

**Context:** *Maharashtra's second Mega Food Park has been opened in Aurangabad District.* It is promoted by M/s Paithan Mega Food Park Pvt Ltd, the Park.

#### **Facts for Prelims:**

- A 3<sup>rd</sup> Mega Food Park has been sanctioned by the Ministry in Maharashtra and is under implementation in Wardha District while the first Park was inaugurated on 1st of March 2018 in Satara district.

#### **About Mega Food Parks:**

- Ministry of Food Processing Industries is implementing Mega Food Park Scheme in the country.
- **The Scheme of Mega Food Park aims** at providing a mechanism to link agricultural production to the market by bringing together farmers, processors and retailers so as to ensure maximizing value addition, minimizing wastages, increasing farmers' income and creating employment opportunities particularly in rural sector.
- **These food parks give a major boost to** the food processing sector by adding value and reducing food wastage at each stage of the supply chain with particular focus on perishables.
- **A maximum grant** of Rs.50 crore is given for setting up a MFP, in minimum 50 acres of contiguous land with only 50% contribution to the total project cost.

#### **Mode of operation:**

- The Scheme has **a cluster based approach based on a hub and spokes model**. It includes creation of infrastructure for primary processing and storage near the farm in the form of Primary Processing Centres (PPCs) and Collection Centres (CCs) and common facilities and enabling infrastructure at Central Processing Centre (CPC).
- The PPCs are meant for functioning as a link between the producers and processors for supply of raw material to the Central Processing Centres.
- CPC has need based core processing facilities and basic enabling infrastructure to be used by the food processing units setup at the CPC. The minimum area required for a CPC is 50 acres.
- The scheme is demand-driven and would facilitate food processing units to meet environmental, safety and social standards.

Sources: pib.

## **2. NETWORK FOR DEVELOPMENT OF AGRICULTURAL COOPERATIVES IN ASIA AND THE PACIFIC (NEDAC)**

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

- **For Prelims and Mains: NEDAC- objectives, functions and significance.**

**Context:** Meeting of General Assembly of Network for Development of Agricultural Cooperatives in Asia and the Pacific (NEDAC) is being held in New Delhi.

- The general assembly of 22 prominent cooperative organizations from eight countries unanimously decided to focus on C2C and capacity development to meet challenges of climate change as transformative cooperatives.

#### **About NEDAC:**

- NEDAC was set up in 1991 by the United Nations' Food and Agriculture Organisation (FAO), the International Cooperative Alliance (ICA) and the International Labour Organisation (ILO).
- NEDAC sensitises Governments in the region on the role of agricultural cooperatives in promoting agricultural and rural development to ensure rural food and livelihood security for millions of people in Asia and Pacific.

Sources: pib.

**Topic:** Infrastructure- energy.

## **1. SAURA JALNIDHI SCHEME**

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

- **For Prelims: Key features of Saura Jalnidhi scheme.**
- **For Mains: Significance of the scheme, potential of the solar energy and ways to utilize it.**

**Context:** Odisha Government has launched Saura Jalnidhi scheme to encourage use of solar energy in irrigation by farmers.

#### **Key features of the scheme:**

- The beneficiary of this scheme will be farmers who have valid farmer identity cards and have minimum 0.5 acres of agricultural land.

- Under this scheme, farmers will be given 90% subsidy and 5,000 solar pumps. This will provide irrigation benefits in 2,500 acres of the state.
- In the first phase, this scheme will be available in those areas where electricity is not available for running the pump set.

**Significance of the scheme:**

- The scheme will generate 1.52 lakh human day employments annually and provided livelihood to around 5,000 families and also reduce carbon footprints.
- Under this scheme, farmers will be provided with a well-equipped solar pump irrigation system in convergence mode. It will help to reduce burden of input cost on farmers and also increase agricultural income. It will promote the use of green energy and reduce pollution.

Sources: the hindu.

## 2. INDIAN WIND TURBINE CERTIFICATION SCHEME (IWTCS)

**What to study?**

- **For Prelims: Key features of the scheme.**
- **For Mains: Significance, potential and challenges of wind energy.**

**Context:** Ministry of New and Renewable Energy, in consultation with National Institute of Wind Energy Chennai, has prepared a draft of new Scheme called Indian Wind Turbine Certification Scheme (IWTCS) incorporating various guidelines.

**About the Indian Wind Turbine Certification Scheme (IWTCS):**

- The IWTCS is a consolidation of relevant National and International Standards (IS/IEC/IEEE), Technical Regulations and requirements issued by Central Electricity Authority (CEA), guidelines issued by MNRE and other international guidelines. It also incorporates various best practices from other countries to ensure the quality of the wind energy projects.
- The draft Scheme enlists the guidelines for the benefit of all the stakeholders from concept to lifetime of wind turbine, including Indian Type Approved Model (ITAM), Indian Type Certification Scheme (ITCS), Wind Farm Project Certification Scheme (WFPCS) and Wind Turbine Safety & Performance Certification Scheme (WTSPCS).
- The IWTCS is envisaged to assist and facilitate the following stakeholders; (i) Original Equipment Manufacturers (OEMs) (ii) End Users -Utilities, SNAs, Developers, IPPs, Owners, Authorities, Investors and Insurers (iii) Certification Bodies (iv) Testing Laboratories.

**Need for a scheme in this context:**

- Wind sector in India is growing at a rapid pace with increased utilization of wind energy for the power development. The modern wind turbines have higher hub heights, larger rotor diameter, higher capacity and improved Capacity Utilization Factor (CUF) along with technological improvements.
- Under these developments, there is a need for comprehensive document which provides the complete technical requirements which shall have to be complied by the wind turbines for the safe and reliable operation by all the stakeholders viz, OEMs, Independent Power Producers (IPPs), wind farm developers, Financial Institutions, Utilities and others. Also, there is a need for technical regulations which shall facilitate common ground for OEMs, Developers, Investors and Financial Institution for systematic development.

Sources: pib.

## 3. INDIA'S FIRST MULTI-MODAL TERMINAL ON INLAND WATERWAYS IN VARANASI

**What to study?**

- **For Prelims: JMVP, NW 1 and related key facts.**
- **For Mains: Inland waterways- potential, significance, challenges and accomplishments.**

**Context:** Prime Minister Narendra Modi recently inaugurated India's first multi-modal terminal on the Ganga river in Varanasi and received the country's first container cargo transported on inland waterways from Kolkata.

#### **Key facts:**

- The first consignment containing food and beverage had set sail from Kolkata in the last week of October.
- This is the first of the four multi-modal terminals being constructed on the National Waterway-1 (river Ganga) as part of the World Bank-aided Jal Marg Vikas project of the Inland Waterways Authority of India.

#### **Benefits of container movement on inland waterways:**

- Container cargo transport comes with several inherent advantages. Even as it reduces the handling cost, allows easier modal shift, reduces pilferages and damage, it also enables cargo owners to reduce their carbon footprints.

#### **About Jal Marg Vikas Project:**

##### **What is it?**

- The Jal Marg Vikas Project seeks to facilitate plying of vessels with capacity of 1,500-2,000 tonnes in the Haldia- Varanasi stretch of the River Ganga. The major works being taken up under JMVP are development of fairway, Multi-Modal Terminals, strengthening of river navigation system, conservancy works, modern River Information System (RIS), Digital Global Positioning System (DGPS), night navigation facilities, modern methods of channel marking etc.
- **Implementation:** The JMVP, which is expected to be completed by March, 2023, is being implemented with the financial and technical support of the World Bank. The project will enable commercial navigation of vessels with the capacity of 1500-2,000 tons on NW-I.
- **Its objective** is to promote inland waterways as a cheap and environment-friendly means of transportation, especially for cargo movement. The Inland Waterways Authority of India (IWAI) is the project implementing agency.

#### **NW 1:**

- Ganga-Bhagirathi-Hooghly river system from Allahabad to Haldia was declared as National Waterway No.1. The NW-1 passes through Uttar Pradesh, Bihar, Jharkhand and West Bengal and serves major cities and their industrial hinterlands.

Sources: the hindu.

## **4. CITY GAS DISTRIBUTION (CGD) PROJECTS**

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

- **For Prelims: About CGD projects.**
- **For Mains: Need and significance of Natural gas and its advantages.**

**Context:** Prime Minister Narendra Modi will lay the foundation stone for City Gas Distribution (CGD) projects across 129 districts to boost availability of gas supply for half of the country's population in 26 states and Union Territories.

- The projects, recently awarded by the **Petroleum and Natural Gas Regulatory Board (PNGRB)** would cover 65 Geographical Areas (GAs) under the ninth round of bidding.

#### **Significance:**

- Government of India has put thrust to promote the usage of environment friendly clean fuel i.e. natural gas as a fuel/feedstock across the country to move towards a gas based economy.
- Accordingly, development of CGD networks has been focused to increase the availability of cleaner cooking fuel (i.e. PNG) and transportation fuel (i.e. CNG) to the citizens of the country. The expansion of CGD network will also benefit to industrial and commercial units by ensuring the uninterrupted supply of natural gas.

#### **Why Natural Gas?**

- Natural gas is a superior fuel as compared with coal and other liquid fuels being an environment friendly, safer and cheaper fuel. Natural Gas is supplied through pipelines just like one gets water from the tap. There is no need to store cylinders in the kitchen and thus saves space.
- Natural Gas (as CNG) is cheaper by 60% as compared with petrol and 45 % w.r.t. Diesel. Similarly, Natural Gas (as PNG) is cheaper by 40 % as compared with market price LPG and price of PNG almost matches with that of subsidised LPG (based on prices in Delhi).

**PNGRB:**

- The Petroleum and Natural Gas Regulatory Board (PNGRB) was constituted under The Petroleum and Natural Gas Regulatory Board Act, 2006.
- The Act provide for the establishment of Petroleum and Natural Gas Regulatory Board to protect the interests of consumers and entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to promote competitive markets and for matters connected therewith or incidental thereto.
- The board has also been mandated to regulate the refining, processing, storage, transportation, distribution, marketing and sale of petroleum, petroleum products and natural gas excluding production of crude oil and natural gas so as and to ensure uninterrupted and adequate supply of petroleum, petroleum products and natural gas in all parts of the country.

Sources: pib.

## 5. \$200 MILLION LOAN TO IMPROVE STATE HIGHWAYS IN BIHAR.

- The **Asian Development Bank (ADB)** and the **Government of India** signed a **\$200 million loan** to finance widening and upgrading of about **230 Kilometers State Highways in Bihar** to all-weather standards with road safety features.

**Advantages of improved roads under the Project:**

- It will contribute to savings in vehicle operating cost and travel time.
- It will reduce vehicle emissions, and
- It will improve road safety.

**Asian Development Bank (ADB):**

- The Asian Development Bank was conceived in the early 1960s as a financial institution that would be Asian in character and foster economic growth and cooperation in one of the poorest regions in the world.
- It assists its members, and partners, by providing loans, technical assistance, grants, and equity investments to promote social and economic development.
- ADB is composed of 67 members, 48 of which are from the Asia and Pacific region.
- Established on 19 December **1966**
- **Headquartered — Manila**, Philippines
- Official United Nations Observer

**Voting rights**

- It is modelled closely on the World Bank, and has a similar weighted voting system where votes are distributed in proportion with members' capital subscriptions.
- United States > Japan > China > India >Australia

## 6. MEASURES TO TACKLE CRISIS IN STRESSED THERMAL POWER PROJECTS

**What to study?**

- **Static Part: All about thermal plants and their operation.**
- **Dynamic and Current: Crisis and reasons for the crisis, solution.**

**Context:** High Level Empowered Committee (HLEC) set up by Government of India in July 2018 has come out with its report on stranded thermal power projects.

**Background:**

- The Committee has assessed the landscape of these stranded assets and identified the various reasons that have contributed to the current scenario. The report has also suggested measures to resolve the challenges. These power plants were first identified by the Ministry of Power as stressed assets in March 2017.

**Multiple reasons behind the crisis:**

- The HLEC identified several critical reasons that have contributed to the crisis, which has been festering for more than two years now.

- While the Twelfth Five Year Plan had envisaged a capacity addition requirement of 88 GW, 99 GW capacity was added during the corresponding period — this led to **a glut of supply, causing plants to perform below their rated capacities**.
- Apart from this, **the debt burden of the distribution utilities and the financial stress** on banks/financial institutions as well as promoters and bidders.
- It is important to note that a significant chunk of the problem has been caused by **the erratic coal supply and the uncertainty of coal supplies due to scrapping of mine auctions** by the Supreme Court. Clearly, institutional challenges related to the government have contributed to the problem.
- **In the case of the Ultra Mega Power Projects (UMPP)**, for which bidding took place, several players quoted very aggressively, a decision they have since come to regret. Several other promoters did not even secure coal linkages before commencing with the project. Cost and time overruns also took place with some.

**Few Suggested solutions:**

- **Coal supply is an inter-ministerial issue**, whereby the ministries for coal and railways have been requested **to work out mechanisms to address short-term issues of supply, alongside the sale of coal at notified prices** without entering bidding in case of short term power purchase agreements.
- **Further, linking coal supply to power plant efficiency** is a good way to incentivise better, newer and more efficient assets.
- **Closing down of old, inefficient thermal power units** make for good economics and good environmental sense.
- **Several measures related to power markets** to address the financial risks have been strongly recommended by the HLEC. These include getting NTPC or any other agency to act as an aggregator for power purchases, which can subsequently be sold to distribution utilities.
- Further, suggestion on payment security mechanism—all PPAs have a support for a letter of credit (LoC) for one month's purchase equivalent to guarantee it. It would rather be prudent **to increase the value of the LoC instead of seeking a separate mechanism**, and ensure that it can trigger automatically against a payment default or delay.

**Way ahead:**

- In conclusion, the HLEC has shown that ways can be found to sort out the mess within the thermal power sector for coal fired power plants. However, the sole focus on coal has meant that gas-based power plants will have to wait for their turn under the sun.

Sources: Down to Earth.

## 7. SAUBHAGYA

**Context:** 8 States achieve 100% household electrification under Saubhagya; total 15 States now have 100% household electrification

- 8 States have achieved 100% saturation in household electrification under **Saubhagya** namely **Madhya Pradesh, Tripura, Bihar, J&K, Mizoram, Sikkim, Telangana and West Bengal**.

**Saubhagya – ‘Pradhan Mantri Sahaj Bijli Har Ghar Yojana’:**

- Its objective is to **provide access to electricity connections to all the remaining households** in the country.
- Scheme will **provide subsidy on equipment** such as transformers, wires and meters.
- **Ministry of Power** would be the implementing authority.
- **Power connection will be provided in both rural and urban areas** of the country.
- The scheme was **launched** on the occasion of the **birth centenary of Pandit Deen Dayal Upadhyaya** on 25<sup>th</sup>

**Award Scheme under Saubhagya:**

- An award scheme has been instituted with awards of more than Rs. 300 crore to be won by States/Discoms.
- The first DISCOM/Power Departments who complete 100% household electrifications will be felicitated with **cash award of Rs. 50 Lakh for the employees** and **100 crore grants for distribution infrastructure**.

The Government is committed to ensure 24x7 access to electricity for all by **31<sup>st</sup> March 2019**.

#### **Benefits to the Citizen:**

- Electrification has direct **positive impact** on the quality of all aspects of daily life, **especially to the women and children**.
- With deeper penetration, **significant improvement** is expected in other services like **education, health, communication, etc.**
- It gives opportunities for economic activities leading to **employment generation, increase in income and poverty alleviation**.

Source: PIB

## **8. JHARKHAND POWER SYSTEM IMPROVEMENT PROJECT**

- The **Government of India**, the **Government of Jharkhand** and the **World Bank** signed a **\$310 million Loan Agreement** for Jharkhand Power System Improvement Project to provide reliable, quality, and affordable 24x7 electricity to the citizens of Jharkhand.
- The project is part of the **Government of India's Power for All program** launched in 2014.
- The plan envisages addition of over 4.5 GW generation capacities by 2022 (including a significant share of 1.5 GW from solar energy), through a **mix of Private and Public Sector investments**.

#### **Jharkhand Power System Improvement Project:**

- It will help build new power transmission infrastructure.
- It will deploy systems to improve the technical efficiency and commercial performance of the state power sector utilities.
- It will help bring in modern technology solutions like automated sub-stations, and network analysis and planning tools to give reliable power supply and enhance customer satisfaction.

The proposed investments aimed at improving power transmission infrastructure, and also focus on developing institutional capacities of State-owned power transmission and distribution companies and improving their operational performance.

#### **Major Components:**

- Construction of new substations and transmission lines mainly at 132KV voltage level.
- Support to the Jharkhand Urja Sancharan Nigam Limited (JUSNL) in setting-up systems for strengthening the State Load Dispatch Centre (SLDC) operations including financing software solutions for improving scheduling and dispatch functions.
- This will integrate renewable energy in the State grid.

#### **Smart Meters:**

- The project will support smart meters, with two-way communication and backend IT infrastructure, deployed in select urban towns.
- These meters will not only **reduce technical and commercial losses**, but also improve peak load management.
- These meters are expected to provide consumers with better access to data which will **encourage them to reduce their electricity consumption**.
- The project will finance smart metering for around 350,000 consumers in the **capital city of Ranchi**.

#### **Background:**

- The Government of Jharkhand has achieved significant results towards electrification. **As per data from the Jharkhand Distribution Company more than 80 percent of all citizens in the State have access to electricity**.
- The State will continue to work towards providing reliable 24x7 Power for all its consumers. The Per Capita Consumption of electricity in Jharkhand at 552 kWh at the end of FY16 is nearly half of the national average.
- Improved availability of power from plants owned by the **Central Government and Independent Power Producers (IPPs)** has helped the State achieve lower demand supply deficits in recent years.

**Topic:** 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. YOUNG CHAMPIONS AWARDS

### What to study?

- For Prelims: Young Champions Awards, AIM, ATLs and their key features.
- For Mains: Need for innovation and efforts by government in this regard.

**Context:** NITI Aayog's Atal Innovation Mission and UNICEF have announced Young Champions Awards on occasion of Children's Day.

- The awards were presented to the top six most innovative solutions from across the country, which were shortlisted through the Atal Tinkering Marathon.

### Background:

- On October 2 last year, AIM's Atal Tinkering Labs (ATL) had launched a six month long nationwide challenge called the Atal Tinkering Marathon, across six different thematic areas, namely, clean energy, water resources, waste management, healthcare, smart mobility and agri-technology.
- The objective was to encourage students to observe community problems and develop innovative solutions.

### What are ATLs?

- With a vision to 'Cultivate one Million children in India as Neoteric Innovators', Atal Innovation Mission is establishing Atal Tinkering Laboratories (ATLs) in schools across India.
- **Objective:** The objective of this scheme is to foster curiosity, creativity and imagination in young minds; and inculcate skills such as design mindset, computational thinking, adaptive learning, physical computing etc.
- **Financial Support:** AIM will provide grant-in-aid that includes a one-time establishment cost of Rs. 10 lakh and operational expenses of Rs. 10 lakh for a maximum period of 5 years to each ATL.
- **Eligibility:** Schools (minimum Grade VI – X) managed by Government, local body or private trusts/society can set up ATL.

### Significance of ATLs:

- Atal Tinkering Labs have evolved as epicenters for imparting these 'skills of the future' through practical applications based on self-learning.
- Bridging a crucial social divide, Atal Tinkering Labs provide equal opportunity to all children across the spectrum by working at the grassroot level, introducing children to the world of innovation and tinkering.

### Need for such labs:

- As the world grapples with evolving technologies, a new set of skills have gained popular acceptance and have come to be in high demand. For India to contribute significantly during this age of rapid technological advancement, there is an urgent need to empower our youth with these 'skills of the future'.
- Equipped with modern technologies to help navigate and impart crucial skills in the age of the Fourth Industrial Revolution, the ATLs are at the vanguard of the promoting scientific temper and an entrepreneurial spirit in children today.

Sources: pib.

## 2. EXPERIMENTAL ADVANCED SUPERCONDUCTING TOKAMAK (EAST)

### What to study?

- For Prelims and Mains: Experimental Advanced Superconducting Tokamak (EAST) reactor- key features, significance, how it works and about fusion energy.

**Context:** China has announced that its Experimental Advanced Superconducting Tokamak (EAST) reactor — an "artificial sun" designed to replicate the process our natural Sun uses to generate energy — just hit a new temperature milestone: 100 million degrees Celsius (180 million degrees Fahrenheit).

- For comparison, the core of our real Sun only reaches about 27 million degrees Fahrenheit — meaning the EAST reactor was, briefly, more than six times hotter than the closest star.

#### **About Experimental Advanced Superconducting Tokamak (EAST):**

- It is an experimental superconducting tokamak magnetic fusion energy reactor in Hefei, China.
- The Hefei-based Institute of Plasma Physics is conducting the experiment for the Chinese Academy of Sciences. It has operated since 2006. It was later put under control of Hefei Institutes of Physical Science.

#### **How it works?**

The EAST stands at 11 metres tall, has a diameter of 8 metres and weighs about 360 tonnes.

- It uses a ring to house heavy and super-heavy isotopes — atomic variations — of hydrogen known as deuterium and tritium.
- The isotopes are heated by powerful electric currents within the tokamak, tearing electrons away from their atoms and forming a charged plasma of hydrogen ions.
- Powerful magnets lining the inner walls of EAST then contain the plasma to a tiny area to maximise the chance that the ions will fuse together.
- When the ions fuse they give off a large amount of energy, which can then be harnessed to run a power plant and produce electricity.

#### **Way ahead:**

- Not only is EAST's new plasma temperature milestone remarkable because, wow, it's really hot, it's also the minimum temperature scientists believe is needed to produce a self-sustaining nuclear fusion reaction on Earth.
- Now that China's "artificial sun" is capable of heating plasma to the necessary temperature, researchers can focus on the next steps along the path to stable nuclear fusion.

Sources: [toi](#).

