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Ramateertham Temple

History & Culture

Why in the news?

The 16th century Ramateertham temple was recently seen in news due to the vandalism of the idol of Lord Rama at the Kodandarama Swamy temple.

• About the temple

- The Ramatheertham temple in Nellimarla Mandal of Vizianagaram District, Andhra Pradesh is dedicated to Lord Sri Rama.
- This temple belongs to 3rd Century. It is located on the Bavikonda Hills.
- River Champa flows beneath the Hill between Bhaskara Lake and Neelachalam Hills.
- The idols in the temple are installed by Pandavas during their exile period of 12 years.
- Sri Pedda Jiyar Swamy installed Ramasthoopam in the temple. Ramatheertham is also famous for Buddhist monastery and Jain Thirthankars.

Anubhava Mantapa

History & Culture

Why in the news?

- **Karnataka Chief Minister B.S. Yediyurappa laid the foundation stone for the 'New Anubhava Mantapa' in Basavakalyan, the place where 12th century poet-philosopher Basavanna lived for most of his life.**

About New Anubhava Mantapa

- The **New Anubhava Mantapa** is projected to be a six-floor structure in a 7.5 acres plot and it embodies the principles **Basaveshwara's philosophy** stood for.
- The **new structure will exhibit the 12th Century Anubhava Mantapa** (often referred to as the "first Parliament of the world") established by **Basaveshwara in Basavakalyan**.
- This was first proposed in 2016 and the building will adopt the **Kalyana Chalukya style** of architecture.
- The basement is designed for a **Dasoha Bhavana (dining hall)** where around 1,500 people eat together.

Who was Lord Basaveshwara?

- He was a **12th Century Kannada social reformer, poet and philosopher** during the rule of the **Kalachuri-dynasty king Bijjala I in Karnataka**.
- He spread social awareness through his poetry, popularly **known as Vachanaas**.
- **As a social reformer:** He worked towards **uplifting the underprivileged classes & women** and believed that all humans are **equal, irrespective of class, caste, creed, and gender**. He built the world's first Parliament that also gave equal representation to women. He preached that there is only one Supreme Being and that is Shiva and that all animate and inanimate are equal before the Supreme Being.
- **Socio-economic principles-** He gave two very important socio-economic principles: They are- **"Kayaka" (Work-Divine work)** and **"Dasoha" (Distribution-Equal distribution)**. According to this, every **individual of society** should take up the **job of his choice** and perform it with all **sincerity**. There is no discrimination in vocations. All members of society are labourers (Kayakajeevighalu). Some may be intellectual labourers and others may be manual labourers.

Major Contributions:

- He conceptualised **Anubhava Mantapa** –
- It was an academy of **mystics, saints and philosophers** of the **Lingayat faith** and acted as the **fountainhead of thoughts on common human values and ethics**.
- It also had numerous Sharanas, people from the lower strata of society – as participants.
- It is **often referred to as the "first Parliament of the world"**.
- **Sharana movement:** Preaching egalitarianism, the movement was presided over by Basavanna.
- The movement, which was too radical for its time, attracted people from all castes, and like most strands of the Bhakti movement, produced a corpus of literature, the vachanas, that unveiled the spiritual universe of the Virashaiva saints.
- **Kalyana Rajya:** He established Kalyan Rajya in Karnataka, same in meaning to today's welfare state.

World's Oldest Cave Art

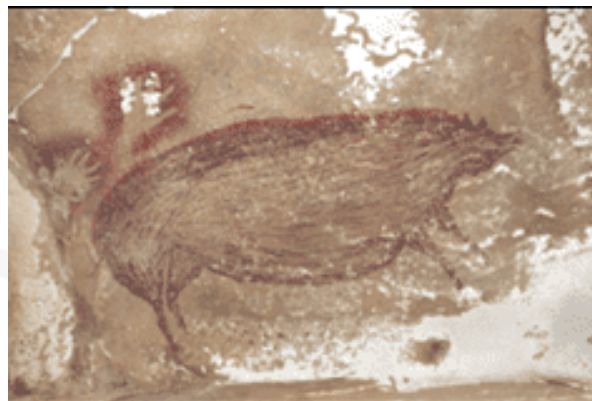
History & Culture

Why in the news?