## **3. WORLD'S STANDARD DEFINITION OF KILOGRAM NOW REDEFINED**

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

- For Prelims and Mains: Need for redefining, about the new system, significance and the process of redefining.**

**Context:** Scientists have changed the way the kilogram is defined. The decision was made at the General Conference on Weights and Measures. The new definitions will come into force on 20 May 2019.

#### **Why kill off the kilogram?**

- Currently, it is defined by the weight of a platinum-based ingot called "Le Grand K"** which is locked away in a safe in Paris.
- Le Grand K has been at the forefront of the international system of measuring weights since 1889. Several close replicas were made and distributed around the globe. But the master kilogram and its copies were seen to change – ever so slightly – as they deteriorated.
- In a world where accurate measurement is now critical in many areas, such as in drug development, nanotechnology and precision engineering – those responsible for maintaining the international system had no option but to move beyond Le Grand K to a more robust definition.

#### **How wrong is Le Grand K?**

- The fluctuation is about 50 parts in a billion, less than the weight of a single eyelash. But although it is tiny, the change can have important consequences.

#### **How does the new system work?**

- Electromagnets generate a force. Scrap-yards use them on cranes to lift and move large metal objects, such as

#### **Planck's constant:**

There is a quantity that relates weight to electrical current, called Planck's constant – named after the German physicist Max Planck and denoted by the symbol **h**

- But **h** is an incredibly small number and to measure it, the research scientist Dr Bryan Kibble built a super-accurate set of scales. The **Kibble balance**, as it has become known, has an electromagnet that pulls down on one side of the scales and a weight – say, a kilogram – on the other. The electrical current going through the electromagnet is increased until the two sides are perfectly balanced.
- By measuring the current running through the electromagnet to incredible precision, the researchers are able to calculate **h** to an accuracy of 0.000001%. This breakthrough has paved the way for **Le Grand K to be deposed by "die kleine h"**.

old cars. The pull of the electromagnet, the force it exerts, is directly related to the amount of electrical current going through its coils. There is, therefore, a direct relationship between electricity and weight.

- So, in principle, scientists can define a kilogram, or any other weight, in terms of the amount of electricity needed to counteract the weight (gravitational force acting on a mass).

#### Facts for Prelims:

- **General Conference on Weights and Measures (CGPM)** is the highest international body of the world for accurate and precise measurements and comprises of 60 countries including India and 42 Associate Members.

Sources: pib, bbc.

## 4. ATAL INNOVATION MISSION

#### What to study?

- **For Prelims: Key facts on AIM.**
- **For Mains: Significance of AIM and the need for international collaboration in promoting innovation.**

**Context:** The Union Cabinet has been apprised of the Memorandum of Understanding (MoU) between Atal Innovation Mission, India and Fund “Talent and Success”, Russia for promotion of science & technology, strong foundation to the collaborative work through exchange of students, teachers, researchers and scientists between both countries. The MoU was signed on October 5, 2018.

#### Benefits:

- The MoU will facilitate promotion of science & technology, strong foundation to the collaborative work through exchange of students, teachers, researchers and scientists between India and Russia.

#### Major Impact:

- The MOU will provide a mechanism in taking part in establishing relationships with schools, universities, cultural institutions, science & technology and specialized education institutions, high-tech companies, startups and innovation centers in both countries.
- The activities are expected to promote creation of new scientific knowledge, generation of intellectual property, innovations and products development in both countries.

#### About AIM:

- **The Atal Innovation Mission (AIM)** is the Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.
- **AIM is mandated to create an umbrella structure to oversee innovation ecosystem** of the country and revolutionizing the innovation eco-system – touching upon the entire innovation life cycle through various programs.

Sources: pib.

## 5. SCIENTISTS MULL STRATOSPHERIC BARRIER TO CURB GLOBAL WARMING

#### What to study?

- **Static Part: What is Stratospheric Aerosol Injection (SAI)? What are Sulphur Aerosols and how they occur?**

**Context:** Scientists have found that **spraying sun-dimming chemicals high above the earth to slow global warming could be remarkably inexpensive costing about \$2.25 billion a year over a 15-year period.**

- This geo-engineering technique known as **stratospheric aerosol injection (SAI)** could limit rising temperatures that are causing climate change.

#### What are Stratospheric Sulphur Aerosols?

- Stratospheric sulfur aerosols are **sulfur-rich particles which exist in the stratosphere region of the Earth's atmosphere**. The layer of the atmosphere in which they exist is known as the **Junge layer, or simply the stratospheric aerosol layer**.
- These particles **consist of a mixture of sulfuric acid and water. They are created naturally, such as by photochemical decomposition of sulfur-containing gases**, e.g. carbonyl sulfide.
- Sulfur aerosols are common in the troposphere as a result of pollution with sulfur dioxide from burning coal, and from natural processes.

- Volcanoes are a major source of particles in the stratosphere as the force of the volcanic eruption propels sulfur-containing gases into the stratosphere.

#### **What is Stratospheric Aerosol Injection (SAI)?**

- Under SAI delivery of precursor sulfide gases such as sulfuric acid, hydrogen sulfide (H<sub>2</sub>S) or sulfur dioxide (SO<sub>2</sub>) are sprayed by artillery, aircraft and balloons.
- It would involve the use of huge hoses, cannons or specially designed aircraft to spray large quantities of sulphate particles into the upper layer of the atmosphere to act as a reflective barrier against sunlight.
  - Total costs estimated to launch a hypothetical SAI effort 15 years from now would be \$3.5 billion and average annual operating costs would be about \$2.25 billion a year over 15 years.
  - Discounting other methods of deployment because of cost and feasibility, the research assumes a special aircraft can be designed to fly at an altitude of about 20 km and carry a load of 25 tonnes.

#### **Significance:**

- This proposed method could counter most climatic changes, take effect rapidly, have very low direct implementation costs, and be reversible in its direct climatic effects.

#### **Benefits of the SAI:**

- Mimics a natural process. It is technologically feasible. The method is economically feasible and efficient.

#### **Possible side effects:**

- Tropospheric Ozone depletion.
- Whitening of the sky.
- Tropopause warming and the humidification of the stratosphere.
- Involves Health effects.
- Stratospheric temperature rise and circulation change.

Sources: the hindu.

## **6. IMPACT BASED FORECASTING APPROACH**

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

- **Static Part: About Impact Based Forecasting Approach, about IMD.**
- **Dynamic and Current Part: Significance and the need for advance weather forecasting, need for accurate forecasting.**

**Context:** A new technology called '**Impact Based Forecasting Approach**' has been developed by IMD to assess the rise of water level in rivers and reservoirs by rain and can help state governments to minutely monitor the impact of rainfall.

- The technique is designed to forecast the expected impact as a result of expected weather. Hazard and vulnerability are taken into consideration in this forecast approach.

#### **Need:**

- The heavy downpour had led to floods in Kerala and was result of climate change. State Government had blamed IMD for lapses in its part for wrong rain forecast. IMD had forecasted estimated 98.5 mm rain in the state between 9 and 15 August, 2018 but Kerala received was 352.2 mm of rainfall resulting in severe flooding.

#### **Significance:**

- Pre-event scenario will help state governments authorities to minutely **monitor impact of rainfall and take real-time decisions**. It will help to avoid disastrous situation similar to Kerala floods.
- It can generate scenario to help take decisions to release water or not from reservoirs after heavy downpour. It will be helpful for every state authority to take decision. This system can be run in pre-event scenario.

#### **India Meteorological Department (IMD):**

- It is national meteorological service of the country and chief government agency dealing in everything related to meteorology, seismology and associated subjects.
- It was formed in 1875. It functions under Ministry of Earth Sciences. It is headquartered in New Delhi.

#### **Mandate:**

- Undertake meteorological observations and provide current information and forecasting information for most favourable operation of weather-dependent activities such as irrigation, agriculture, aviation, shipping etc.

- Offer warning against severe weather phenomenon such as tropical cyclones, norwesters, dust storms, heat waves, cold waves, heavy rains, heavy snow, etc.
- Provide met-related statistics needed for agriculture, industries, water resources management, oil exploration, and any other strategically important activities for the country.
- Engage in research in meteorology and allied subjects.
- Detect and locate earthquakes and evaluate of seismicity in various parts of the country for developmental projects.

Sources: the hindu.

**Topic:** Indigenization and development of new technology.

## 1. AGNI-I MISSILE

**What to study?**

- **For Prelims and Mains: Features and significance Agni series missiles.**

**Context:** India has successfully conducted the night trial of the indigenously developed nuclear capable Agni-I ballistic missile off the Odisha coast. The surface-to-surface missile test was test-fired as part of a user-trial from the Abdul Kalam Island off Odisha coast.

**About Agni -I:**

- Agni-I is a short-range ballistic missile developed by DRDO of India under the Integrated Guided Missile Development Program.
- Agni-I missile has a specialised navigation system which ensures it reaches the target with a high degree of accuracy and precision.
- It is sleek single-stage missile, powered by solid propellants developed after the Kargil War to fill the gap between 250 km range of Prithvi-II and 2,500 km range of Agni-II.
- Agni-I was developed by advanced systems laboratory, the premier missile development laboratory of the DRDO.
- The 15-metre-long Agni-I, which can carry payloads up to 1000 kg, has already been inducted into the Indian Army.

Sources: pib.

## 2. SHAKTI- INDIA'S FIRST INGENIOUS MICROPROCESSOR

**What to study?**

- **For Prelims and Mains: Shakti- key features and significance.**

**Context:** Indian Institute of Technology Madras (IIT Madras) researchers have designed India's first indigenous microprocessor called 'Shakti'.

**About Shakti:**

- It is aimed at developing industrial-grade microprocessors and other components of the microprocessor ecosystem.
- It was designed, developed and booted by IIT Madras with microchip fabricated in ISRO's Semiconductor Laboratory at Chandigarh.
- It has been developed under project partly funded by Ministry of Electronics and Information Technology (MeitY), as part of two-decade-old efforts to develop indigenous microprocessors.

**Significance:**

- The microprocessor will reduce dependency on imported microchips especially in communication and defence sectors and thus eliminate risk of cyber-attacks.
- It can be used in mobile computing, wireless and networking systems. It may also provide power to mobile phones, smart meters and surveillance cameras.

Sources: the hindu.

### 3. ICGS VARAHA

- **What is it?** It is a new Offshore patrol vessel (OPV) launched by the Indian Coast Guard (ICG). It is fourth in the series of 98 M OPVs designed and built indigenously by Larsen & Toubro (L&T).

#### Key features:

- It is fitted with advanced technology navigation and communication equipment, sensor and machinery.
- Its weaponry includes one 30 mm and two 12.7 mm guns with fire control system. It has been designed to attain maximum speed of 26 knots and has endurance of 5,000 nautical miles.
- It also equipped with an Integrated Bridge System (IBS), Automated Power Management System (APMS), Integrated Platform Management System (IPMS), and High Power External Fire Fighting (EFF) system.

### 4. QUADRICYCLES

#### What to study?

- **Static Part: What are Quadricycles, how are they regulated in India?**
- **Dynamic and current: How do they affect the present market, environmental concerns, benefits for the people.**

**Context:** The ministry of road transport and highways has approved the sale of quadricycles for personal use.

- **Quadricycle** – a vehicle of the size of a 3-wheeler but with 4 tyres and fully covered like a car. It has an engine like that of a 3-wheeler.
- **Ministry of Road Transport & Highways** notified the insertion of ‘Quadricycle’ as a ‘non transport’ vehicle under the **Motor Vehicles Act 1988**.
- Quadricycles were only allowed for transport usage under the Act, but now has been made usable for non-transport also (Personal use).



#### Intention behind this move:

- The main aim is **to give another mobility option, especially to the middle class who want to upgrade from two-wheelers.**
- Besides, a person cannot carry family members in a three-wheeler, therefore, quadricycles are being allowed in the private category. The move will help them to upgrade to four-wheelers and move around with family.

#### Advantage:

- It is **cheap and safe mode of transport** for last mile connectivity.

#### Exceptions:

- Quadricycles will not be allowed for transporting cargo or luggage.

#### Impact on the auto-industry:

- Quadricycles will pose a serious challenge to entry level cars. With the centre giving a go-ahead on the sale of quadricycles for personal use, top auto makers will have to revamp their strategy on entry-level cars, given quadricycles are expected to be far cheaper.

#### Facts for Prelims:

- Bajaj Auto Ltd's Qute is the first locally produced quadricycle.

#### Analysis- what is left out?

- While the government is trying to improve the safety standards of vehicles for Indian roads, quadricycles may not even meet the basic safety norms. Quadricycles should have been restricted only for commercial purposes since they don't meet the emission and safety norms of passenger cars. The regulators have been lenient and have diluted the norms for vehicles in this segment.

#### Background:

- Earlier this year, the Indian Government had approved of the Quadricycle as a vehicle category. Similar to all other vehicles sold in India even the Quadricycle vehicles will have to undergo a rigorous crash test

and will have to meet the **Bharat New Vehicle Safety Assessment Program (BNVSAP)** safety norms and also the **BS-VI** emission norms.

- The government has also **approved full electric or hybrid models of Quadricycle vehicles** but even those models cannot skip the stringent crash test norms.

Sources: Livemint and PIB.

## 5. OPEN TRANSIT DATA PLATFORM

**What to study?**

- **Static Part: Key features of the platform, its objectives and uses.**
- **Dynamic and Current: Significance of the platform, its role in mitigating environmental problems and increasing transparency.**

**Context:** To increase transparency and build transport solutions, the transport department of the Delhi government has launched **the Open Transit Data platform** which provides real-time datasets free of cost.

**About the Open Transit Data Platform:**

- Through this the government aims to provide **real-time data** which can be used by third party app developers and researchers. This includes geo-coordinates of all bus stops, route maps, timetables as well as the real time GPS feeds of bus locations which will be updated every 10 seconds.
- The portal was designed and developed by IIIT Delhi on behalf of the Delhi government. The government believes that application developer and researchers would be able to use the data for bringing out transport solutions.

**Significance:**

- It is a major step to promote collaboration and co-creation of **innovative and inclusive transport solutions** for the people of Delhi.
- This initiative will provide a lot of useful information at the fingertips of citizens and encourage more and more people to switch to public transport, thereby impacting pollution.

Sources: the hindu.

**Topic:** Awareness in space.

## 1. NASA'S KEPLER SPACE TELESCOPE

**What to study?**

- **For Prelims and Mains: Features, significance and objectives of Kepler's Mission.**

**Context:** The Kepler space telescope has run out of fuel and will be retired after a 9-1/2-year mission.

- Currently orbiting the sun 156 million km from the earth, the spacecraft will drift further from our planet when mission engineers turn off its radio transmitters.

**About Kepler Mission:**

- Launched in 2009, the Kepler mission is specifically designed to survey our region of the Milky Way galaxy to discover hundreds of Earth-size and smaller planets in or near the habitable zone and determine the fraction of the hundreds of billions of stars in our galaxy that might have such planets.
- Since the launch of the observatory in 2009, astronomers have discovered thousands of extra-solar planets, or exoplanets, through this telescope alone. Most of them are planets that are ranging between the size of Earth and Neptune (which itself is four times the size of Earth). Most of these planets were discovered in a small region of the constellation Cygnus, at which Kepler was pointed for the first four years of its mission.
- As of March 2018, Kepler had found 2,342 confirmed planets; add potential planets, and its find of exoworlds stands at 4,587.

**What is the habitable zone?**

If a planet is too close to the star it orbits, any water on the surface quickly boils off, forming a steam atmosphere. If the planet is too far from the star, any water on the surface freezes.

- The habitable zone (or "Goldilocks zone") is the range of orbital distances from a star at which liquid water can exist on the surface of a planet.
- This range of distances changes depending on the size and temperature of the star.
- Earth is in the habitable zone of the sun – one of the reasons our planet has liquid water like oceans and lakes.

## 2. NASA'S DAWN ASTEROID MISSION

### What to study?

- **For Prelims and Mains: Key features, significance and accomplishments of the mission.**

**Context:** Dawn, a NASA spacecraft that launched 11 years ago and studied two of the largest objects in the asteroid belt, has ended its mission after running out of fuel.

### Background:

- Scientists have known for about a month that Dawn was essentially out of hydrazine, the fuel that kept the spacecraft's antennae oriented toward Earth and helped turn its solar panels to the Sun to recharge.

### Accomplishments:

- Dawn became the only spacecraft ever to orbit a cosmic body in the main asteroid belt between Mars and Jupiter in 2011 when it began circling the asteroid Vesta.
- Then it moved on to the dwarf planet Ceres in 2015, becoming the first spacecraft to visit a dwarf planet and the only spacecraft to orbit one.
- The unmanned spacecraft has travelled 4.3 billion miles (6.9 billion kilometers) since its launch in 2007. It is expected to remain in orbit around Ceres for decades, but will no longer be able to communicate with Earth.

Sources: the hindu.

### About the Dawn Mission:

- NASA's Dawn mission will study the asteroid Vesta and dwarf planet Ceres, celestial bodies believed to have accreted early in the history of the solar system. The mission will characterize the early solar system and the processes that dominated its formation.
- Dawn is the only mission ever to orbit two extraterrestrial targets. It orbited giant asteroid Vesta for 14 months from 2011 to 2012, then continued on to Ceres, where it has been in orbit since March 2015.

## 3. ISRO'S ASTROSAT

### What to study?

- **For Prelims and Mains: AstroSat- objectives, accomplishments and significance.**

**Context:** Indian astrophysicists have discovered large ultraviolet lobes and jets, hurled out from a dying star- NGC 6302, popularly called the Butterfly Nebula, using data from AstroSat, the space observatory launched by the Indian Space Research Organisation (ISRO) in 2015.

### What is a planetary nebula?

- A planetary nebula is formed when a star like our Sun – or a few times heavier – is in its dying days. The term, a misnomer now, was coined by astronomers in the 19th century since the nebula looked like planets through their telescopes.
- When hydrogen and helium fuel that kept the star shining gets exhausted, the star expands in size and becomes a red giant star.

Such stars shed most of their outer layers which expands outwards, and the inner core, made of carbon and oxygen, shrinks further and becomes hotter. This hot core shines brightly in the ultraviolet, and ionises the expanding gas. This glowing ionised gas is what is seen as a planetary nebula.

### 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.

## 4. NASA'S ORION SPACECRAFT

### What to study?

- **For Prelims and Mains: All about the Orion Spacecraft and the Mission.**

**Context:** Europe's Airbus has delivered the "powerhouse" for NASA's new Orion Spaceship that will take astronauts to the Moon and beyond in coming years, hitting a key milestone that should lead to hundreds of millions of euros in future orders.

- Airbus's European Service Module will provide propulsion, power, thermal control and consumables to the Orion crew module, marking the first time that NASA will use a European-built system as a critical element to power an American spacecraft.



#### About Orion:

NASA's Orion spacecraft is built to take humans farther than they've ever gone before.

- Orion will serve as the exploration vehicle that will carry the crew to space, provide emergency abort capability, sustain the crew during the space travel, and provide safe re-entry from deep space return velocities. Orion will launch on NASA's new heavy-lift rocket, the Space Launch System.
- Orion will first fly with astronauts aboard during Exploration Mission-2, a mission that will venture near the Moon and farther from Earth than ever before, launching atop NASA's Space Launch System rocket — which will be the world's most powerful rocket.

Sources: the hindu.

## 5. OSIRIS-REX

#### What to study?

- **For Prelims and Mains: OSIRIS-Rex mission and facts on asteroid bennu.**

**Context:** After two years travelling through space, the NASA OSIRIS-REx spacecraft has started to obtain images of the mission target, primitive asteroid Bennu.

- For the first time in more than two years, the OSIRIS-REx spacecraft has unfurled its robotic arm and put it through a series of maneuvers to ensure its space-worthiness after being packed away for launch and a long flight to the asteroid Bennu.
- This arm and its sampler head, known as the **Touch-and-Go Sample Acquisition Mechanism or TAGSAM**, is critical to the mission's goal of retrieving at least 60 grams of material from the surface of Bennu and returning this sample to Earth by 2023. The collection device will act something like a reverse vacuum cleaner.

#### Background:

- The launch of the NASA OSIRIS-REx mission took place on September 8, 2016. Since then, the spacecraft has been two years travelling through space to reach its target, primitive asteroid Bennu, in October, 2018.

#### 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.

#### What will the OSIRIS-Rex do?

- OSIRIS-REx will spend two years travelling towards Bennu, arriving at the asteroid in August 2018.
- The probe will orbit the asteroid for 3 years, conducting several scientific experiments, before returning to Earth, with the sample capsule expected to land in Utah, USA in September 2023.

#### Scientific Mission Goals:

1. During its three year orbit of Bennu, OSIRIS-REx will be conducting a range of scientific experiments in order to better understand the asteroid.
2. As part of this, the asteroid will be mapped using instruments on the probe, in order to select a suitable site for samples to be collected from.
3. The aim of the mission is to collect a sample of regolith- the loose, soil-like material which covers the surface of the asteroid.
4. In July 2020, the probe will move to within a few metres of Bennu, extending its robotic arm to touch the asteroid's surface. The arm will make contact with the surface for just 5 seconds, during which a blast of nitrogen gas will be used to stir up the regolith, allowing it to be sucked into the sample collector.
5. OSIRIS-REx has enough nitrogen on board for 3 sample collection attempts, and NASA are hoping to collect between 60 and 2000g of regolith material to bring back to Earth.

### **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. Around 7000 asteroids are ‘Near-Earth Objects’ (NEOs), meaning they travel within around ~30million miles of the Earth. Out of these, just under 200 have orbits similar to Earth, with Bennu being one of these.
- **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.

## **6. EARTH HAS THREE MOONS**

### **What to study?**

- **For Prelims and Mains: Features, composition and significance of new moons, their effects on Earth.**

**Context:** After more than half a century of speculation, it has now been confirmed that Earth has two dust ‘moons’ orbiting it which are nine times wider than our planet.

- The new moons exist at a distance of approximately 250,000 miles — more or less the same distance as our moon.

### **Background:**

- The presence of the **dust ‘moons’ or Kordylewski clouds** had been inferred by researchers since long before. But the first glimpse of the clouds was seen only in 1961 by Polish astronomer Kazimierz Kordylewski, after whom the dust clouds were named.

### **Facts about the newly discovered dust moons:**

- The new findings note that each Kordylewsky cloud is about 15 by 10 degrees wide, or equal to 30 by 20 lunar disks in the night sky.
- They are spread over a space area that is almost nine times the width of Earth — about 65,000 by 45,000 miles in actual size.
- The dust ‘moons’ are huge but they are made of tiny dust particles that barely measure one micrometre across.
- When sunlight hits the dust particles, they glow very faintly, much like the zodiacal light we receive from the dust scattered in between planetary orbits.
- Since these satellite dust clouds emit an extremely faint light, they are very difficult to find amidst the star light, sky glow, galactic light and zodiacal light in the sky though they are as close to us as the moon.

### **About Kordylewski clouds:**

- The Kordylewski clouds are always changing.
- They might be stable in orbit and may have existed for millions of years, but the ingredients that make the clouds — the dust particles — are always getting swapped for others.
- Some escape to gravitational pulls from Earth or the moon, while others come from interplanetary spaces and meteor showers.

### **How Lagrange points in space helped find the extra ‘moons’?**

- Speculations about Earth having multiple moons have taken turns in astronomer circles for years. It was realised that if extra moons did exist, they could only do so in stable points in Earth’s orbit.
- **Lagrange points** are sweet spots in a planetary orbit where the pull of gravity working from two opposing celestial bodies is balanced due to the centripetal force of their orbits. Thus, an object at a Lagrange point will remain fixed at a constant distance from both the moon and Earth.
  - In the 1950s, Kordylewski searched two Lagrange points — L4 and L5 — where he found the first glimpse of the two dust clouds orbiting Earth.

### **Can these dust 'moons' be dangerous or will they help us?**

- These huge clouds of dust could add much to space exploration efforts when it comes to fuel consumption and safety issues. Sometimes, satellites need to be parked at the Lagrange points so that the spacecraft consumes minimal fuel and can still stay in orbit.
- The James Webb Space Telescope will be set up at the L2 Lagrange point in 2020 for this purpose. Moreover, space agencies are also planning to use Lagrange points as transfer stations for Mars missions.

Sources: the hindu.

## **7. NASA'S RALPH AND LUCY**

### **What to study?**

- **For Prelims and Mains: NASA's Ralph and Lucy- objectives and significance of the mission.**

**Context:** NASA's Ralph and Lucy are all set to explore Jupiter's Trojan asteroids, which are remnants from the earliest days of our solar system.

### **What are they?**

- Ralph is a space instrument that has travelled as far as Pluto, while Lucy is a mission payload, or the spacecraft which would be carrying various scientific instruments including Ralph to study the properties of the asteroids.
- The mission will be launched in 2021 and would be the very first space mission to study the Trojans.

### **About Jupiter's Trojan asteroids:**

- The Trojan asteroids are orbit Sun in two loose groups — one group is always ahead of Jupiter (called the Greek camp) in its path while the other is always behind (called the Trojan camp). The two clusters are stabilized at these two Lagrange points in a gravitational balancing act between the Sun and Jupiter.
  - As per the NASA all of the Trojans are thought to be abundant in dark carbon compounds. Below an insulating blanket of dust, they are probably rich in water and other volatile substances.
  - The Trojan asteroids in Jupiter's orbit could be made from the same material as the outer planets which were formed during the birth of the solar system more than 4 billion years ago.

### **What are Lagrange points?**

- Lagrange points are sweet spots in a planetary orbit where the pull of gravity working from two opposing celestial bodies is balanced due to the centripetal force of their orbits.

### **About mission Lucy to Jupiter's Trojan asteroids:**

- The name Lucy' was taken from the name of the fossil of the earliest human ancestor yet discovered. Just like the finding of this skeleton had provided important insight into human evolution, scientists hope the Lucy mission will also be able to tell us more about our planetary origins.
- The Lucy mission will comprise a 12-year journey with a fly-by to seven different asteroids — six Trojan asteroids and a Main Belt asteroid — more than any other previous asteroid mission. The mission will get us up-close with both the clusters of Trojan asteroids.

### **The Lucy mission payload will explore the Trojan asteroids using:**

1. The Long Range Reconnaissance Imager (L'LORRI).
2. The Thermal Emission Spectrometer (L'TES).
3. L'Ralph.

L'LORRI will take high-definition photos of the Trojans, and L'TES will analyze the heat given off of the Trojans' surface structures.

### **About NASA's scientific instrument Ralph:**

- Ralph first launched aboard the New Horizons spacecraft in 2006 and obtained stunning flyby images of Jupiter and its moons. This was followed by a visit to Pluto where Ralph took the first high-definition pictures of the iconic minor planet.
- The instrument will fly by another Kuiper Belt object called 2014 MU69 — nicknamed Ultima Thule — in January 2019. Ralph's observations of 2014 MU69 will provide unique insights into this small, icy world.
- Ralph enables the study of the composition and atmospheres of celestial objects.

Sources: toi.

## 8. NASA'S INSIGHT SPACECRAFT LANDS ON RED PLANET AFTER SIX-MONTH JOURNEY

### What to study?

- **Static Part: Key facts on InSight Mission.**
- **Dynamic and Current: Why study mars, Objectives of the mission and its significance.**

**Context:** InSight, a NASA spacecraft designed to burrow beneath the surface of Mars has landed on the red after a six-month, 482 million-km journey.

- **It was NASA's ninth attempt to land at Mars** since the 1976 Viking probes. All but one of the previous U.S. touchdowns was successful. NASA last landed on Mars in 2012 with the Curiosity rover.

### Significance of the mission:

- The findings of Mars' formation will help better understand how other rocky planets, including Earth, were and are created. But InSight is more than a Mars mission – it is a terrestrial planet explorer that would address one of the most fundamental issues of planetary and solar system science – understanding the processes that shaped the rocky planets of the inner solar system (including Earth) more than four billion years ago.
- InSight would delve deep beneath the surface of Mars, detecting the fingerprints of the processes of terrestrial planet formation, as well as measuring the planet's "vital signs": Its "pulse" (seismology), "temperature" (heat flow probe), and "reflexes" (precision tracking).
- InSight seeks to answer one of science's most fundamental questions: How did the terrestrial planets form?

### Why Mars?

- Previous missions to Mars have investigated the surface history of the Red Planet by examining features like canyons, volcanoes, rocks and soil. However, signatures of the planet's formation can only be found by sensing and studying its "vital signs" far below the surface.
- In comparison to the other terrestrial planets, Mars is neither too big nor too small. This means that it preserves the record of its formation and can give us insight into how the terrestrial planets formed. It is the perfect laboratory from which to study the formation and evolution of rocky planets. Scientists know that Mars has low levels of geological activity. But a lander like InSight can also reveal just how active Mars really is.

Sources: the hindu.

### About InSight Mission:

InSight is part of **NASA's Discovery Program**, managed by the agency's Marshall Space Flight Center in Huntsville, Alabama.

- **It will be the first mission to peer deep beneath the Martian surface**, studying the planet's interior by measuring its heat output and listening for marsquakes, which are seismic events similar to earthquakes on Earth.
- **It will use the seismic waves generated by marsquakes** to develop a map of the planet's deep interior.

## 9. CHINA UNVEILS 'HEAVENLY PALACE' SPACE STATION

### What to study?

- **For Prelims and Mains: Key features of Heavenly Palace and ISS.**

**Context:** China has unveiled a replica of its first permanently-crewed space station, which would replace the international community's orbiting laboratory- the International Space Station (ISS) and symbolises the country's major ambitions beyond Earth.

### About China's space station:

- It is a 17-metre core module. Three astronauts will be permanently stationed in the 60-tonne orbiting lab, which will enable the crew to conduct biological and microgravity research.
- Assembly is expected to be completed around 2022 and the station would have a lifespan of around 10 years.

### Significance:

- The International Space Station – a collaboration between the United States, Russia, Canada, Europe and Japan – has been in operation since 1998 and is due to be retired in 2024.
- China will then have the only space station in orbit, though it will be much smaller than the ISS which weighs 400 tonnes and is as large as a football pitch.

### **About the International Space Station (ISS):**

- The International Space Station (ISS) is a space station, or a habitable artificial satellite, in **low Earth orbit**. The ISS is now the largest artificial body in orbit.
- The ISS consists of pressurised modules, external trusses, solar arrays and other components. ISS components have been launched by Russian Proton and Soyuz rockets as well as American Space Shuttles.
- The ISS serves as a microgravity and space environment research laboratory in which crew members conduct experiments in biology, human biology, physics, astronomy, meteorology and other fields.
- The station is suited for the testing of spacecraft systems and equipment required for missions to the Moon and Mars.
- The ISS maintains an orbit with an altitude of between 330 and 435 km by means of reboost manoeuvres using the engines of the Zvezda module or visiting spacecraft. It completes 15.54 orbits per day.
- ISS is the ninth space station to be inhabited by crews, following the Soviet and later Russian Salyut, Almaz, and Mir stations as well as Skylab from the US.
- The ISS programme is a joint project among five participating space agencies: NASA, Roscosmos, JAXA, ESA, and CSA.
- The ownership and use of the space station is established by intergovernmental treaties and agreements. The station is divided into two sections, the Russian Orbital Segment (ROS) and the United States Orbital Segment (USOS), which is shared by many nations.

Sources: the hindu.

## **10. INTERNATIONAL SPACE STATION**

### **What to study?**

- **For Prelims and Mains: All about ISS, its significance and accomplishments.**

**Context:** The International Space Station (ISS) turned 20 years old on November 20, 2018.

- On this day in 1998, aerospace engineers from Russia and the United States celebrated the lift-off of the Russia-built, US-funded unit Zarya ("sunrise") as it took off from Kazakhstan's Baikonur Cosmodrome.

### **What Is the International Space Station?**

- The International Space Station is a large spacecraft in orbit around Earth. It serves as a home where crews of astronauts and cosmonauts live. The space station is also a unique science laboratory. Several nations worked together to build and use the space station.
- The space station is made of parts that were assembled in space by astronauts. It orbits Earth at an average altitude of approximately 250 miles. It travels at 17,500 mph. This means it orbits Earth every 90 minutes. NASA is using the space station to learn more about living and working in space.
- These lessons will make it possible to send humans farther into space than ever before.

### **How Old Is the Space Station?**

- The first piece of the International Space Station was launched in November 1998. A Russian rocket launched the Russian Zarya (zar EE uh) control module. About two weeks later, the space shuttle Endeavour met Zarya in orbit. The space shuttle was carrying the U.S. Unity node. The crew attached the Unity node to Zarya.
- More pieces were added over the next two years before the station was ready for people to live there. The first crew arrived on November 2, 2000. People have lived on the space station ever since. More pieces have been added over time. NASA and its partners from around the world completed construction of the space station in 2011.

### **How Big Is the Space Station?**

- The space station has the volume of a five-bedroom house or two Boeing 747 jetliners.
- It is able to support a crew of six people, plus visitors.
- On Earth, the space station would weigh almost a million pounds. Measured from the edges of its solar arrays, the station covers the area of a football field including the end zones.
- It includes laboratory modules from the United States, Russia, Japan and Europe.

### **Why Is the Space Station Important?**

- The space station has made it possible for people to have an ongoing presence in space. Human beings have been living in space every day since the first crew arrived. The space station's laboratories allow

crew members to do research that could not be done anywhere else. This scientific research benefits people on Earth.

- Space research is even used in everyday life. The results are products called “spinoffs.” Scientists also study what happens to the body when people live in microgravity for a long time. NASA and its partners have learned how to keep a spacecraft working well. All of these lessons will be important for future space exploration.
- NASA currently is working on a plan to explore other worlds. The space station is one of the first steps. NASA will use lessons learned on the space station to prepare for human missions that reach farther into space than ever before.

#### **Key facts:**

- ISS is the ninth space station to be inhabited by crews, following the Soviet and later Russian Salyut, Almaz, and Mir stations as well as Skylab from the US.
- The ISS programme is a joint project among five participating space agencies: NASA, Roscosmos, JAXA, ESA, and CSA.
- The ownership and use of the space station is established by intergovernmental treaties and agreements. The station is divided into two sections, the Russian Orbital Segment (ROS) and the United States Orbital Segment (USOS), which is shared by many nations.

## 11. GROWTH-INDIA TELESCOPE

### **What to study?**

- **For Prelims and Mains:** *GROWTH-India telescope-objectives, functioning and its significance.*

**Context:** The 0.7 m GROWTH-India telescope at the Indian Astronomical Observatory located in Hanle, Ladakh, has made its first science observation which is a follow-up study of a nova explosion.

### **About GROWTH-India Telescope:**

The GROWTH-India telescope is part of a multi-country collaborative initiative – known as the **Global Relay of Observatories Watching Transients Happen (GROWTH)** – to observe transient events in the universe.

- The fully robotic telescope is designed to capture cosmic events occurring over relatively shorter periods of the cosmological timescale: years, days and even hours.
- Universities and research institutes from the US, the UK, Japan, India, Germany, Taiwan and Israel are part of the initiative.
- Their primary research objective is time-domain astronomy, which entails the study of explosive transients and variable sources (of light and other radiation) in the universe.

### **Nova Observation:**

- Novae are explosive events involving violent eruptions on the surface of white dwarf stars, leading to temporary increase in brightness of the star. Unlike a supernova, the star does not go on to die but returns to its earlier state after the explosion.



### **Its goals are threefold:**

1. Search for explosions in the optical regime whenever LIGO group detects a Binary Neutron Star merger
2. Study nearby young supernova explosions
3. Study nearby asteroids.

- The recurrent nova, named M31N-2008, has been observed to erupt several times, the most recent eruption happening in November 2018.

## 12. HYSIS

### What to study?

- Static Part: About HysIS, objectives and significance.**
- Dynamic and Current: India's space capabilities and its significance.**

**Context:** The Indian Space Research Organization's (ISRO) Polar Satellite Launch Vehicle (PSLV-C43) successfully launched 31 satellites from Satish Dhawan Space Centre (SDSC) in Sriharikota.

### About HysIS and its significance:

- The primary goal of HysIS is **to study the Earth's surface in visible, near-infrared and shortwave infrared regions of the electromagnetic spectrum.**
- HysIS will be **ISRO's first full-scale working satellite** with this capability. While the technology has been around, not many space agencies have working satellites with hyperspectral imaging cameras as yet.
- A hyperspectral imaging camera in space can provide well-defined images that can help to identify objects on Earth far more clearly than regular optical or remote sensing cameras.
- The technology will be an added advantage of watching over India from space for a variety of purposes such as defence, agriculture, land use, minerals and so on.

### HysIS:

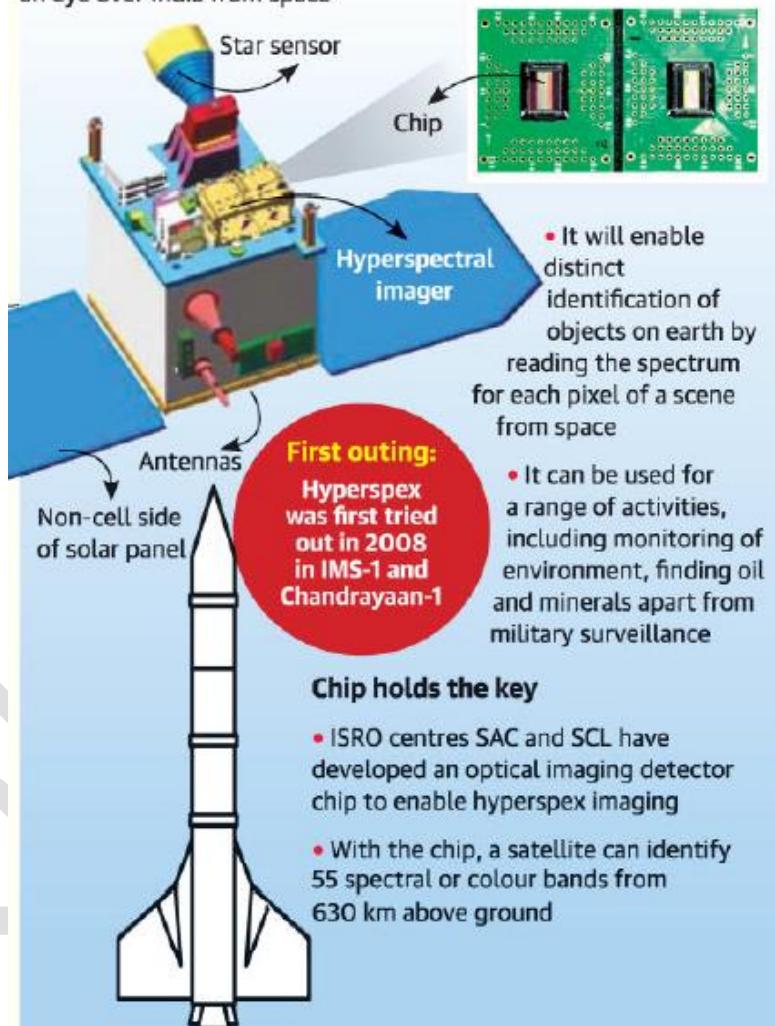
- Hyper Spectral Imaging Satellite (HysIS)** It is an **earth observation satellite** built around ISRO's **Mini Satellite 2 (IMS-2)** bus weighing about 380 kg.
- The life of the satellite is **five years**.
- Satellites from Australia, Columbia, Malaysia, and Spain were flown aboard PSLV for the **first time**. These foreign satellites launched are part of commercial arrangements between **Antrix Corporation Limited and customers**.

### Primary Goal:

- It is to **study the earth's surface in both the visible, near infrared and shortwave infrared regions of the electromagnetic spectrum.**
- Data from the satellite will **be used for various applications including agriculture, forestry, soil/geological environments, coastal zones and inland waters, etc.**

### Sharper eye in the sky

The hyperspectral imager will add a new dimension to keeping an eye over India from space

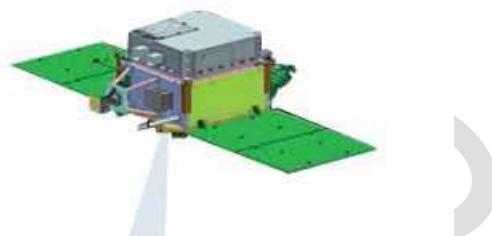


### PSLV:

- Polar Satellite Launch Vehicle (PSLV) is the third generation launch vehicle of India. It is the first Indian launch vehicle to be equipped with liquid stages.
- **It is a four stage launch vehicle.**
  1. A large solid rocket motor forming the **first stage**,
  2. An earth storable liquid stage as the **second stage**,
  3. A high performance solid rocket motor as **third stage**, and
  4. A liquid stage with engines as **fourth stage**.
- The vehicle successfully launched two spacecraft – Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft in 2013

### HOW IT WORKS & ITS ADVANTAGES

- ▶ It captures the energy reflected from objects when sunlight illuminates them
- ▶ The imager can capture objects in **55** spectral or colour bands pin, pointing fine details and minute differences



### APPLICATIONS

#### Agriculture

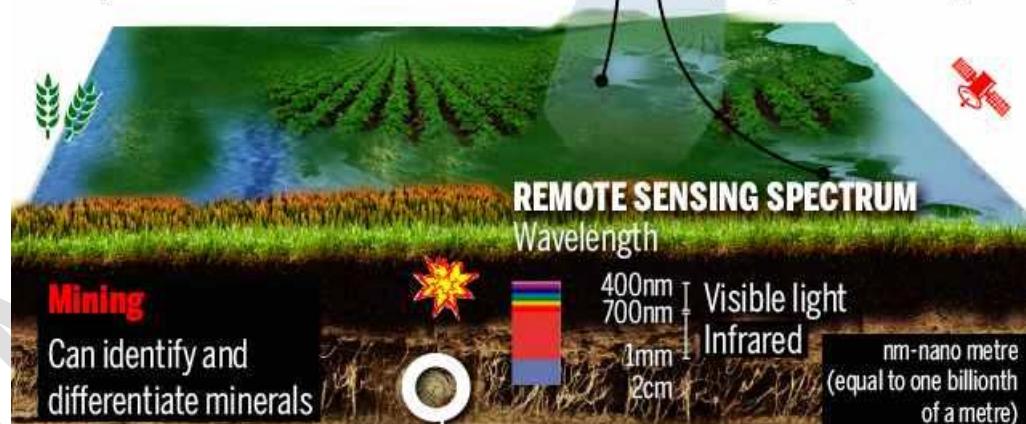
Can detect the health of crops and plants

#### Forestry

Can detect streams and ponds in thick forests

#### Research

Help measure the depth of shallow water bodies (bathymetry studies)



#### Military applications

Can detect landmine on ground and a few centimetres underground

**The longer the wavelength, the deeper the radiation can penetrate into the ground**

## 9. GSAT-29

### What to study?

- **For Prelims and Mains: Key facts on GSAT- 29 and GSLVMk 3, significance of the launch.**

**Context:** The Indian Space Research Organisation (ISRO) has launched its latest communication satellite, GSAT-29, from its second developmental flight GSLV-MkII D2.

#### About GSLV Mk III:

- GSLV Mk III is a three-stage heavy lift launch vehicle developed by the Indian Space Research Organisation (ISRO).
- Two massive boosters with **solid propellant** constitute the **first stage**, the core with **liquid propellant** form the **second stage** and the **cryogenic engine** completes the **final stage**.

#### About GSAT-29:

- GSAT-29 is a multiband, multi-beam communication satellite, intended to serve as test bed for several new and critical technologies. Its Ku-band and Ka-band payloads are configured to cater to the communication requirements of users including those from remote areas especially from Jammu & Kashmir and North-Eastern regions of India.
- In addition, the Q/V-Band communication payload onboard is intended to demonstrate the future high throughput satellite system technologies. Geo High Resolution Camera will carry out high resolution imaging. Optical Communication Payload will demonstrate data transmission at a very high rate through optical communication link.

#### Significance of the launch:

- The success of GSLV MkIII-D2 marks an important milestone in Indian space programme towards achieving self-reliance in launching heavier satellites.
- The success of this flight also signifies the completion of the experimental phase of GSLV Mark III.

## GSLV Mk III-D2 Puts GSAT-29 into Orbit

**GSLV Mk III-D2 Rocket**

Heavy lift launch vehicle capable of launching payloads up to 4,000 kg into Geosynchronous Transfer Orbit and up to 10,000 kg into Low Earth Orbit.

Lift-off weight: 640 tonnes	Height: 43.49 metres	Diameter: 4 metres	Stages: Three (Solid, Liquid and Cryogenic)
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**GSAT-29 Communication Satellite**

GSAT-29 is a multi-beam, multi-band communication satellite. It is the 33rd communication satellite built by ISRO.

Lift-off weight: 3,423 kg	Mission life: 10 years	Power generation: 4,600 watts
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**Payloads**

- Ku-band four user spot beams
- Ka-band four user spot beams and one user steerable beam
- Q/V-band communication payload
- Geo high resolution camera
- Optical communication payload

Launched from Satish Dhawan Space Centre at Sriharikota on Nov 14, 2018

The infographic features a large image of the GSLV Mk III-D2 rocket on the left, with the ISRO logo above it. To the right is a detailed view of the GSAT-29 satellite in space. Below the rocket is a map of India with a red dot indicating the launch site at Sriharikota. A callout box provides the launch date and location.

**Topic:** Computers, IT, Robotics, Biotechnology, etc

## 1. EARTH BIOGENOME PROJECT

#### What to study?

- **For Prelims:** Key features of the project.
- **For Mains:** Significance, challenges and issues associated with the project.

**Context:** International biologists have launched Earth BioGenome Project (EBP)- an ambitious project to read all the DNA in each of the world's known animal, plant and fungal species over the next 10 years, sequencing 1.5m different genomes at an estimated cost of \$4.7bn.

**About the Earth BioGenome Project (EBP):**

- The Earth BioGenome Project plans to record the genomes — the DNA blueprint of life — of 1.5 million species of animal, plant, protozoa and fungi within a decade.
- So far, 19 research institutions around the world have signed up to take part in the EBP and more plan to join.
- They expect to read the full DNA sequence of all the world's eukaryotic species — organisms whose cells have a nucleus enclosed by membranes. These are animals, plants, fungi and protozoa, which encompass all of life except simple microbes (bacteria and archaea).
- Participating institutions aim to raise the required funds from governments, foundations and charities. The project's first phase — producing a reference genome for each of the 9,000 taxonomic families of eukaryotic life — will require \$600m, of which about one-third has already been provided.
- UK participants, led by the Wellcome Sanger Institute, will sequence the genetic codes of all 66,000 species known to inhabit Britain in a £100m national effort called the Darwin Tree of Life, as well as helping the broader international project.

**Need:**

- The target of 1.5m genomes represents all eukaryotic species known and catalogued by science.
- Biologists say that many more remain undiscovered, with the real total estimated at 10m to 15m species.
- But they are disappearing fast as a result of human activity, in what scientists are calling Earth's sixth great extinction; the fifth was the asteroid impact that wiped out dinosaurs 65m years ago.

**Significance:**

- The blueprints for all living species will be a tremendous resource for new discoveries, understanding the rules of life, how evolution works, new approaches for the conservation of rare and endangered species, and provide new resources for researchers in agricultural and medical fields.
- So far, only 3,300 eukaryotic species have had their DNA fully sequenced, 0.2% of the target. With strong international co-ordination, adequate funding and continuing rapid technological progress, 1.5m genomes could be achieved by 2028.

## 2. BIONIC MUSHROOMS

**What to study?**

- **For Prelims and Mains: Bionic mushrooms- meaning, significance and applications.**

**Context:** In their latest feat of engineering, researchers at Stevens Institute of Technology have taken an ordinary white button mushroom from a grocery store and made it bionic, supercharging it with 3D-printed clusters of cyanobacteria that generate electricity and swirls of graphene nanoribbons that can collect the current.

**How was it developed?**

- Researchers used a robotic arm-based 3D printer to first print an “electronic ink” containing the graphene nanoribbons. This printed branched network serves as an electricity-collecting network atop the mushroom’s cap by acting like a nano-probe — to access bio-electrons generated inside the cyanobacterial cells.
- Next, they printed a “bio-ink” containing cyanobacteria onto the mushroom’s cap in a spiral pattern intersecting with the electronic ink at multiple contact points. At these locations, electrons could transfer through the outer membranes of the cyanobacteria to the conductive network of graphene nanoribbons. Shining a light on the mushrooms activated cyanobacterial photosynthesis, generating a photocurrent.

**Significance and applications of Bionic mushrooms:**

- This bionic mushroom produces electricity. By integrating cyanobacteria that can produce electricity, with nanoscale materials capable of collecting the current, researchers were able to better access the unique properties of both, augment them, and create an entirely new functional bionic system.

- The amount of electricity these bacteria produce can vary depending on the density and alignment with which they are packed, such that the more densely packed together they are, the more electricity they produce.

### 3. ICMR RELEASES GUIDELINES FOR ANTIBIOTICS' JUDICIOUS USE

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

- For Prelims:** About ICMR and what is antimicrobial resistance?
- For Mains:** AMR- concerns, vulnerability, measures in place and global efforts needed in this regard.

**Context:** To ensure judicious use of antibiotics in healthcare facilities, the **Indian Council of Medical Research (ICMR)** has released Antimicrobial Stewardship Guidelines to advise hospitals in setting up **Antimicrobial Stewardship Programmes (AMSP)** for the purpose.

#### **Need for AMSP:**

- Antimicrobial resistance (AMR)** is a major public health challenge, and with very few new antibiotics in the pipeline, it is important to use the existing drugs judiciously.
- Since inappropriate use of antibiotics is rampant in India, there is an urgent need to improve antibiotic use in hospitals, which can be achieved through implementation of good AMS programmes.

#### **The guidelines and their significance:**

- These guidelines provide guidance for setting up structure and processes of Antimicrobial Stewardship Programmes in healthcare institutions.
- It will help discuss essential elements of antimicrobial stewardship, diagnostic stewardship besides providing information on tools that can be used to measure progress.

#### **What is Antimicrobial resistance and why is it on rise?**

- Antimicrobial resistance (AMR) is a major public health challenge, which is recognised as high priority area by the government. The increasing consumption of antibiotics is one of the key drivers of antimicrobial resistance seen in bugs.
- Irrational prescription of broad-spectrum antibiotics, poor regulations around sale of antibiotics, self-medication, lack of education and awareness regarding responsible use of antibiotics have been identified as some of the key factors driving antimicrobial resistance in our country.
- The National Health Policy, 2017**, terms antimicrobial resistance as one of the key healthcare issues and prioritises development of guidelines regarding antibiotic use, limiting over-the-counter use of antibiotics and restricting the use of antibiotics as growth promoters in livestock.

### 4. MICROBIOME RESEARCH

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

- Static Part:** What is Microbiome research, significance of Human Microbiome.
- Dynamic and Current:** Indian project on Microbiome research, concerns, potential and challenges ahead.

#### **Why in News?**

- From November 19 to 22, **Pune hosted an international conference on microbiome research** — a field of study that is still in its infancy in India.

#### **What is "Human Microbiome"?**

- The human body carries diverse communities of microorganisms, which are mainly bacterial. These are referred to as "human microbiome".

#### **Their role:**

- These organisms play a key role in many aspects of host physiology, ranging from metabolism of otherwise complex indigestible carbohydrates and fats to producing essential vitamins, maintaining immune systems and acting as a first line of defense against pathogens.

#### **Significance of research on the human microbiome:**

- Research on the human microbiome has thrown light on various aspects — how different parts of the human body are occupied by characteristic microbial communities, and how various factors contribute in shaping the composition of the microbiome, including the genetics, dietary habits, age, geographic location and ethnicity.

- These studies laid a strong foundation to decipher the microbiome's implications on health and a wide range of diseases.

#### **India's project:**

- India has proposed a project that would study and map the human microbiome across the country. The Rs 150-crore project will get approval soon.
- The project will include collection of saliva, stool and skin swabs of 20,000 Indians across various ethnic groups from different geographical regions. India provides for a wide range of research with more than 4,500 ethnic groups and presence of two global biodiversity hotspots (Himalayan range and Western Ghats).

#### **Need:**

- Scientists at NCSS have conducted a meta-analysis on gut microbiota of healthy Indian individuals and compared it with that of individuals from other parts of the world. It shows that the Indian population harbours a distinct gut microbial community, which, scientists say, calls for an in-depth investigation of the Indian microbiome.
- India has a large number of tribal populations largely unaffected by "modern" diet and lifestyle. The prevalence of lifestyle-related disorders such as obesity and diabetes has been known to be significantly lower compared to the non-tribal (urbanised) populations across the globe. Hence, scientists say, a study on the tribal population would help improve knowledge of evolution of the mutualism between gut microbiota and the host.

Sources: Indian Express.

## **5. TRANSGENIC RICE WITH REDUCED ARSENIC ACCUMULATION**

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

- **Static Part: What is Transgenic rice? Arsenic contamination- effects.**
- **Dynamic and Current: Increasing arsenic contamination- issues, concerns, WHO guidelines.**

**Context:** Arsenic accumulation in rice grains is one of the serious agricultural issues in India. To address this, researchers at Lucknow-based CSIR-National Botanical Research Institute have developed transgenic rice by inserting a novel fungal gene, which results in **reduced arsenic accumulation in rice grain**.

#### **How was it achieved?**

- Researchers have cloned **Arsenic methyltransferase (WaarsM) gene** from a soil fungus, Westerdykellaaurantiaca, and inserted the same into the rice genome with the help of Agrobacterium tumefaciens, a soil bacterium which has natural ability to alter the plant's genetic makeup.
  - The newly developed transgenic rice along with normal rice was then treated with arsenic. Comparison of transgenic and non-transgenic rice showed that transgenic plants accumulated less arsenic in root as well as shoot as compared to non-transgenic lines.
  - Researchers found that the resulting transgenic plant acquired the potential for methylating inorganic arsenic to a variety of harmless organic species, including volatile arsenicals. This could be potential strategy for developing transgenic rice capable of low arsenic accumulation not only in grain but also in straw and feed which are used for livestock.

#### **Need and significance:**

- As large number of people are affected by arsenic toxicity, it is imperative to develop rice with lesser arsenic content and high yield. In this background, biotechnological methods such as modulating the expression of Arsenic metabolism-related genes in rice will be a fruitful and practical approach to decrease arsenic accumulation.

Sources: down to earth.

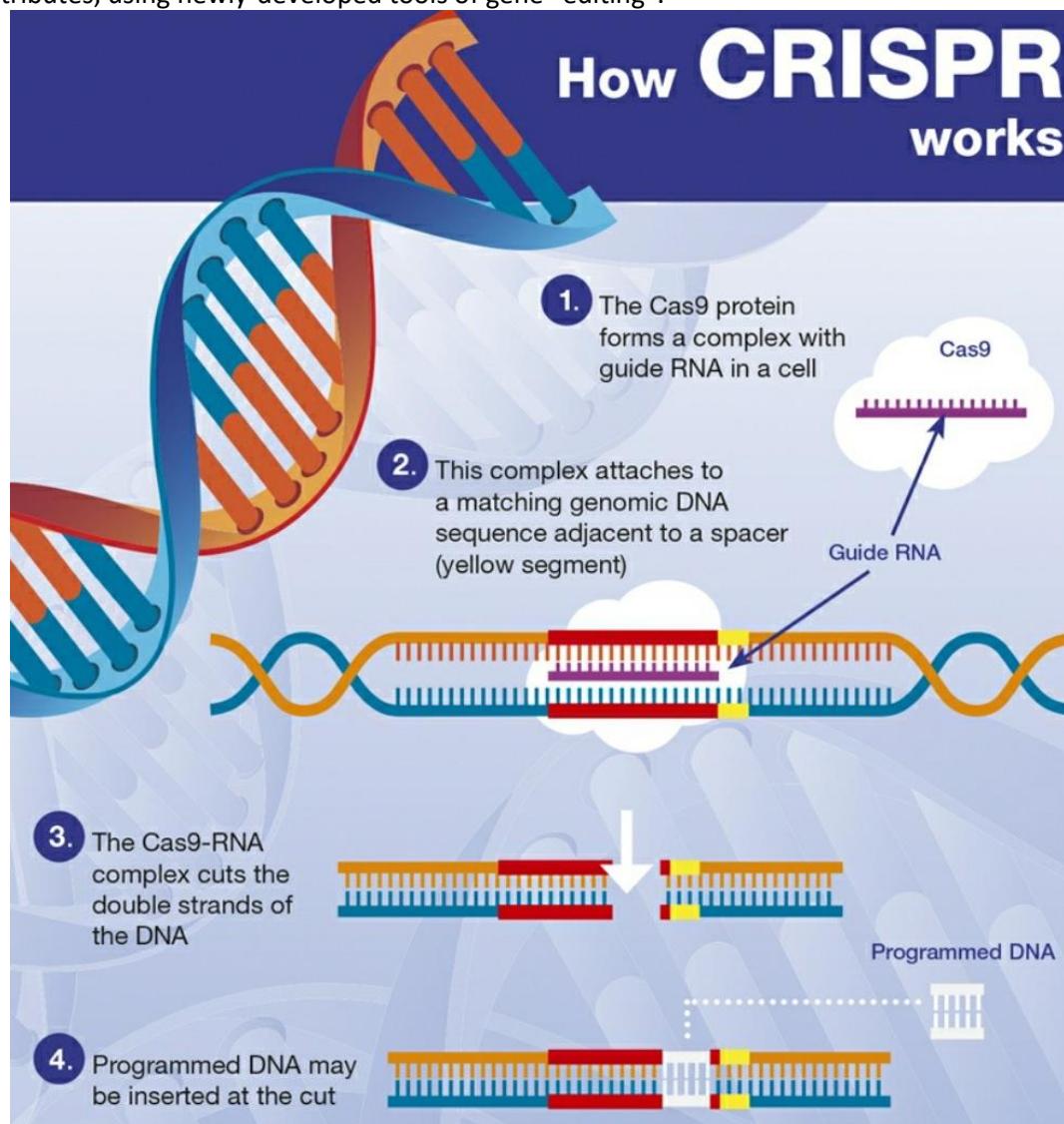
## **6. CRISPR TECHNOLOGY**

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

- **Static Part: All about CRISPR technology and how it works?**
- **Dynamic and Current: Recent developments, significance of the technology, concerns associated and ethical concerns associated.**

**Context:** A Chinese researcher recently claimed that he had altered the genes of a human embryo that eventually resulted in the birth of twin girls. The genes were claimed to be “edited” to ensure that they do not get infected with HIV, the virus that causes AIDS.

- If proven, it would be the first instance of human offspring having been produced with specific desired attributes, using newly-developed tools of gene “editing”.



#### 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.

#### 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.

### **How it works?**

- CRISPR-Cas9 technology behaves like a cut-and-paste mechanism on DNA strands that contain genetic information.
  - The specific location of the genetic codes that need to be changed, or “edited”, is identified on the DNA strand, and then, using the Cas9 protein, which acts like a pair of scissors, that location is cut off from the strand. A DNA strand, when broken, has a natural tendency to repair itself.
  - Scientists intervene during this auto-repair process, supplying the desired sequence of genetic codes that binds itself with the broken DNA strand.

### **Concerns:**

- Tampering with the genetic code in human beings is more contentious. Leading scientists in the field have for long been calling for a “global pause” on clinical applications of the technology in human beings, until internationally accepted protocols are developed.

### **Issues:**

- Study by Stanford University, U.S., found that the CRISPR-Cas9 system **introduces unexpected off-target (outside of the intended editing sites) effects in mice**. The fear that the CRISPR system is being prematurely rushed for clinical use lingers. Three recent reports have exacerbated this fear even further.
  - Studies highlighted that CRISPR-Cas9-edited **cells might trigger cancer**.
  - **May increase the risk of mutations elsewhere** in the genome in those cells.
  - Although, CRISPR-Cas9 technology has been successfully used to cure several diseases however, it remains many things are not clear like how we should determine which disease or traits are appropriate for gene editing.
  - **Ethical concerns:** In addition, there are concerns with manipulating human embryos for own interest.

### **Way ahead:**

- This CRISPR technology is indeed a path-breaking technology, to alter genes in order to tackle a number of conventional and unconventional problems, especially in the health sector.
- However, experiments and tests to validate its use must be subjected to appropriate scrutiny by the regulators, and their use must be controlled to prevent commercial misuse.

Sources: the hindu.

(Q) What do you understand by CRISPR Cas9 editing technology? There is growing fear that the promising gene-editing system is being prematurely rushed for clinical use. Discuss.

## **7. SPINNAKER- WORLD'S LARGEST BRAIN-LIKE SUPERCOMPUTER**

### **What to study?**

- **For Prelims and Mains: About SpiNNaker, potential applications and what are biological neurons.**

**What is it?** It is the world's largest supercomputer designed to work in the same way as the human brain. It has been switched on for the first time.

- The newly formed million-processor-core Spiking Neural Network Architecture (SpiNNaker) machine is capable of completing more than 200 million million actions per second, with each of its chips having 100 million transistors.

### **What is unique about SpiNNaker?**

- SpiNNaker is unique because, unlike traditional computers, it does not communicate by sending large amounts of information from point A to B via a standard network.
- Instead it mimics the massively parallel communication architecture of the brain, sending billions of small amounts of information simultaneously to thousands of different destinations.

### **How it works?**

- Researchers eventually aim to model up to a billion biological neurons in real time and are now a step closer.

### **What are biological neurons?**

- The SpiNNaker machine, designed and built in The University of Manchester in the UK, can model more biological neurons in real time than any other machine on the planet.
- Biological neurons are basic brain cells present in the nervous system that communicate primarily by emitting ‘spikes’ of pure electro-chemical energy.
- Neuromorphic computing uses large scale computer systems containing electronic circuits to mimic these spikes in a machine.

To give an idea of scale, a mouse brain consists of around 100 million neurons and the human brain is 1,000 times bigger than that.

- One billion neurons is one per cent of the scale of the human brain, which consists of just under 100 billion brain cells, or neurons, which are all highly interconnected via approximately one quadrillion synapses.
- One of the fundamental uses for the supercomputer is to help neuroscientists better understand how our own brain works. It does this by running extremely large scale real-time simulations which simply aren't possible on other machines.
- For example, SpiNNaker has been used to simulate high-level real-time processing in a range of isolated brain networks. This includes an 80,000 neuron model of a segment of the cortex, the outer layer of the brain that receives and processes information from the senses.

#### **Potential for neurological breakthroughs:**

- It also has simulated a region of the brain called the Basal Ganglia – an area affected in Parkinson's disease, meaning it has massive potential for neurological breakthroughs in science such as pharmaceutical testing.
- The power of SpiNNaker has even recently been harnessed to control a robot, the SpOmnibot. This robot uses the SpiNNaker system to interpret real-time visual information and navigate towards certain objects while ignoring others.

Sources: the hindu.

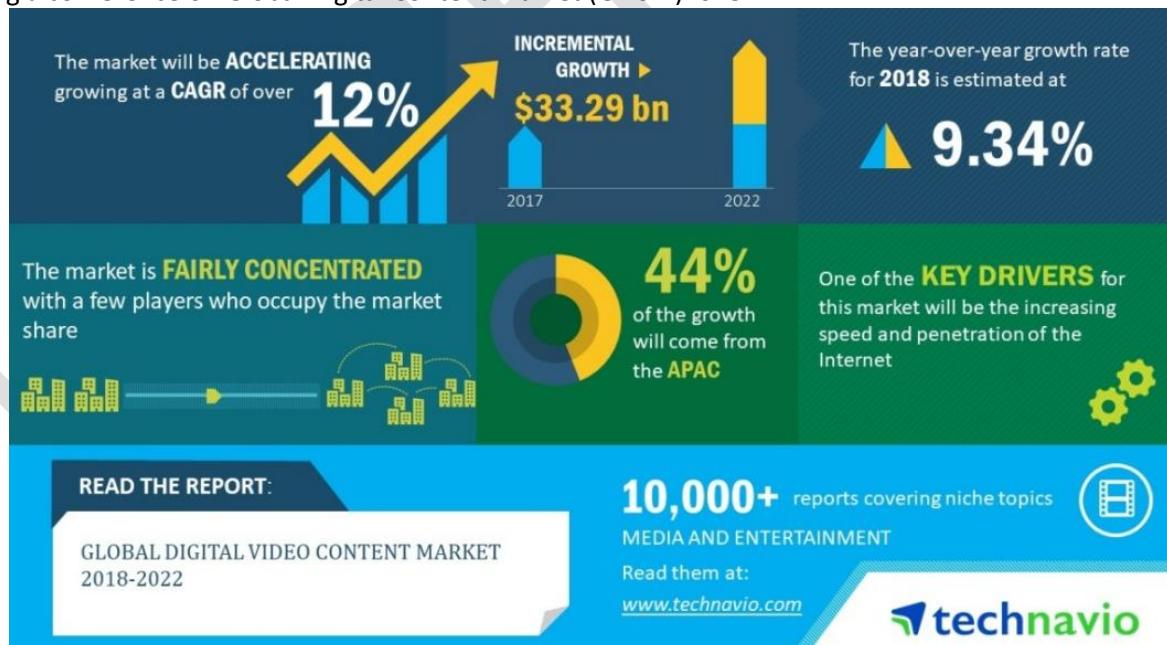
**Topic:** IPR related issues.

## 1. GLOBAL DIGITAL CONTENT MARKET 2018

### **What to study?**

- **For Prelims:** About GDCM, WIPO.
- **For Mains:** Aim, objectives and significance of the conference.

**Context:** The Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry, is hosting a conference on Global Digital Content Market (GDCM)2018.



### **Key facts:**

- The conference will feature sessions on music, film, broadcasting and publishing, as well as collective management, emerging models and the implications for the market and policy makers.
- India has been chosen as a host nation for the conference by World Intellectual Property Organization (WIPO) due to the strong creative industry in the country in films, music and media.
- The focus for this year's conference is the Asia Pacific region.

### **About Global Digital Content Market (GDCM)2018:**

- GDCM is a platform to discuss vital issues and enhance development of the digital and IP generating industries such as publishing, films, music, and gaming all of which are major contributors to the Indian GDP.
- The GDCM 2018 will see participation of professionals from various creative fields, the digital industry around the world and delegates of the diplomatic community from Missions to the United Nations.
- The aim of GDCM 2018 is to give industry stakeholders a platform to come together and discuss new avenues in the films, music, gaming and creative industry along with points of challenge that is presented due to the changing creative landscape because of the disruption brought about by digital technologies.

## **2. MISSION RAKSHA GYAN SHAKTI**

- Raksha Mantri Smt Nirmala Sitharaman has formally launched 'Mission Raksha Gyan Shakti'.
- The event **showcased salient inventions and innovations achieved by Defence Research and Development Organisation (DRDO), Defence Public Sector Undertakings (DPSUs), and Ordnance Factories (OFs)** which have resulted in successful filing of **Intellectual Property Rights (IPR)** applications.
- The **Directorate General of Quality Assurance (DGQA)** has been entrusted with the responsibility of coordinating and implementing the programme.

#### **Objective:**

- As part of the ongoing **initiatives to enhance self-reliance in defence**, the Mission Raksha Gyan Shakti aims to provide a boost to the IPR culture in indigenous defence industry.

#### **Other Highlights:**

- IPR emerged as a key ingredient of an ecosystem which stimulates innovation and ingenuity.
- It was highlighted the need to migrate from the culture of seeking **Transfer of Technology (ToT)** from foreign sources to generating Intellectual Property in India, **to achieve the goal of self-reliance** in Defence sector.

#### **IP Facilitation Cell:**

It was established in April this year.

- To achieve ambitious targets of training 10,000 personnel of Ordnance Factories (OFs) and Defence Public Sector Undertakings (DPSUs) on IPR.
- To facilitate filing of at least 1,000 new IPR applications.

#### **What are Intellectual Property Rights?**

- According to the **World Trade Organization (WTO)**, IPRs are the rights given to persons over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time.

Source: PIB

**Topic:** Conservation, Environment related issues.

## **1. OCEANS HEATING FASTER: STUDY**

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

- **For Prelims: IPCC.**
- **For Mains: Oceans- threats from climate change, implications, concerns and measures needed.**

**Context:** Scientists from the Intergovernmental Panel on Climate Change (IPCC) have released their assessment on the health of world oceans.

#### **Highlights of the study:**

- For each of the last 25 years, oceans had absorbed heat energy equivalent to 150 times the amount of electricity mankind produces annually. That is 60% higher than what previous studies showed.
- The world's oceans have absorbed 90% of the temperature rise caused by man-made carbon emissions.

#### **Concerns:**

- Oceans cover more than two thirds of the planet's surface and play a vital role in sustaining life on Earth.

### **How was it measured?**

- Scientists focussed on two gases found naturally in the atmosphere — Oxygen and carbon dioxide.
- Both gases are soluble in water, but the rate at which water absorbs them decreases as it warms.
- By measuring atmospheric oxygen and CO<sub>2</sub> for each year, scientists were able to more accurately estimate how much heat oceans had absorbed on a global scale.

### **Way ahead:**

- Mankind must once again revise down its carbon footprint, with emissions needing to fall 25% compared to previous estimates.
- The result significantly increases the confidence we can place in estimates of ocean warming and therefore helps reduce uncertainty.

Sources: the hindu.

## **2. OZONE HOLE**

### **What to study?**

- **For Prelims and Mains: About Ozone hole, how it is formed, ozone layer, CFCs and measures to prevent.**

**Context:** A recent study by NASA has confirmed the recovery of the ozone layer due to the absence of chlorine from Chlorofluorocarbon (CFC) in the atmosphere.

### **Highlights of the study:**

- The study has confirmed the phenomenon by mapping the chemical composition of the atmosphere.
- The study revealed that chlorine levels declined by 0.8% each year between 2005 and 2016 and speculates that it could be the effect of the worldwide ban on the use of CFC.
- Previous research had hinted at the decrease in the depletion of ozone layer.
- Scientists believe that the ozone layer would fully recover by 2080.

### **What are CFCs?**

- Chlorofluorocarbons, or CFCs, are compounds made up of combinations of the elements chlorine, fluorine and carbon; aerosols, refrigerants and foams contain CFCs.
- When these CFCs enter the air, they rise up into the atmosphere to meet up with and destroy ozone molecules.
- First used in 1928, CFCs have since become more common as various other CFC compounds were created. Some of the better-known CFCs are the Freon compounds, which were used as cooling ingredients in refrigerators and air conditioners.
- CFCs have lifetimes from 50 to 100 years.

### **How CFCs destroy the ozone?**

- Once in the atmosphere, CFCs drift slowly upward to the stratosphere, where they are broken up by ultraviolet radiation, releasing the chlorine that catalytically destroys ozone. The process is as follows:
- UV radiation breaks off a chlorine atom from a CFC molecule.
- The chlorine atom attacks an ozone molecule (O<sub>3</sub>), breaking it apart and destroying the ozone.
- The result is an ordinary oxygen molecule (O<sub>2</sub>) and a chlorine monoxide molecule (ClO).
- The chlorine monoxide molecule (ClO) is attacked by a free oxygen atom releasing the chlorine atom and forming an ordinary oxygen molecule (O<sub>2</sub>).
- The chlorine atom is now free to attack and destroy another ozone molecule (O<sub>3</sub>). One chlorine atom can repeat this destructive cycle thousands of times.

### **What is ozone layer?**

- A layer of ozone envelops the Earth and keeps damaging ultraviolet, or UV, radiation from reaching living things on the planet's surface.
- The ozone layer exists mainly in the stratosphere, a layer of the atmosphere that reaches from 10 to 50 kilometers (about 6 to 30 miles) above the Earth's surface.

### **What is ozone hole?**

- The ozone hole is a region of depleted layers of ozone above the Antarctic region, whose creation is linked to increased cases of skin cancer.

### **Factors responsible for the depletion of ozone:**

- Depletion of ozone is due to many factors, the most dominant of which is the release of chlorine from CFCs (Chlorofluorocarbons) which destroys the ozone. CFCs are released by products such as hairsprays, old refrigerators etc.

### **Applications of CFCs:**

- CFCs have some interesting properties which can be fully exploited; therefore there are plenty of uses for these molecules.
- CFCs are not flammable; therefore they were used as propellants that would push other molecules out of the aerosol sprays. For the same reason CFCs were used to form foamed plastics.
- Also low flammability enabled people to use these molecules to dry clean hot electronic components of devices such as air conditioning.

## **3. GLOBAL COOLING INNOVATION SUMMIT**

### **What to study?**

- **For Prelims and Mains: Features and significance of the summit.**

**Context:** Two-day Global Cooling Innovation Summit will be held in New Delhi.

### **About the Global Cooling Innovation Summit:**

- The Summit is a first-of-its-kind solutions-focused event that will bring together leaders from around the world to explore concrete means and pathways to address the climate threat that comes from the growing demand from room air conditioners.
- The event is jointly organized by the Department of Science and Technology, Government of India, along with Rocky Mountain Institute, Alliance for An Energy Efficient Economy (AEEE), Conservation X Labs and CEPT University.

### **Global Cooling Prize:**

- The summit will also see the launching of Global Cooling Prize— Mission Innovation challenge that aims to spur development of a residential cooling solution that has at least five times (5x) less climate impact than today's standard.
- Global Cooling Prize is a competition with global reach and participation to achieve dramatic breakthroughs in cooling technologies. The objective of this competition would be to develop a cooling technology that requires radically less energy to operate, utilizes refrigerants with no ozone depletion potential and with low global warming potential, and has the potential to be cost-effective at scale.

### **Significance:**

- This awards programme will call world-wide attention to the most promising ideas across the globe. This award will celebrate successes and facilitate endeavours of innovators through providing recognition, encouragement and support.
- The award will also be able to build a collaborative platform that can utilize the potential of researchers so that public research contributes towards fostering innovation and create impact which is of social and economic good.
- This recognition will not only recognise the eminent contributions to clean energy research development and demonstration, but would also motivate younger researchers to focus on innovations needed in clean energy domain to make world a better place to live.

Sources: pib.

## **4. GLOBAL STOCKTAKE**

### **What to study?**

- **For Prelims and Mains: What is COP and Global Stocktake?- features and significance, role of developed countries in assisting developing countries in environmental protection, BASIC Nations and their significance.**

**Context:** Ahead of the UN climate conference in Poland next month, the BASIC (Brazil, South Africa, India and China) group recently met to put pressure on developed countries to meet pre-2020 climate efforts, and to “progressively” and “substantially” scale up their financial support for future action.

- The group, through a joint statement, urged developed countries to take urgent actions to close the pre-2020 implementation gaps by 2023 which they said can be a useful input for the first Global Stocktake (GST) — which they said should be conducted in light of equity and the best available science.

#### **What is Global Stocktake?**

- ‘Global stocktake’ refers to **a proposed five-yearly review of the impact of countries’ climate change actions**.
- **Under the Paris Agreement, every country must present a climate action plan in five-yearly cycles.** It is supposed to be similar to the plan countries submitted in the run-up to the talks that concluded last week.
- **Under the Paris Agreement, the first global stocktake will happen in 2023.** It will assess whether the net result of the climate actions being taken was consistent with the goal of keeping the increase in global average temperature from pre-industrial times to within 2 degree Celsius. The stocktake will help the world determine whether it needs to do more — and how much more.

#### **About BASIC Nations:**

- **BASIC countries are bloc (geopolitical alliance) of four large newly industrialized countries – Brazil, South Africa, India and China.**
- It was formed by agreement in November 2009.
- They were committed to act jointly at Copenhagen climate summit 2009, including possible united walk-out if their common minimum position was not met by developed nations during climate talks.

#### **What it covers?**

- **While every country is required to participate in the global stocktake, the exercise will not assess whether actions of any individual country are adequate or not.** It will only make an assessment of the “collective” efforts of the world. That is because the climate actions are supposed to be “nationally determined”, and nations have problems over being told by others what they should do. The stocktake will not go into who should do how much — and will rather focus on what needs to be done.
- In accordance with the demands of developing countries, the stocktake will cover not only the results of actions to reduce greenhouse gas emissions but of actions being taken to adapt to the effects of climate change as well. It will also include an assessment of whether developed countries are offering adequate help to developing countries by providing money and technology, as mandated by the Paris Agreement.

## **5. FLY ASH**

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

- **Static Part: What is fly ash, how is it produced and where it can be used?**
- **Dynamic and Current: Concerns associated with its contamination, what needs to be done and legislative measures necessary.**

**Context:** The National Green Tribunal (NGT) has imposed penalties of up to ₹5 crore on thermal power plants that have not fully disposed of the fly ash they generated.

#### **Significance and concerns associated with fly ash:**

- The order is significant because of the high contribution of fly ash to air and water pollution and its impact on crops being grown in villages around these plants.
- **Fly ash is a major source of PM 2.5** (fine, respirable pollution particles) in summer. It becomes **air borne**, and gets transported to a radius of 10 to 20 kms. It **can settle on water and other surfaces**. Fly ash **contains heavy metals** from coal, a large amount of PM 2.5 and black carbon (BC). Proper disposal of fly ash is still not happening in many places.

#### **What can be done?**

- Fly ash, **the end product of combustion during the process of power generation in the coal based thermal power plants**, is a proven resource material for many applications of construction industries and currently is being utilized in manufacturing of Portland Cement, bricks/blocks/tiles manufacturing, road embankment construction and low lying area development, etc.
- At present, 63% of the fly ash is being utilised and target is for 100% utilisation of the fly ash. **There is need for education and awareness generation.**
- Road contractors and construction engineers need to know the benefits of using fly ash in construction.
- Measures need to be taken to reduce the cost of construction of roads using fly ash by way of tax structure, subsidies and transportation services.
- Besides, there is a need to prevent the ash from coming to the power plant by washing the coal at its place of origin. The government should also come out with a policy to encourage fly ash use in cement plant.

**(Q)** What is fly ash? In the past few years concerns have been raised over its environmental impact from several quarters. What are these concerns? How they can be addressed? Examine.

## 6. BIGGEST CORAL RESEEDING PROJECT LAUNCHES ON GREAT BARRIER REEF

### What to study?

- **Static Part:** About Great barrier reef, location and key facts on coral reefs.
- **Dynamic and Current:** Coral reef, coral bleaching, reasons and new ways to protect and regrow them.

**Context:** Scientists have launched the largest-ever attempt to regenerate coral on the endangered Great Barrier Reef by harvesting millions of the creatures' eggs and sperm during their annual spawning.

### What's the plan?

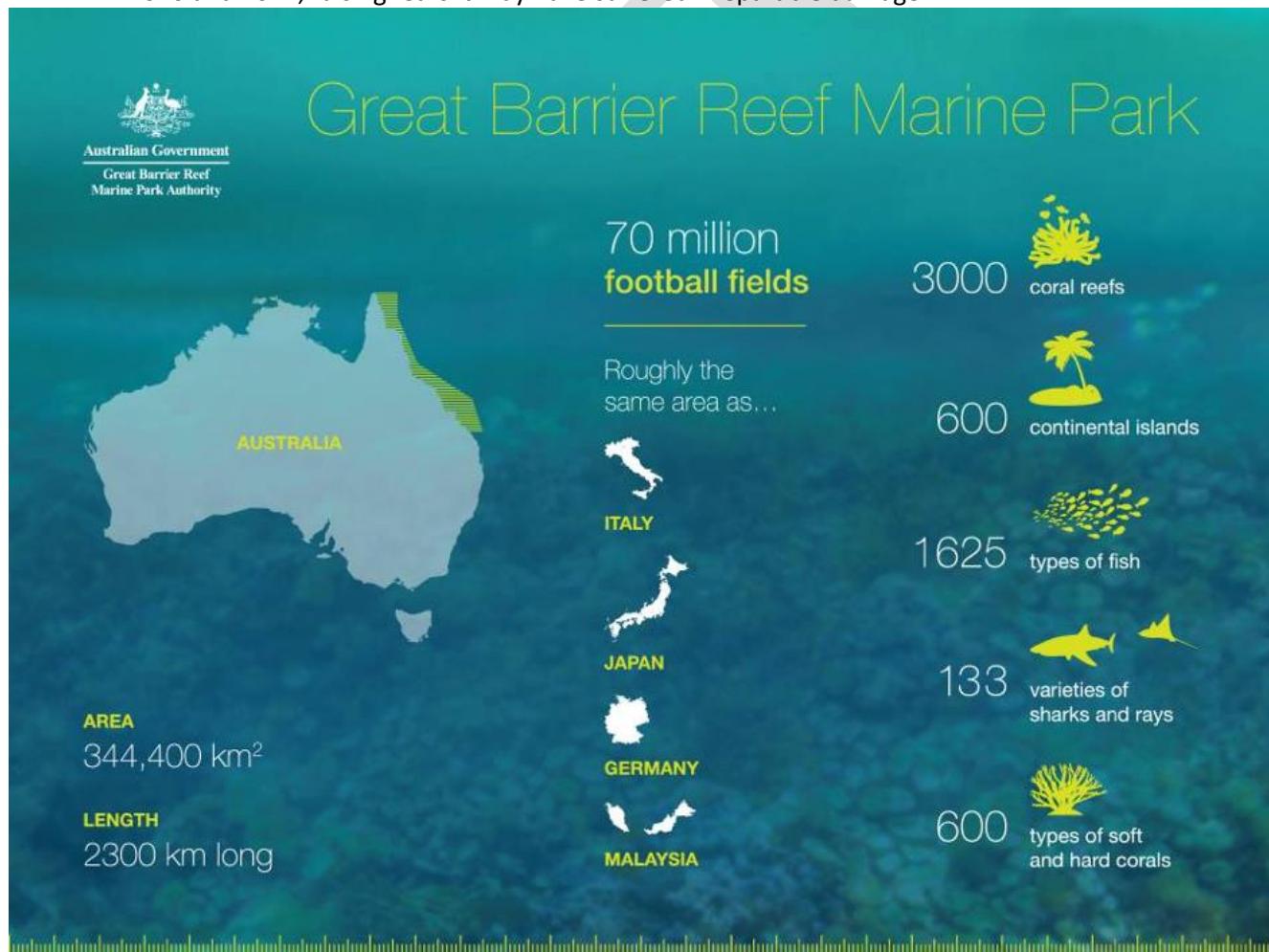
- The plan is to grow coral larvae from the harvested eggs and return these to areas of the reef which have been badly damaged by climate-related coral bleaching.

### Significance:

- This is the first time that the entire process of large scale larval rearing and settlement will be undertaken directly on reefs on the Great Barrier Reef.

### Concerns:

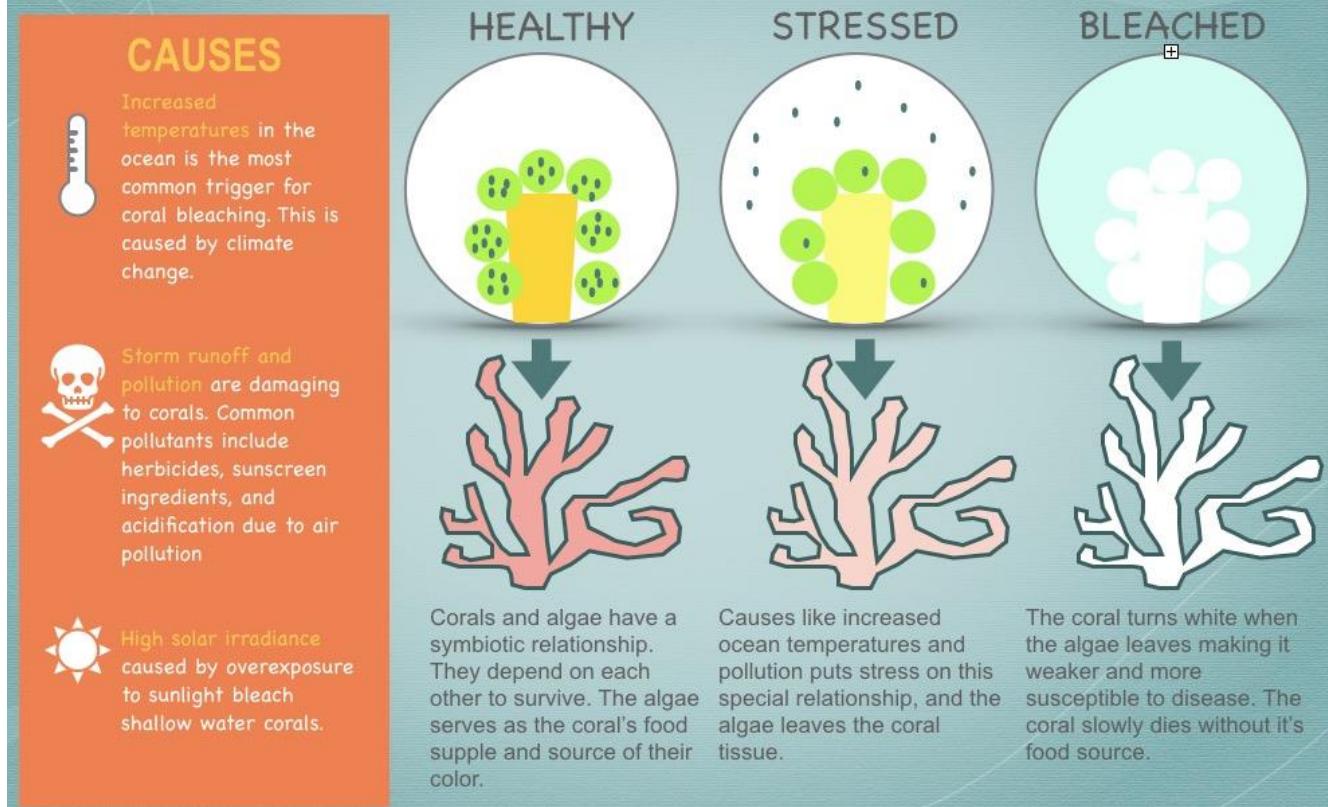
- Coral along large swathes of the 2,300-kilometre (1,400-mile) reef have been killed by rising sea temperatures linked to climate change, leaving behind skeletal remains in a process known as **coral bleaching**.
- The northern reaches of the reef suffered an unprecedented two successive years of severe bleaching in 2016 and 2017, raising fears it may have suffered irreparable damage.



### What is Coral Bleaching?

- Bleaching occurs when abnormal environmental conditions, such as warmer sea temperatures, cause corals to expel tiny photosynthetic algae, draining them of their colour.
- Corals can recover if the water temperature drops and the algae are able to recolonise them.

# CORAL BLEACHING



## About the Great barrier reef:

- The Great Barrier Reef is the world's largest coral reef system composed of over 2,900 individual reefs and 900 islands stretching for over 2,300 kilometres over an area of approximately 344,400 square kilometres. The reef is located in the Coral Sea, off the coast of Queensland, Australia.
- The Great Barrier Reef can be seen from outer space and is the world's biggest single structure made by living organisms. This reef structure is composed of and built by billions of tiny organisms, known as coral polyps. It was selected as a World Heritage Site in 1981.

Sources: [toi](#).

## 7. SUSTAINABLE BLUE ECONOMY CONFERENCE IN NAIROBI , KENYA

- The first Sustainable Blue Economy Conference was held in Nairobi, capital of Kenya. It was organized by Kenya and co-hosted by Japan and Canada.
- "India endorses the growth of the Blue Economy in a sustainable, inclusive and people centered manner through the framework of the **Indian Ocean Rim Association (IORA)**".

### Major Highlights:

#### Sagarmala Programme –

- It has identified 600 plus projects entailing a huge investment of \$120 billion (nearly Rs. 8 lakh crore) by 2020.
- It saves India \$6 billion per annum in logistics costs besides creating 10 million new jobs and boosting port capacity by 800 Million Metric Tonne per Annum (MMTPA) to an overall 3500 MMTPA.

#### Coastal Economic Zones (CEZs) –

- It is developed with a proposed **investment of \$150 Million** per location.
- It will become a **microcosm of the blue economy**, with the growth of industries and townships that depend on the sea and contribute to global trade through sea connectivity.
- It also **focuses on the development of coastal communities and people through skill gap analysis, skill development centers** to train coastal communities in the sustainable use of ocean resources, modern fishing techniques and coastal tourism.

- Several **green initiatives** were taken in the coastal regions like 31 MW of captive solar power generation at various ports, installation of oil spill response facilities, and
- Study to **identify ways to re-use waste water** at ports.

#### **Important Role of Private Sector –**

- The **Federation of Indian Chambers of Commerce and Industry (FICCI)** took lead in 2016-2017 by establishing a taskforce to develop a business model on India's engagement in the blue economy sector.

#### **Background:**

- The **Sustainable Blue Economy Conference** is the first global conference on the sustainable blue economy.
- It builds on the momentum of the **UN's 2030 Agenda for Sustainable Development**, the 2015 Climate Change Conference in Paris and the UN Ocean Conference 2017 "Call to Action".
- The world has rallied around the enormous pressures facing our oceans and waters, from plastic pollution to the impacts of climate change. At the same time, there is international recognition that we need to develop our waters in an inclusive and sustainable manner for the benefit of all.

Source: PIB

## **8. CLIMATE VULNERABLE FORUM**

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

- **Static Part: About the Forum and its key objectives.**
- **Dynamic and Current: Significance of the forum and why do we need to worry about climate vulnerability?**

**Context:** *Climate Vulnerable Forum meeting* is being held in Marshall Islands. *This is the first entirely online Heads of Government level intergovernmental meeting.*

- Leaders at the **Climate Vulnerable Forum** have called on world's governments to raise the ambition of their climate targets by 2020 in order to save vulnerable nations threatened by warming beyond 1.5 degrees Celsius.

#### **What is Climate Vulnerable Forum?**

The Climate Vulnerable Forum is an international cooperation group of developing countries tackling global climate change.

- The CVF was founded by the Maldives government before the 2009 United Nations Climate Change Conference in Copenhagen, which sought to increase awareness of countries considered vulnerable.
- United Nations agencies collaborate in implementing activities linked to the CVF with the UNDP, the lead organization supporting the forum's work.
- The CVF was formed to increase the accountability of industrialized nations for the consequences of global climate change.
- Afghanistan, Nepal and Bhutan are its members, whereas India is one of the observer states.

Sources: toi.

## **9. ECO-SENSITIVE ZONES**

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

- **For Prelims: What are ESZs? Important Elephant Corridors.**
- **For Mains: Need, their significance and management issues.**

**Context:** The National Green Tribunal (NGT) has asked the Ministry of Environment, Forests and Climate Change (MoEF&CC) to consider declaring all elephant corridors in the country as eco-sensitive zones.

- NGT has given two weeks time to the Ministry to look into the issue and to proceed in the matter for declaration of such areas as eco sensitive zones.

#### **Background:**

- The observations came while the green panel was hearing a plea that highlighted the increasing number of unnatural elephant deaths taking place in the state.

- The petition said, "Owing to the increased denudation and loss of their forest habitats, elephants have come increasingly into conflicts with humans and faced deliberate retaliatory killings and accidents at railway crossings, high tension power lines, power fences and trenches."

#### **What are Eco-sensitive zones?**

- The **Environment Protection Act, 1986 does not mention the word "Eco-sensitive Zones".**
- The **section 3(2)(v) of the Act**, says that Central Government can restrict areas in which any industries, operations or processes or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards
- Besides the **section 5 (1) of this act** says that central government can prohibit or restrict the location of industries and carrying on certain operations or processes on the basis of considerations like the biological diversity of an area, maximum allowable limits of concentration of pollutants for an area, environmentally compatible land use, and proximity to protected areas.
  - The above two clauses have been effectively used by the government to declare Eco-Sensitive Zones or Ecologically Fragile Areas (EFA). The same criteria have been used by the government to declare No Development Zones.

#### **Criteria:**

- The MoEF (Ministry of Environment & Forests) has approved a comprehensive set of guidelines laying down parameters and criteria for declaring ESAs. A committee constituted by MoEF put this together. The guidelines lay out the criteria based on which areas can be declared as ESAs.
- These include Species Based (Endemism, Rarity etc), Ecosystem Based (sacred groves, frontier forests etc) and Geomorphologic feature based (uninhabited islands, origins of rivers etc).

Sources: the hindu.

## **10. INDIA GETS UN ENVIRONMENT AWARD**

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

- For Prelims and Mains: About WCCB, UN Environment award.

**Context:** United Nation Environment has awarded **Wildlife Crime Control Bureau (WCCB), Ministry of Environment, Forest and Climate Change, Government of India with Asia Environment Enforcement Awards, 2018** for excellent work done by the Bureau in combating transboundary environmental crime.

- WCCB has been conferred this award in **Innovation category**.

#### **Why WCCB has been chosen?**

- WCCB has adopted innovative enforcement techniques that have dramatically increased enforcement of transboundary environmental crimes in India.
- Notably it has developed an **online Wildlife Crime Database Management System** to get real time data in order to help analyze trends in crime and devise effective measures to prevent and detect wildlife crimes across India.
- In order to involve the public in the fight against wildlife crime, WCCB has also developed **a scheme to enroll willing persons as WCCB Volunteers**.

#### **About Asia Environmental Enforcement Award:**

- The Asia Environment Enforcement Awards publicly recognize and celebrate excellence in enforcement by government officials and institutions/teams combating transboundary environmental crime in Asia.
- The awards are given to outstanding individuals and/or government organizations/teams that demonstrate excellence and leadership in enforcement of national laws to combat transboundary environmental crime in one of the following eligibility criteria areas: collaboration; impact; innovation; integrity and gender leadership.

#### **Wildlife Crime Control Bureau:**

- Wildlife Crime Control Bureau is **a statutory multi-disciplinary body established by the Government of India under the MoEFCC, to combat organized wildlife crime in the country**.

Under Section 38 (Z) of the Wild Life (Protection) Act, 1972, it is mandated:

- To collect and collate intelligence related to organized wildlife crime activities.
- To disseminate the same to State and other enforcement agencies for immediate action so as to apprehend the criminals.
- To establish a centralized wildlife crime data bank.

- Co-ordinate actions by various agencies in connection with the enforcement of the provisions of the Act.
- Assist foreign authorities and international organization concerned to facilitate co-ordination and universal action for wildlife crime control.
- It also assists and advises the Customs authorities in inspection of the consignments of flora & fauna as per the provisions of Wild Life Protection Act, CITES and EXIM Policy governing such an item.

Sources: the hindu.

## 11. NATIONAL RIVER GANGA (REJUVENATION, CONSERVATION AND MANAGEMENT) BILL, 2018

### **What to study?**

- **For Prelims:** Key features and highlights of the bill.
- **For Mains:** Significance of the Bill and the need for stringent provisions.

**Context:** The government is planning to introduce the National River Ganga (Rejuvenation, Conservation and Management) Bill, 2018 in the upcoming parliament winter session.

### **Highlights of the Bill:**

- The bill propose to **ban the construction** of jetties, ports or “permanent hydraulic structures” in the Ganga, **unless permitted by the National Ganga Rejuvenation Authority**.
- It proposes to create **a management structure** that will supervise the health of the 2,500-kilometre long Ganga which, the draft Bill defines, as ‘India’s national river.’
- The Bill lays down a host of **restrictions to ensure the “uninterrupted, ecological flow”** of the river. Currently, a host of dams in the upper stretches of the river lead to the river’s flow being obstructed.
- The proposed legislation specifies that **“unauthorized” activities that cause obstruction or discontinuity of water in the River Gang** due to engineered diversion of water or stoppage of water. Carrying out such activities are liable to a prison term of 3 years or fines upto ₹50 crore, or both.
- The **Armed Ganga Protection Corps (GPC)** personnel will be provided by the ministry of home affairs and will be deployed by the National Ganga Rejuvenation Authority. The GPC personnel will have power to arrest those who pollute the river covering offences like obstructing the flow of the river to commercial fishing.

### **The Bill has listed out a list of offences marked as cognizable which includes:**

- Construction activities causing obstruction in the river.
- Withdrawal of ground water for industrial or commercial consumption from the land fronting the river and its tributaries.
- Commercial fishing or aqua culture in the river and its tributaries.
- Discharging untreated or treated sewage into the river.

### **Background:**

- In July 2016, a committee was constituted under retired judge of the Allahabad High Court Justice Girdhar Malviya who had submitted a draft Bill last year named The National River Ganga (Rejuvenation, Protection and Management) Bill, 2017.
- Subsequently, a four-member committee was set up by the Ministry to examine that and the Ministry has circulated a Cabinet note which includes a revised version of that draft Bill.

Sources: the hindu.

## 12. CLIMATE RISK FROM RISE IN INDIAN AC UNITS

### **What to study?**

- **For Prelims and Mains:** HFCs and how they play role in climate change, ACs- role in climate change and efforts to contain.

**Context:** As per a report written by the Rocky Mountain Institute, by 2022, India is expected to have a fourth of the world’s air conditioning units, and the risks to climate from this could be immense.

#### **Concerns:**

- The refrigerants used for cooling are the major contributors to global warming, and if left unchecked, they could cause global temperatures to rise by 0.5 degrees Celsius. Under a business-as-usual growth trajectory, about 4.5 billion room air-conditioners are estimated to be installed by 2050 — a nearly four-fold jump from today's installed base, with emerging economies observing a five-fold increase.
- HFCs are a family of gases that are largely used in refrigerants at home and in car air-conditioners. However, they substantially worsen global warming. India, China, the United States and Europe have committed themselves to reducing the use of HFC by 85% by 2045.
- In 2016, India was a signatory to a compact of 107 countries to “substantially phase” out a potent greenhouse gas, called hydrofluorocarbons (HFC), by 2045 and move to prevent a potential 0.5 C rise in global temperature by 2050.

#### **Need for energy efficiency in the area of air-conditioning:**

- Every one degree rise in the air-conditioner temperature setting results in saving of 6% of electricity consumed. The new campaign will result in substantial energy savings and also reduce greenhouse gas emission.
- Besides, normal human body temperature is approximately 36-37 degree Celsius, but large number of commercial establishments, hotels and offices maintain temperature around 18-21 degree Celsius. This is not only uncomfortable but is actually unhealthy.
- Setting the temperature in the range of 18-21 degree Celsius compels people to wear warm clothing or use blankets; therefore, this is actually wastage of energy.

#### **Efforts by government in this regard:**

- Union Power Ministry has launched a campaign to promote energy efficiency in the area of air-conditioning.
- This initiative is launched on voluntary basis to increase awareness and encourage consumers to adopt the guidelines. It will save energy and reduce greenhouse gases.

Sources: the hindu.

## **13. ZSI REPORT ON ANDAMAN & NICOBAR ISLANDS FAUNA**

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

- **Static Part: Highlights of the report, faunal diversity of Andaman and Nicobar islands, ZSI.**
- **Dynamic and Current Part: Challenges in conservation, measures needed.**

**Context:** A recent publication by the Zoological Survey of India (ZSI) titled **Faunal Diversity of Biogeographic Zones: Islands of India** has for the first time come up with a database of all faunal species found on the Andaman and Nicobar Islands, putting the number at 11,009.

#### **Key highlights of the report:**

The documentation proves that the islands, comprising only 0.25% of India's geographical area, are home to more than 10% of the country's fauna species. It has 11,009 species.

- **Endemic species:** The **Narcondam hornbill**, its habitat restricted to a lone island; the **Nicobar megapode**, a bird that builds nests on the ground; the **Nicobar treeshrew**, a small mole-like mammal; the **Long-tailed Nicobar macaque**, and the **Andaman day gecko**, are among the 1,067 endemic faunal species found only on the Andaman and Nicobar Islands and nowhere else.
- **Among birds, endemism is quite high**, with 36 among 344 species of birds found only on the islands. Many of these bird species are placed in the IUCN Red List of threatened species under the Wildlife Protection Act (WPA).
- **Endemic reptiles:** Eight species of amphibians and 23 species of reptiles are endemic to the islands, and thus are at high risk of being threatened.
- **Marine faunal diversity:** Includes coral reefs and its associated fauna. In all, 555 species of scleractinian corals (hard or stony corals) are found in the island ecosystem, all which are placed under Schedule I of the WPA. Similarly, all species of gorgonian (sea fans) and calcerous sponge are listed under different schedules of the WPA.
- **Concerns:** The publication cautions that tourism, illegal construction and mining are posing a threat to the islands' biodiversity, which is already vulnerable to volatile climatic factors. Some of the species in A&N Islands are restricted to a very small area and thus more vulnerable to any anthropogenic threat.

Any stress can have a long-lasting impact on the islands' biodiversity, devastating the population size of any endemic fauna, followed by extinction within a limited span of time.

- **Vulnerable species:** Of the ten species of marine fauna found on the islands, the dugong/sea cow, and the Indo-Pacific humpback dolphin, are both classified as Vulnerable under the IUCN (International Union for Conservation of Nature) Red List of Threatened Species. Among the 46 terrestrial mammalian species found, three species have been categorised as Critically Endangered — Andaman shrew (*Crocidura andamanensis*), Jenkin's shrew (*C. jenkinsi*) and Nicobar shrew (*C. nicobarica*). Five species are listed as Endangered, nine species as Vulnerable, and one species as Near Threatened, according to the IUCN.

#### **Background:**

- The total area of the A&N Islands, which comprises of 572 islands, islets and rocky outcrops, is about 8,249 sq. km.
- The population of the islands, which includes six **particularly vulnerable tribal groups (PVTGs)** — Great Andamanese, Onge, Jarawa, Sentinelese, Nicobarese and Shompens — is not more than 4 lakh.

#### **What's made the location more vulnerable?**

- In a recent development, the Government of India relaxed the **Restricted Area Permit (RAP)** norms for some foreign nationalities notified under the **Foreigners (Restricted Areas) Order, 1963**, to visit 29 of its inhabited islands, till December 31, 2022. This has triggered further concerns of increased anthropogenic pressures over the islands' ecosystem. Some of the islands removed from the RAP list have no habitation except PVTG like Sentinelese in case of North Sentinel Island.
- The development paradigm that is being pushed for this place at the macro level, such as tourism, construction and development of military, are not taking in account three factors — ecological fragility of the area (the endemism), geological volatility (earthquakes and tsunamis), and the impact they will have on local communities.

Sources: the hindu.

## **14. SSB TO PATROL DUDHWA TIGER RESERVE**

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

- **Static Part: About SSB, Dudhwa tiger reserve and its location.**
- **Dynamic and Current Part: Why SSB was roped in for its management, challenges being faced and what are the measures necessary?**

**Context:** Dudhwa Tiger Reserve and Sashastra Seema Bal (SSB) have joined hands to provide security to Dudhwa forests and its rich wildlife.

#### **How will it be done?**

- It has been agreed that joint long route patrolling comprising SSB, Special Tiger Protection Force (STPF) and Dudhwa Tiger Reserve (DTR) field staff would be held at regular intervals.
- Stress will be laid on intelligence and information sharing among various security agencies about activities of wildlife and forest criminals.
- A mechanism to establish SSB border outpost level communication and information sharing will be developed to strengthen the safety of Dudhwa.

#### **Dudhwa Tiger Reserve:**

- It is protected area in Uttar Pradesh that stretches mainly across the Lakhimpur Kheri and Bahraich districts.
- **It comprises** Dudhwa National Park, Kishanpur Wildlife Sanctuary and Katarniaghata Wildlife Sanctuary.
- It shares north-eastern boundary with Nepal, which is defined to large extent by **Mohana River**.
- The area is vast **Terai alluvial floodplain** traversed by numerous rivers and streams flowing in south-easterly direction.
- **Faunal diversity:** Apart from tigers, it is also home to swamp deer, sambar deer, barking deer, spotted deer, hog deer, Indian rhinoceros, sloth bear, ratel, jackal, civets, jungle cat, fishing cat, etc.

#### **Sashastra Seema Bal (SSB):**

- It is Central Armed Police Force (CAPF) entrusted with guarding country's border with Nepal and Bhutan.
- It was established in 1963 and functions under administrative control of Ministry of Home Affairs (MHA). Its headquarters are in New Delhi.

- It has specialist jurisdictions for national border patrol, security, and integrity.
- Sources: the hindu.

## 15. NATIONAL MISSION FOR CLEAN GANGA (NMCG)

**What to study?**

- **For Prelims:** All about NMCG, National river and its significance.
- **For Mains:** Measures in place for the abatement of river pollution and key challenges ahead.

**Context:** National Mission for Clean Ganga (NMCG) in partnership with HCL Foundation and German development agency GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) had organized “**Bal Ganga Mela**” at HCL’s Noida campus on November 4, 2018.

- The Mela was organized with the objective to create awareness among school children on the importance of water in general and rivers in particular, so that they understand the importance of unpolluted, clean water and water security.
- Also, to foster respect for the natural environment and motivate children to become ambassadors of change, who influence and motivate others towards river rejuvenation and water conservation.

**Facts for Prelims:**

- **November 4** is symbolic as it marks the declaration of Ganga as the National River of India in 2008 and is dedicated to raising awareness about rejuvenating the holy river and teaching children to become environmentally aware and responsible citizens.

**About NMCG:**

- The National Mission for Clean Ganga (NMCG) is the **implementation wing of National Ganga Council** which was set up in October 2016 under the River Ganga (Rejuvenation, Protection and Management) Authorities order 2016. The order dissolved National Ganga River Basin Authority.
- **NMCG has a two tier management structure** and comprises of Governing Council and Executive Committee. Both of them are headed by Director General, NMCG. Executive Committee has been authorized to accord approval for all projects up to Rs.1000 crore.
- **The order envisages five tier structure** at national, state and district level to take measures for prevention, control and abatement of environmental pollution in river Ganga and to ensure continuous adequate flow of water so as to rejuvenate the river Ganga as below:
  1. National Ganga Council under chairmanship of Hon’ble Prime Minister of India.
  2. Empowered Task Force (ETF) on river Ganga under chairmanship of Hon’ble Union Minister of Water Resources, River Development and Ganga Rejuvenation.
  3. National Mission for Clean Ganga (NMCG).
  4. State Ganga Committees.
  5. District Ganga Committees in every specified district abutting river Ganga and its tributaries in the states.

Sources: pib.

## 16. GANGA GRAM SWACHHTA SAMMELAN

- Union Minister for Drinking Water and Sanitation, Uma Bharati, held the fourth **Ganga Gram Swachhta Sammelan** to strengthen Sanitation based all round development in the villages on the banks of Ganga. **Ganga Gram** aims to transform banks of the village of River Ganga into ideal villages with emphasis on the following:
  1. Open Defecation Free (ODF)
  2. Solid and Liquid Waste Management (SLWM)
  3. Water Conservation
  4. Ground Water Recharge
  5. Modern crematorium
  6. Tree plantation
  7. Organic and medicinal plant agriculture
- This project was launched under the clean Ganga mission-Namami Gange Programme to have an holistic sanitation development in villages on the banks of River Ganga.

- The minister has said that within one year sanitation coverage in the state of Uttar Pradesh has reached about 99% from a meager 50%. And India's sanitation coverage has increased from 39 to 96 percent in just 4 years with construction of 8.8 crore toilets.
- Finally, she mentioned that her Ministry is focused on SLWM interventions now, after the ODF achievements.

#### **Background**

- In August 2017, Centre had declared that overall 4,470 villages on the banks of River Ganga, comprising states of **Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, and West Bengal as Open Defecation Free (ODF)**. Among such villages, the Centre and state governments have found 24 villages to be taken up under pilot project to transform them into 'Ganga Grams'.

## **17. NMCG APPROVES COMPOSITE SEWERAGE PROJECTS IN AGRA TO HELP SAVE TAJ AND REDUCE POLLUTION IN YAMUNA**

- The **Executive Committee (EC)** of the **National Mission for Clean Ganga (NMCG)** approved ten projects worth Rs. 1573.28 crore.
- In a meeting, it was decided that a comprehensive solution needed to be worked out to address Yamuna's pollution issues in Agra.
- The project for **Rehabilitation/Renovation of Agra Sewerage Scheme (Interception & Diversion Works)** has been conceived at a total cost of Rs. 857.26 crore including O&M cost for 15 years.

#### **Major Components:**

- Tapping of 61 nallas/drains, construction of 3 Sewerage Treatment Plant (STP's) of total capacity 166 MLD.
- Construction of 10 decentralized STPs of 9.38 MLD and renovation of 2 existing STPs.
- Laying of rising main of 17.61 km.
- Renovation of Sewage Pumping Station (SPS).
- Renovation of STPs renovation of interception work, upgradation of STPs (for chlorination), and operation & maintenance for 15 years.

They are expected to reduce pollution drastically from Agra city into the river Yamuna.

#### **List of Projects Approved:**

- **Interception & Diversion works (I&D) and Sewage Treatment Plant at Kasganj**, approved by Executive Committee at a cost of Rs. 76.73 crore (the cost includes O&M for 15 years). Presently, there is **no sewerage system in Kasganj**, the wastewater is discharged into open drains which finally meet **River Kali** and contribute to pollution of the river.
- **Interception & Diversion works (I&D) and Sewerage Treatment Plant at Sultanpur, Uttar Pradesh**, approved by EC at a total project cost of Rs. 64.76 crore (including O&M costs for 15 years). Sultanpur is located on the banks of Gomti River and the waste is conveyed through six drains in the town. This eventually causes pollution in the **Gomti River**.
- The EC approved projects worth Rs. 328.52 crore in **Chhapra, Fatuha, Bakhtiyarpur and Khagaria in Bihar**. The proposal intends to develop an Interception & Diversion and **Sewerage Treatment Plant (STP)** of 32 MLD (2 modules of 16 MLD each) capacity at Chhapra town, for the treatment of the sewerage generated from Chhapra town which currently finds its way into river Ghaghra and Ganga.
- The proposed STP project includes re-use of treated waste water for irrigation purpose. Hence, this will lead to reduced pollution load into the river Ganga.
- I&D works including pumping stations and STPs under **Burdwan Municipality, in West-Bengal**, approved at a total project cost of Rs. 234.31. **Burdwan is the headquarter of Purba Bardhaman district**. Even Burdwan is not located immediately by the bank of River Ganga, its untreated wastewater makes its way to the river through Banka River and contributes to the pollution.

#### **Sewerage Scheme for Himachal Pradesh:**

- Sewerage scheme for Zone-II and III of Paonta Town, Himachal Pradesh, approved at a total project cost of Rs. 11.57 crore.
- Paonta Town (home to the renowned Paonta Sahib Gurudwara) situated on the banks of the river **Yamuna**. The Paonta Sahib city is divided into 11 wards. The scheme is envisaged in three zones.
- **The river is the boundary between the states of Himachal Pradesh and Uttarakhand.**

### **Background:**

- No centralized sewerage system in the town and is currently facing serious sanitation problems. The total wastewater from the upper and lower part of the municipal town flows into **Banka River** through surface drains.
- There are 38 main outfalls identified. Hence, all the outfalls to Banka River must be Intercepted and Diverted to proposed lift stations (LS), MPS and the proposed **Sewage Treatment Plant (STP)**.

### **National Mission for Clean Ganga (NMCG)**

- NMCG is a registered society under the **Societies Registration Act 1860**.
- NMCG has a two tier management structure and comprises of Governing Council and Executive Committee (both are headed by Director General, NMCG).
- **Executive Committee** is authorized to accord approval for all projects up to Rs. 1000 crore.
- Similarly, the **State Programme Management Groups (SPMGs)** acts as implementing arm of State Ganga Committees. It attempts to bring all stakeholders on one platform to take a holistic approach towards the task of Ganga cleaning and rejuvenation.

**Topic:** Disaster and disaster management.

## **1. WATER DEFICIT NEXT YEAR IN INDIA**

### **What to study?**

- **Static Part: Who releases Global Water Monitor and Forecast Watch list.**
- **Dynamic and Current: Highlights of the report, concerns, challenges and measures necessary.**

**Context:** Latest edition of **Global Water Monitor & Forecast Watch List has been released by IScience (US based limited liability Corporation)**. As per the report, water deficits will increase and intensify in India in 2019.

### **Water Security Indicator Model (WSIM):**

- The findings are based on ISciences Water Security Indicator Model (WSIM). The model analyses global water anomalies using observed temperature and precipitation.

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

- The forecast predicts severe to exceptional surplus water for regions including Jammu and Kashmir, Himachal Pradesh, Uttar Pradesh and Mizoram. Moderate to severe deficits were forecast for Bihar.
- From February through April, deficits in India are expected to moderate overall and some regions in the country's eastern third will normalise. However, intense deficits will persist throughout Gujarat and Madhya Pradesh and along the Tungabhadra River through Karnataka.
- The forecast for the final months — May through July (2019) — indicates primarily moderate deficits in India and pockets throughout the region. Some surpluses are expected in Jammu and Kashmir, northern Pakistan, along the Gandaki River in central Nepal, and pockets of Tamil Nadu.
- The 12-month forecast through July 2019 indicates exceptional (greater than 40 years) water deficits in Maharashtra, Telangana, Andhra Pradesh, Karnataka, and Madhya Pradesh.
- Though this September's extreme heat was unrelated to El Niño — which usually introduces warm dry conditions — El Niño is being blamed for low rainfall during the June-to-September monsoon season. The monsoon rain deficits have caused drought-like conditions in almost a third of Indian districts, and added stress for the farmers.
- The report also notes that India's coffee production is expected to fall to its lowest in five years due to flood damage to plantations in southern states such as Kerala and Karnataka. India exports about three quarters of the coffee it produces, and flood damage has been reported in all key producing areas of the country. The future forecast will help visualise the impact and intensity at a large scale.

Sources: Down to Earth.

## **2. 14<sup>TH</sup> FORMATION DAY OF NATIONAL DISASTER MANAGEMENT AUTHORITY (NDMA)**

### **Theme of the Year: "Early Warning for Disasters"**

- Early warning is a major element of disaster risk reduction and can minimize the loss of lives and economic impacts.

- **Timely early warning** is key to a structured and efficient response.

**Measures to be taken:**

- Early warning systems need to involve the communities at risk.
- Generate public awareness.
- Effectively disseminate warnings, and
- Ensure there is a constant state of preparedness.

**Background:**

- On 23 December 2005, the Government of India enacted the Disaster Management Act, which led to the creation of **National Disaster Management Authority (NDMA)**, headed by the **Prime Minister**, and **State Disaster Management Authorities (SDMAs)** headed by respective **Chief Ministers**, to spearhead and implement a holistic and integrated approach to **Disaster Management** in India.
- **Parent department:** Ministry of Home Affairs

Source: PIB

### 3. HEAT WAVE

**What to study?**

- **Static Part: What are heat waves and how are they classified?**
- **Dynamic and Current: Why is India vulnerable, effects of heatwaves on health, environment and economy, how should India be prepared?**

**Context:** The **Lancet Countdown 2018 report** has asked the Indian policy makers to take a series of initiatives to mitigate the increased risks to health, and the loss of labour hours due to a surge in exposure to heatwave events in the country over the 2012-2016 period.

**Heat Wave Warning**

<b>Green (No action)</b>	<b>Normal Day</b>	<b>Maximum temperatures are near normal</b>
<b>Yellow Alert (Be updated)</b>	<b>Heat Alert</b>	<b>Heat wave conditions at district level likely to persist for 2 days</b>
<b>Orange Alert (Be prepared)</b>	<b>Severe Heat Alert for the day</b>	<b>(i) Severe heat wave conditions persist for 2 days. (ii) With varied severity, heat wave is likely to persists for 4 days or more</b>
<b>Red Alert (Take Action)</b>	<b>Extreme Heat Alert for the day</b>	<b>(i) Severe heat wave persists for more than 2 days. (ii) Total number of heat/severe heat wave days likely to exceeds 6 days.</b>

**Why is India vulnerable?**

- From 2014-2017, **the average length of heatwaves in India ranged from 3-4 days** compared to the global average of 0.8-1.8 days, and Indians were exposed to almost 60 million heatwave exposure events in 2016, a jump of about 40 million from 2012.
- A recent report has placed India amongst the countries who most experience high social and economic costs from climate change. Overall, across sectors **India lost almost 75,000 million hours of labour in 2017**, from about 43,000 million hours in 2000.
- The **agriculture sector was more vulnerable compared to the industrial and service sectors** because workers there were more likely to be exposed to heat.
- The India Meteorological Department had reported that from 1901 to 2007, there was an increase of more than 0.5°C in mean temperature, with considerable geographic variation, and climate forecasts by research groups project a 2.2-5.5°C rise in temperatures in northern, central and western India by the end of the 21st century.

**Important recommendations (Lancet Study):**

- Identify **"heat hot-spots"** through appropriate tracking of meteorological data.
- Promote **"timely development and implementation of local Heat Action Plans** with strategic inter-agency co-ordination and a response which targets the most vulnerable groups."

- **Review existing occupational health standards, labour laws and sectoral regulations** for worker safety in relation to climatic conditions.

#### **What is a Heat Wave?**

- Heat wave is considered **if maximum temperature of a station reaches at least 40°C or more for Plains, 37°C or more for coastal stations and at least 30°C or more for Hilly regions.**

Following criteria are used to declare heat wave:

1. Based on Departure from Normal:
  - Heat Wave: Departure from normal is 4.5°C to 6.4°C.
  - Severe Heat Wave: Departure from normal is >6.4°C.
2. Based on Actual Maximum Temperature (for plains only):
  - Heat Wave: When actual maximum temperature  $\geq 45^{\circ}\text{C}$
  - Severe Heat Wave: When actual maximum temperature  $\geq 47^{\circ}\text{C}$

To declare heat wave, the above criteria should be met at least in 2 stations in a Meteorological sub-division for at least two consecutive days and it will be declared on the second day.

#### **Concerns:**

- Higher daily peak temperatures and longer, more intense heat waves are becomingly increasingly frequent globally due to climate change.
- India too is feeling the impact of climate change in terms of increased instances of heat waves which are more intense in nature with each passing year, and have a devastating impact on human health.
  - **Health Impacts of Heat Waves:** The health impacts of Heat Waves typically involve dehydration, heat cramps, heat exhaustion and/or heat stroke.
  - **Children, the elderly and those with pre-existing morbidities are particularly vulnerable.**

Sources: the Hindu.

(Q) What is heat wave? Why is India experiencing more heat waves? Also examine what strategy is being followed by states to address the consequences of heat waves.

**Topic:** Various Security forces and agencies and their mandate.

## 1. NIPUN

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

- **For Prelims: All about NIPUN.**
- **For Mains: Significance of NIPUN and the need for training at regular intervals.**

**Context:** Delhi Police has launched an e-learning portal ‘Nipun’ to impart training and provide up to date information to police officers.

#### **NIPUN:**

- The initiative is aimed at imparting in-service online training and information to police personnel through specialised courses available online which have been designed by experts in various fields.
- The online courses on this portal have been designed in collaboration with University Grant Commission (UGC), FICCI, NHRC, NCPCR and Janaki Devi Memorial College, Delhi University under project CLAP “The Collaborative Learning and Partnership”.
- It will have online courses and resources on law, standing orders, investigation checklists, forms for case files, latest High Court and Supreme Court rulings. It is envisioned that Investigating Officers (IOS) will be able to take benefit of this information during course of their duty or while handling case.

#### **Significance:**

- Through this portal Delhi Police officers can now access information by just logging on the portal. They can take course from anywhere at any time.
- It will make easier for the police officer to upgrade their skills and re-enforce their learning while balancing training time along with their daily routine work.

Sources: the hindu.

## 2. WHY CBI NEEDS CONSENT?

### What to study?

- For Prelims and Mains: CBI- Establishment, its functioning, issues related to its autonomy and need for consent in investigations.

**Context:** The Andhra Pradesh and West Bengal governments have withdrawn “general consent” to the CBI for investigating cases in their respective states.

- The state governments said they had lost faith in the CBI in the backdrop of its internal turmoil marked by the open war among the agency’s top officers.
- They have also alleged that the Centre is using the CBI to unfairly target Opposition parties.

### What is general consent?

- Unlike the National Investigation Agency (NIA), which is governed by its own NIA Act and has jurisdiction across the country, the **CBI is governed by the Delhi Special Police Establishment Act** that makes consent of a state government mandatory for conducting investigation in that state.

**There are two kinds of consent:** case-specific and general. Given that the CBI has jurisdiction only over central government departments and employees, it can investigate a case involving state government employees or a violent crime in a given state only after that state government gives its consent.

- “General consent” is normally given to help the CBI seamlessly conduct its investigation into cases of corruption against central government employees in the concerned state. Almost all states have given such consent. Otherwise, the CBI would require consent in every case.

### What does withdrawal mean?

- It means the CBI will not be able to register any fresh case involving a central government official or a private person stationed in these two states without getting case-specific consent.
- Withdrawal of consent simply means that CBI officers will lose all powers of a police officer as soon as they enter the state unless the state government has allowed them.

### Under what provision has general consent been withdrawn?

- GO (government order) number 176** issued by the Andhra Pradesh Home Department by Principal Secretary A R Anuradha on November 8 states: “In exercise of power conferred by Section 6 of the Delhi Special Police Establishment Act, 1946 (Central Act No 25 of 1946), the government hereby withdraws the general consent accorded in GO No 109 Home (SC.A) Department dated August 3, 2018 to all members of the Delhi Special Police Establishment to exercise the powers and jurisdiction under the said Act in the State of Andhra Pradesh.”
- Section 6 of the Act says,** “Nothing contained in Section 5 (which deals with jurisdiction of CBI) shall be deemed to enable any member of the Delhi Special Police Establishment to exercise powers and jurisdiction in any area in a State, not being a Union Territory or Railway, area, without the consent of the Government of that State.”

### Does that mean that the CBI can no longer probe any case in the two states?

- No. The CBI would still have the power to investigate old cases registered when general consent existed. Also, cases registered anywhere else in the country, but involving people stationed in Andhra Pradesh and West Bengal, would allow CBI’s jurisdiction to extend to these states.
- There is ambiguity on whether the agency can carry out a search in either of the two states in connection with an old case without the consent of the state government. However, there are legal remedies to that as well. The CBI can always get a search warrant from a local court in the state and conduct searches. In case the search requires a surprise element, there is CrPC Section 166, which allows a police officer of one jurisdiction to ask an officer of another to carry out searches on his behalf. And if the first officer feels that the searches by the latter may lead to loss of evidence, the section allows the first officer to conduct searches himself after giving a notice to the latter.

### What happens in fresh cases?

Withdrawal of consent will only bar the CBI from registering a case within the jurisdiction of Andhra and Bengal. The CBI could still file cases in Delhi and continue to probe people inside the two states.

- An October 11, 2018, order of the Delhi High Court makes it clear that the agency can probe anyone in a state that has withdrawn “general consent” if the case is not registered in that state.
- The order was given with regard to a case of corruption in Chhattisgarh, which also gives consent on a case-to-case basis. The court ordered that the CBI could probe the case without prior consent of the Chhattisgarh government since it was registered in Delhi.

### 3. SIMBEX

- **SIMBEX – Singapore India Maritime Bilateral Exercise** is a naval exercise between two navies in the Andaman Sea and Bay of Bengal.
- It is an unprecedented level of interoperability, where ships, submarines and aircraft of India and Singapore will participate in multi-dimensional exercises at sea with perhaps very high degree of complexity.
- **At the mark of 25<sup>th</sup> anniversary of SIMBEX, this year, the exercises are being conducted in four phases, two each in harbors' of Port Blair and Visakhapatnam, and two sea phases in the Bay of Bengal.**
- On 19<sup>th</sup> November, the Silver Jubilee Commemoration Ceremony would be held at Naval Dockyard, Visakhapatnam. The **SIMBEX logo** and the release of commemorative **Indian Special Postage Cover and Singaporean Postage Stamp** will be witnessed on the symbol of growing trust and comfort levels between the two navies.
- This release of Postal Cover and Stamp by Indian and Singaporean Postal department highlights the significance of this historic occasion between the two nations.
- After the initial harbor phase at Port Blair, the exercises have shifted to the second harbor phase at Visakhapatnam [home of Eastern Naval Command (ENC)].

#### Background

- In June 2018, the Prime Ministers of both India and Singapore, on the sidelines of the **Shangri La Dialogue**(held at Singapore) had remarked that they looked forward to the 25<sup>th</sup> and enhanced edition of bilateral annual naval exercise SIMBEX.
- They signed several agreements including those under the '**Defence and Strategic Partnership Sectors**'.
- The most important agreement was the "**Implementation Agreement between Indian Navy and Republic of Singapore Navy concerning Mutual Coordination, Logistics and Services Support for Naval Ships**", Submarines and Naval Aircraft (including Ship borne Aviation Assets) visits. This agreement has facilitated deployment of naval assets from bases of the other through logistics and services support.
- Apart from that, the Indian Navy has recently inducted its own **DSRV (Deep-Submergence Rescue Vehicle)** and proved the capability at sea on the western seaboard.

#### 238<sup>th</sup> Corps of Engineers Day (Ministry of Defence)

- 238<sup>th</sup> Corps of Engineers Day was celebrated on **18 Nov 2018**. This day is celebrated to commemorate the raising of the first engineering company in 1780. A function was also organized at Kashmir House, New Delhi to honour the achievers of the Corps in the fields of **technical competence, professional excellence, sports and adventures**.
- The modern day Corps of Engineers has three groups (amalgamated into the Corps on 18 Nov 1932):
  1. Madras Sappers
  2. Bengal Sappers and
  3. Bombay Sappers
- The Corps of Engineers provides combat engineering support, develops infrastructure for armed forces and other defence organizations, maintains lines of communication along India's borders and provides relief to populace during natural disasters.
- The above tasks are implemented under four pillars:
  1. Combat Engineers
  2. Military Engineering Service
  3. Border Roads Organisation and
  4. Military Survey

**Topic:** Security challenges and their management in border areas; linkages of organized crime with terrorism.

## 1. BORDER AREA DEVELOPMENT PROGRAMME (BADP)

#### What to study?

- **For Prelims and Mains: BADP- features, significance and potential.**

**Context:** The Centre has released more than Rs. 113 crore to Assam, Nagaland, Sikkim, Gujarat, Rajasthan and Uttarakhand under the Border Area Development Programme (BADP).

**Background:**

- The home ministry, till now, has released a total of Rs. 637.98 crore during the 2018-19 period to states having an International Border. The funds released are in addition to the Rs. 1,100-crore released in 2017-18 for the all-round development of villages located along the International Border in 17 states.

**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: pib.

**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 well being of the people living in remote and inaccessible areas situated near the international border and to saturate the border areas with the entire essential infrastructure through convergence of Central/ State/ BADP/ Local schemes and participatory approach.

## 2. SECURITY RESTRICTIONS IN BORDER AREAS REVISED

**What to study?**

- Static Part: Border states and neighbours- a brief overview of geographical locations.**
- Dynamic and Current: Challenges to development in border areas, concerns and what needs to be done?**

**Context:** The Defence Ministry has issued fresh guidelines easing security restrictions in border areas by superseding the Security Restrictions Guidelines issued by it in 1990.

**Key Highlights:**

- Under the new rules, restrictions have been lifted for works like construction, repair and maintenance of village ponds, construction and maintenance of government buildings like schools and hospitals.
- It has allowed developmental work of small nature to be carried out by the central or state governments' statutory bodies for faster development in the border areas.

**Significance:**

- The need for new guidelines was felt, as the earlier restrictions were restrictive in nature towards developmental activities near border areas and were not fully facilitating in developmental works of small nature in the border areas.
- The construction works in the border areas were getting affected due to provisions listed in the Defence Ministry's existing guidelines. Hence, the state governments put forward requests to the centre to consider revision of the guidelines.

# Facts for Prelims

## 1. RASHTRIYA EKTA DIWAS

- Rashtriya Ekta Diwas was observed on **31st October** across the nation. It marks the occasion of the **birth anniversary of Sardar Vallabhbhai Patel**.
- The government, in 2015, decided to observe Sardar Patel Jayanti Day as Ekta Diwas. This occasion provides an opportunity to re-affirm the inherent strength and resilience of the nation to withstand the threats to its unity, integrity and security.

## 2. GOVERNMENT TO SET UP NATIONAL SPORTS STADIUM FOR DIFFERENTLY-ABLED IN MEGHALAYA

- The centre has announced that a stadium of international standard for differently-abled persons will be set up in Meghalaya.

## 3. WORLD'S LONGEST DNA SEQUENCE DECODED

- A team of **UK scientists have claimed the record for decoding the world's longest DNA sequence**. The new holder of the trophy for world's longest DNA read is a team led by Matt Loose at Nottingham University.
- The scientists produced a DNA read that is about 10,000 times longer than normal, and twice as large as a previous record holder, from Australia.

## 4. DHARMA GUARDIAN 2018

- What is it?** It is a joint military exercise between India and Japan.
- Why in News?** The first edition of this joint **military exercise** is being held in **Mizoram**.
- Aim:** The exercise is aimed at developing mutual understanding and respect between militaries of both countries, as also facilitate in tracking worldwide phenomenon of terrorism.

## 5. PALAU BECOMES FIRST COUNTRY TO BAN SUNSCREEN TO SAVE CORAL REEFS

- The Western Pacific nation of **Palau** has become the **first country to ban** many kinds of

**sunscreens**, in a move to protect its coral reefs from chemicals that scientists say cause significant damage.

- Under the ban, which will **take effect in 2020**, "**reef-toxic**" **sunscreens** — defined as containing one of 10 prohibited chemicals, a list that could grow later — can be confiscated from tourists when they enter the country, and retailers who sell it can be fined up to \$1,000.

## 6. CHINA-PAKISTAN BUS SERVICE LAUNCHED

- Context:** A private bus service between Lahore in Pakistan and Kashgar in China has been launched.



## 7. EARLIEST CAVE PAINTINGS OF ANIMAL DISCOVERED IN INDONESIA, DATING BACK 40,000 YEARS

- What?** The world's earliest-known cave painting of an animal has been discovered.
- Where?** On Borneo in Indonesia.
- When?** It dates back to at least 40,000 years ago.

## 8. CENTRAL TRIBAL UNIVERSITY

- What?** Union Cabinet has approved setting up of Central Tribal University.
- Where?** The proposed university will come up in Andhra Pradesh after necessary amendment in the Central Universities Act, 2009.

### About Central Tribal University:

- It will be set up in Relli village of Vizianagaram District of Andhra Pradesh.
- It will be established under Thirteenth Schedule to Andhra Pradesh Reorganisation Act, 2014.

## 9. BEYOND FAKE NEWS PROJECT

- **What is it?** The British Broadcasting Corporation (BBC) has devised a new campaign that is aimed at fighting back against disinformation and fake news. It lays a major focus on global media literacy, including workshops and debates in countries like India.
- The most highlighted initiatives under the Project includes:
  - In-depth research of Funding
  - Sharing online behaviors,
  - Rolling out media literacy workshops globally
  - BBC Reality Check for upcoming elections

## 10. SIMBEX 18 – MARKS SILVER JUBILEE THIS YEAR

- The 25th edition of SIMBEX, an acronym for “Singapore-India Maritime Bilateral Exercise” is being held off Andaman Sea and Bay of Bengal.
- SIMBEX 2018 will be the largest edition since 1994 in terms of scale and complexity.

## 11. WORLD'S FIRST AI NEWS ANCHOR DEBUTS IN CHINA

- **Context:** The world's first artificial intelligence (AI) news anchor made “his” debut at the ongoing fifth World Internet Conference in east China's Zhejiang province.

### Key facts:

- The AI news anchor has a male image with a voice, facial expressions and actions of a real person.
- He learns from live broadcasting videos by himself and can read texts as naturally as a professional news anchor.
- The AI news anchor was jointly developed by Xinhua and the Chinese search engine company, Sogou.com. The AI anchor has become a member of reporting team and can work 24 hours a day on its official website and various social media platforms, reducing news production costs and improving efficiency.

## 12. NASA TO SEND ORGANS ON CHIPS TO SPACE

- NASA is planning to send small devices containing human cells in a 3D matrix — known as tissue chips or organs-on-chips — **to the International Space Station (ISS) to test how they respond to stress, drugs and genetic changes.**

**they respond to stress, drugs and genetic changes.**

- The “**Tissue Chips in Space**” initiative seeks to better understand the role of microgravity on human health. Made of flexible plastic, tissue chips have ports and channels to provide nutrients and oxygen to the cells inside them.

## 13. BILATERAL NAVAL EXERCISE ‘SAMUDRA SHAKTI’

- **Context:** Indian Navy and Indonesian Navy has scheduled Bilateral Exercise ‘Samudra Shakti’.

### Exercise ‘Samudra Shakti’:

- The aim of the exercise is to strengthen bilateral relations, expand maritime co-operation, enhance interoperability and exchange best practices.
- The exercise seeks to promote India's solidarity with Indonesia towards ensuring good order in the maritime domain and to strengthen existing bonds between the navies of the two nations.

## 14. ‘AMBASSADOR OF CONSCIENCE’ AWARD

- **Context:** Amnesty International has stripped Myanmar’s leader Aung San Suu Kyi of its highest honour, the ‘Ambassador of Conscience’ award, over her indifference to atrocities committed by the Myanmar military against and increasing intolerance of freedom of expression.

### What's the issue?

- The Amnesty International, an international human rights group, named Suu Kyi as its 2009 Ambassador of Conscience Award recipient when she was still under house arrest for her opposition to Myanmar’s oppressive military.
- However, considering her failure to speak out and her shielding of the security forces from accountability for the violence against the Rohingya, the organisation withdrew the honour from her.

## 15. PUBLIC SERVICE BROADCASTING DAY

- The Public Service Broadcasting Day was observed across India on November 12, 2018. The day is observed every year to

- commemorate the first and last visit of the Father of the Nation Mahatma Gandhi to the studio of All India Radio, Delhi in 1947.
- Mahatma Gandhi had on November 12, 1947 visited the studio of All India Radio to address the displaced people from Pakistan who were temporarily settled in Kurukshetra, Haryana after the partition of the Indian subcontinent.

## 16. INDRA 2018

- **What is it?** It is a joint military exercise between Indian and Russia on combating insurgency under the aegis of United Nations (UN).
- **Why in News?** The latest edition is being conducted at Babina Field Firing Ranges, Babina Military Station.
- **The aim of the exercise** is to practice joint planning and conduct to enhance interoperability of the two Armies in the peace keeping/ enforcement environment under the aegis of the UN. It focuses upon training on enhancing team building, special tactical level operations such as Cordon and Search, house intervention, handling and neutralisation of Improvised Explosive Devices and integrated employment of force multipliers.

## 17. #POWEROF18 CAMPAIGN

- **What is it?** It is a campaign launched by Twitter India aimed at encouraging youth to contribute in public debates and participate in civic engagement for the 2019 general elections.
- **Significance:** The campaign will serve as resource for young Indians to find more information about elections, support social causes they are passionate about and join public conversation.

## 18. UP CABINET APPROVES RENAMING OF FAIZABAD AS AYODHYA, ALLAHABAD AS PRAYAGRAJ

- **Context:** Uttar Pradesh Government has approved renaming of Faizabad and Allahabad divisions as Ayodhya and Prayagraj respectively.
- What next?** Now, the proposal will now go to Central before the city is officially renamed.
- Justification for name change:
- Allahabad's ancient name was 'Prayag', but was changed after 16th-century Mughal emperor

Akbar built fort near 'Sangam', the holy confluence of three rivers viz. Ganga, Yamuna and Saraswati. Akbar named the fort and its neighbourhood 'Ilahabad'. Later, Akbar's grandson Shah Jahan renamed the entire city as 'Allahabad'. But the area near the 'Sangam', the site of the Kumbh Mela, continues to be known as 'Prayag'.

- Ayodhya has been associated with Lord Ram and is known as his birth place. Ayodhya has been the capital of various dynasties, including the Ikshvaku dynasty of which Lord Ram is a descendent.

## 19. POINT CALIMERE WILDLIFE SANCTUARY

- **Why in News?** Point Calimere Wildlife Sanctuary in Vedaranyam Range has been closed for a week in view of water-logging caused by a heavy spell of rainfall. Study notes that the water quality at the Point Calimere Wildlife Sanctuary might be unsafe for avifauna to feed and breed.

### Key facts:

- It is located in Nagapattinam district of Tamil Nadu spreads across an area of 30 sq.km and comprises sandy coastal, saline swamps and thorn scrub forests around the backwater.
- It is a protected area and a Ramsar site.
- It harbors the single-largest stretch of the unique dry-evergreen forest in the country besides open grasslands and tidal mudflats is of interest to tourists.
- Around 100 species of birds including the Greater Flamingo, Painted Stork, Little Stint, Sea Gull and Brown-headed gull have been making their presence felt since September.
- Blackbuck (Antelope Cervicapra) is the flagship species of the sanctuary.
- Other important animals are the spotted deer, black-napped hare, wild boar, Indian jackal, feral horses, palm civet, short-nosed fruit bat, jungle cat and monitor lizard.

## 20. MCGS HURAVEE

- **Context:** Maldivian Coast Guard Ship (MCGS) Huravee has successfully completed her refit at Naval Dockyard Visakhapatnam and the ship was formally handed over to Maldives recently.
- **Background:** MCGS Huravee was originally commissioned as INS Tillanchang, a Trinkat class patrol vessel built by Garden Reach Shipbuilders

and Engineers, Kolkatta in Mar 2001 and was subsequently gifted to Maldives by the Govt of India in Apr 2006 to strengthen the strategic partnership between the two nations and work together to ensure the maritime safety of the Indian Ocean Region.

## 21. CHERRY BLOSSOM

- Context:** India International Cherry Blossom festival is scheduled to be held from November 14 to 17 in Shillong, Meghalaya.



- Significance:** This festival is the world's only autumn cherry blossom festival. The festival is organised by Government of Meghalaya's Forest & Environment Department as well as by the Institute of Bioresources & Sustainable Development (IBSD) in collaboration with Indian Council for Cultural Relations (ICCR).
- Aim:** The aim of the festival is to celebrate the unique autumn flowering of Himalayan Cherry Blossoms. The Cherry Blossom tree flowers only for a short period in a year. The festival will showcase full pink and white cherry blossoms found all along the roadside of the famous Ward Lake. Alongside, the festival will also showcase the region's food, wine and crafts in addition with several cultural events.

## 22. INDUSIND BANK LAUNCHES INDIA'S FIRST INTERACTIVE CREDIT CARD WITH BUTTONS

- IndusInd Bank launches India's first interactive credit card with buttons.
- The card empowers customers with a choice of payment options such as EMI, Reward Points or Credit at the push of a button at the point of sale.
- The card has been created in partnership with Dynamics Inc, which is headquartered in Pittsburgh USA, and designs and manufactures intelligent, battery powered payment cards.

## 23. BARNARD'S STAR B

- What is it?** Astronomers have discovered a frozen planet with a mass over three times that of the Earth, orbiting the closest solitary star to the Sun.

### Key facts:

- The potentially rocky planet is a 'super-Earth' and orbits around its host star once every 233 days, said researchers from Queen Mary University of London.
- The planet lies at a distant region from the star known as the 'snow line' This is well beyond the habitable zone in which liquid water, and possibly life, could exist.
- The planet's surface temperature is estimated to be around -170°C, they said. However, if the planet has a substantial atmosphere the temperature could be higher and conditions potentially more hospitable.
- Barnard's star b is the second closest known exoplanet to our Sun. The closest lies just over four light-years from Earth. That exoplanet, Proxima b, orbits around the red dwarf Proxima Centauri.

## 24. CENTRAL AND STATE STATISTICAL ORGANIZATIONS(COCSO)

- Context:** The 26th edition of Central and State Statistical Organizations (COCSO) Conference was recently organized by the Ministry of Statistics and Programme Implementation (MoSPI) in collaboration with Directorate of Economics and Statistics, Government of Himachal Pradesh at Dharamshala, Himachal Pradesh.

### About COCSO:

- COCSO is an annual conference which provides a platform for the Central and State statisticians to exchange views and discuss common issues relating to statistical activities.
- The theme of the 26th Conference** was "Quality Assurance in Official Statistics".

## 25. WORLD TOILET DAY

- Context:** In 2013, the United Nations General Assembly officially designated November 19 as World Toilet Day.
- World Toilet Day is coordinated by UN-Water in collaboration with governments and partners. Previously, World Toilet Day was established by the World Toilet Organization in 2001.

#### **About World Toilet Day:**

- World Toilet Day is a day to raise awareness and inspire action to tackle the global sanitation crisis – a topic often neglected and shrouded in taboos.
- **SDG 6** aims to ensure that everyone has a safe toilet and that no-one practises open defecation by 2030. Failure to achieve this goal risks the entire 2030 Agenda for Sustainable Development.
- **2018 Theme:** When Nature Calls.



#### **26. INDIA'S FIRST ELEPHANT HOSPITAL OPENS IN MATHURA**

- India's first specialized hospital for elephants has been formally opened in Mathura.
- The unique medical centre offers wireless digital X-ray, laser treatment, dental X-ray, thermal imaging, ultrasonography, hydrotherapy and quarantine facilities.
- Located close to the elephant conservation and care centre, the hospital is designed to treat injured, sick or geriatric elephants and is equipped with a medical hoist for lifting elephants, as also an elephant restraining device with a dedicated indoor treatment enclosure for long duration medical procedures.



#### **27. PUNJAB BECOMES 3RD STATE TO BAN HOOKAH BARS OR LOUNGES**

- Punjab has become the third state in the country after Maharashtra and Gujarat to ban hookah bars or lounges.

- President Ram Nath Kovind has given his assent to Cigarettes and other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) (Punjab Amendment) Bill, 2018.
- The objective of this law is to check use of tobacco in various forms and prevent diseases caused by use of the tobacco products.

#### **28. MY SON TEMPLE COMPLEX**

- **Context:** President Kovind has visited the My Son temple complex in Kwangnan province in Vietnam.
- **About My Son temple complex:** A UNESCO World Heritage Site, the My Son temple complex is among Vietnam's most cherished cultural treasures.

#### **29. AIRSEWA 2.0**

The government has launched the upgraded version of AirSewa 2.0 web portal and mobile app.

- Major improvements include features such as secure sign-up and log-in with social media, chatbot for travellers support, improved grievance management including social media grievances, real-time flight status and details flight schedule.
- The upgrade and improved version of AirSewa operates through an interactive web portal as well as through a mobile app for both android and iOS platforms and will offer passengers a convenient and hassle-free air travel experience.
- The web portal and application will help to capture air travellers' feedback for policy interventions.

#### **30. CSE GETS 2018 INDIRA GANDHI PRIZE**

- **Context:** Centre for Science and Environment (CSE), the New Delhi (India)-based independent research and advocacy think tank, has been named the recipient of the prestigious Indira Gandhi Prize for Peace, Disarmament and Development for the year 2018.

##### **About CSE:**

- Established in 1980 under the leadership of late Anil Aggarwal and presently headed by Sunita Narain CSE has been working for the last four decades to incorporate environmental sustainability into development policies.

- It has worked on extending awareness and education about environmental issues, on air and water pollution, waste water management and industrial pollution, food safety and energy, climate change and above all in influencing official policy and public actions for sustainable development.

**About Indira Gandhi Prize for Peace, Disarmament and Development:**

- The award is accorded annually by the Trust to individuals or organisations in recognition of creative efforts toward promoting international peace, development and a new international economic order, ensuring that scientific discoveries are used for the larger good of humanity, and enlarging the scope of freedom.

### 31. RUSSIAN IGLA-S MISSILE SYSTEM

- Context:** Indian Army has picked Russia's Igla-S missile system as choice for its multibillion dollar contract for man-portable air defence systems (MANPADS).

**About Igla-S missile system:**

- It is latest model of Russian MANPADS (Man-portable air-defense system) technology. It offers superior performance over earlier supplied SA-18 missiles to India. It is designed for use against visible aerial targets at short range such as tactical aircraft, helicopters, unmanned aerial vehicle (UAVs), cruise missile, head-on or receding, in presence of natural (background) clutter and countermeasures.
- As per requirements of Indian Army, it will have maximum range of 6km, altitude of 3km along with all-weather capability. Igla-S missile system will replace the existing Igla in service which is in urgent need of replacement.



### 32. NEW SPECIES OF INDIAN HORNED FROGS FROM HIMALAYAN REGIONS

- Context:** Scientists have discovered four new species of Indian horned frogs from Himalayan regions of Northeast India.

- What are Horned frogs?** Horned frogs get their name from fleshy horn-like projection on upper eyelids of some species

**Key facts:**

- They were discovered in the forests of Meghalaya and Arunachal Pradesh.
- Scientists have named them as Himalayan horned frog (*Megophrys himalayana*), Garo white-lipped horned frog (*Megophrys oreocrypta*); Yellow spotted white-lipped horned frog (*Megophrys flavipunctata*) and Giant Himalayan horned frog (*Megophrys periosa*).
- These frogs vary in size — yellow spotted white-lipped horned frog measures about 5.7-7.5 cm and is smallest among four. Giant Himalayan horned frog measures about 7.1 to 11.2 cm, making it largest of 15 horned frog species found in Northeast India.

### 33. VAJRA PRAHAR

- What is it?** 'Vajra Prahar' is a Indo-US Special Forces joint training exercise conducted alternately in India and the US.
- Why in News?** The 2018 edition of this exercise has commenced at Mahajan Field Firing Range (MFFR), Bikaner in Rajasthan.
- Aim and objectives of the exercise:** The aim of the exercise is to promote military relations between the two countries by enhancing interoperability and mutual exchange of tactics between Special Forces.
- The objectives of the joint training is to share the best practices between the two armies and to develop joint strategies by sharing expertise of conducting operations in a counter-insurgency and counter-terrorism environment, while capitalising on the rich repository of experiences of each other armies.

### 34. MAHATMA GANDHI STATUE UNVEILED IN SYDNEY

- Context:** President Ram Nath Kovind has unveiled a statue of Mahatma Gandhi at the Jubilee Park in the town of Parramatta, Sydney. The unveiling of the statue is part of the celebrations of the 150th anniversary of the Father of the Nation, which is being observed in different parts of the world.



### 35. WOMEN EMPOWERMENT RESOLUTION CAMPAIGN

- Uttar Pradesh Government has launched Women Empowerment Resolution Campaign to develop leadership capacities in women and make them vocal for their rights. The purpose of this campaign is to ensure the empowerment of women through different programs in the state.
- Under it, the women employees of the state government will go to their house to know about schemes introduced by Center and the state government for women. Issues like education, self-employment, health, sanitation and nutrition will be included under this campaign.

### 36. ADMIRAL SUNIL LANBA, CHIEF OF THE NAVAL STAFF TO VISIT RUSSIA

#### What to Study?

- Dynamic Part:** India-Russia Maritime Exercise

#### Aim of the visit:

- To consolidate bilateral defence relations with Russia, and
- To explore new avenues for defence cooperation.

#### Background:

- The Indian Navy and the Russian Federation Navy cooperates on many aspects like operational interactions, training, hydrography cooperation and exchange of Subject Matter Experts in various fields through the medium of **Navy-to-Navy staff Talks**.
- They both have conducted bilateral Maritime Exercise '**INDRA NAVY**', since 2003, followed by **INDRA Tri-Services Exercise** since 2017 (Next edition of INDRA NAVY Exercise is scheduled at Visakhapatnam in December 2018).

### 37. NEW SPECIES OF SHARK IDENTIFIED IN INDIAN OCEAN

- A new species of a deep sea shark- **the Pygmy false catshark**, has been found in the northern Indian Ocean, the first such discovery in India since 2011 when the Mangalore houndshark was identified.
- The Pygmy false catshark** is currently known only from deep waters (200-1000m depth) and has a length of about 65cm. It is dark brown without any prominent patterns.



- The new species was found off the southwestern coast of India and north of Sri Lanka.
- Its scientific name is **Planonasus indicus** – from ‘planus’ meaning flat and ‘nasus’ meaning nose.
- The new species was first observed was on April 26, 2008, when it was caught in fishing nets in Kochi, Kerala.

### 38. 70-FEET TALL STATUE OF LORD BUDDHA UNVEILED AT RAJGIR IN NALANDA DISTRICT

- Bihar Chief Minister Nitish Kumar has unveiled 70-feet tall statue of Lord Buddha at Rajgir in Nalanda district of state. **It is second tallest statue of Buddha in the country.**



#### Key Facts:

- The statue has been installed above 16 metre radius pedestal in middle of lake Ghora Katora. Ghora Katora is natural lake surrounded by five hills.
- It has been made from 45,000 cubic foot pink sand stone.

### 39. ODISHA NOW HAS A LEXICON FOR RARE TRIBAL LANGUAGES

- The Odisha government has come out with lexicons of 21 tribal languages.
- The bilingual tribal dictionaries will be used in multilingual education (MLE) initiated by the State government at the elementary level in tribal-dominated districts.
- The bilingual tribal dictionaries for MLE and trilingual tribal language proficiency modules in all the 21 tribal languages have been formulated by the Special Development Council. Both will help in enhancing proficiency in tribal languages.
- **Background:** Odisha has a unique place on the tribal map of India for having the maximum number of Scheduled Tribe communities. The State is home to 62 different tribal communities, including 13 particularly vulnerable tribal groups. These tribes speak 21 languages and 74 dialects. Of the 21 tribal languages, seven have their own scripts. However, Odia is used as the medium of communication in the dictionaries.



- **The hog deer or Pada is an endangered species in the IUCN Red List and is protected under Schedule I of the Indian Wild Life (Protection) Act, 1972.** The species has lost ground in most of its distribution range. A small and isolated population of under 250 was reported from Cambodia. However, it was widely distributed throughout the Southeast Asian countries at the beginning of the 20th century.
- Two sub-species of hog deer have been reported from its range. The western race is distributed from Pakistan and the terai grasslands (along the Himalayan foothills, from Punjab to Arunachal Pradesh), while the eastern race of hog deer is found in Thailand, Indo-China, Laos, Cambodia, and Vietnam.

### 40. HOG DEER

- **Context:** Indian scientists have discovered in India an endangered sub-species of hog deer (*Axis porcinus annamiticus*), earlier believed to be confined to the eastern part of central Thailand.

#### Key facts:

- Researchers reported the presence of **a small population of hog deer in Keibul Lamjao National Park (KLN), Manipur.** The population genetically resembles *A. p. annamiticus*. The study indicates that the western limit of hog deer is Manipur; not central Thailand as believed.
- **Significance:** Since hog deer is losing habitat in other countries, the genetically distinct and evolutionarily significant population found in KLN—considered a biodiversity hotspot on the India-Myanmar border—is significant for conservation.

### 41. LEGION D'HONNEUR (LEGION OF HONOUR)

- **Why in News?** Global software major Wipro Chairman Azim Premji has been conferred with the highest French civilian award 'Chevalier de la Legion d'Honneur' (Knight of the Legion of Honour) in Bengaluru, in recognition of his contribution to the Indian IT industry and philanthropy.
- **What is it?** The Legion of Honour, instituted in 1802 by Napoleon Bonaparte, is the **highest civilian award given by the French Republic for outstanding service to France**, regardless of the nationality of the recipients. The President of France is the Grand Master of the Order of the Legion of Honour.

### 42. ATOMIC ENERGY REGULATORY BOARD (AERB)

- **Why in News?** Union Government has appointed renowned scientist Nageshwara Rao Guntur as Chairperson of Atomic Energy Regulatory Board (AERB).

#### About AERB:

- It was established in November 1983 to carry out certain regulatory and safety functions in the fields of nuclear and radiation safety on a countrywide basis.
- It was constituted by President of India by exercising powers conferred by Section 27 of Atomic Energy Act, 1962 to carry out certain regulatory and safety functions under the Act.
- The regulatory authority of AERB is derived from rules and notifications promulgated under Atomic Energy Act, 1962 and Environmental (Protection) Act, 1986.
- Its mission is to ensure that use of ionising radiation and nuclear energy in India does not cause undue risk to health and environment.

#### 43. COUNTRY'S FIRST OWL FESTIVAL IN PUNE

- **The Indian Owl Festival, the country's first owl fest**, is being held at Pingori village in Purandar taluka of Pune.
- The two-day festival, organised by Ela Foundation, an NGO working towards nature education and conservation, will give information on owl conservation.
- It is a first-of-its-kind festival in the country that is being organised with the intention of creating awareness about owl as a bird and debunking numerous superstitions associated with it.
- **Indian Owl is protected under the Wildlife (Protection) Act of India.**



- **Threat:** Of the 262 species of owls that are found in the world, 75 feature in the red data book — meaning they are threatened. Major causes behind this are superstitions and habitat loss — both are man-made. They are “highly prized and in demand for black magic purposes”.

#### 44. KONKAN 18

- **What is it?** It is the naval exercise between India and United Kingdom. The 2018 edition will be held in Goa.
- **Bilateral KONKAN exercise** was started in 2004 and since then has grown in scale. The exercise is aimed at deriving mutual benefit from each other's' experiences and is indicative of continuing cooperation between two countries.

#### 45. 'COPE INDIA 2019'

- **What is it?** It is a bilateral exercise between Indian Air Force (IAF) and US Air Force (USAF) conducted on and over Indian soil. The 2019 edition will be held in West Bengal.
- The first such exercise was conducted at IAF air force station in Gwalior from February 2004.

INSIGHTSIAS