- **Archaeologists have discovered the world's oldest known animal cave painting in Indonesia – a wild pig – believed to be drawn 45,500 years ago.**

About the cave art

- The picture was found in the Leang Tedongnge cave in a remote valley on the island of Sulawesi, Indonesia. It dates to at least 45,500 years ago. It shows a pig with a short crest of upright hairs and a pair of horn-like facial warts in front of the eyes, a characteristic feature of adult male Sulawesi warty pigs. Sulawesi warty pigs were the most commonly portrayed animal in the ice age rock art of the island, suggesting they have long been valued both as food and a focus of creative thinking and artistic expression. Painted using red ochre pigment, the pig appears to be observing a fight or social interaction between two other warty pigs.



Previous Oldest Painting

- The previously oldest dated rock art 'scene' at least 43,900 years old, was a depiction of hybrid human-animal beings hunting Sulawesi warty pigs and dwarf bovids. It was discovered by the same research team at a nearby limestone cave site.

Some of the Caves with Paintings in India

- **Ajanta:** This cave is located in Aurangabad district of Maharashtra. Famous fresco paintings of Ajanta are dying princesses, flying apsara and preaching Buddha.
- **Ellora:** It is located in the Aurangabad district of Maharashtra. It is famous for the largest monolithic excavation in the world- the great Kailasa.
- **Elephanta:** It is located on Elephanta Islands in Mumbai. There are seven cave excavations in the Elephanta group.
- **Bhimbetka:** It is located between Hoshangabad and Bhopal, in the foothills of the Vindhya Mountains. It has one of the oldest paintings in India and the world.

Prabuddha Bharata

History & Culture

What is the News?

- The Prime Minister will address the 125th-anniversary celebrations of the 'Prabuddha Bharata' journal. The event is organized by the Advaita Ashrama in Uttarakhand.

About 'Prabuddha Bharata' journal

- **Prabuddha Bharata:** It is an English monthly journal of the Ramakrishna Order founded in 1896, by Swami Vivekanand.
- **Ramakrishna Order:** It is the monastic lineage that was founded by Ramakrishna. It gave birth to twin organizations Ramakrishna Math and Ramakrishna Mission both headquartered at Belur Math in Kolkata.
- **Purpose:** The journal carries articles on social sciences and humanities comprising historical, psychological, cultural, and social sciences themes.
- **Significance:** The journal has been a significant medium for the outreach of the knowledge and message of India's ancient spiritual wisdom.
- Personalities like Netaji Subhas Chandra Bose, Bal Gangadhar Tilak, Sister Nivedita, Sri Aurobindo, Former President Sarvepalli Radhakrishnan, have contributed to the Journal over the years.

Makar Sankranti and Harvest festivals across India

History & Culture

Why in the news?

- Makar sankranti is the first major festival to be celebrated in India and usually takes place in January, this year the festival will be celebrated on January 14.

Other festivals of India

Lohri

- Lohri is primarily celebrated by Sikhs and Hindus. It marks the end of the winter season and is traditionally believed to welcome the sun to the northern hemisphere.
- It is observed a night before Makar Sankranti, this occasion involves a Puja Parikrama around the bonfire with prasad.
- It is essentially termed as the festival of the farmers & harvest, whereby, the farmers thank the Supreme Being.

Pongal

- The word Pongal means 'overflow' or 'boiling over'. Also known as Thai Pongal, the four-day occasion is observed in the month of Thai, when crops such as rice are harvested and people show their gratitude to the almighty and the generosity of the land.
- Tamilians celebrate the occasion by making traditional designs known as kolams in their homes with rice powder.
- Magha Bihu:** In Assam and many parts of the North East, the festival of Magha Bihu is celebrated. It sees the first harvest of the season being offered to the gods along with prayers for peace and prosperity.
- Uttarayan:** Gujarat celebrates it in the form of the convivial kite festival of Uttarayan.
- Maghi:** In Punjab, Makar Sankranti is celebrated as Maghi. Bathing in a river in the early hours is important.
- Saaji:** In Shimla District of Himachal Pradesh, Makara Sankranti is known as Magha Saaji. Saaji is the Pahari word for Sankranti, start of the new month. Hence this day marks the start of the month of Magha.
- Kicheri:** The festival is known as Kicheri in Uttar Pradesh and involves ritual bathing.

Jallikattu in Tamil Nadu

History & Culture

Why in the news?

- With Assembly polls round the corner in Tamil Nadu, the Pongal festival and Jallikattu, the traditional bulltaming sport, have caught the attention of political parties.

What is Jallikattu?

- Jallikattu has been known to be practised during the Tamil classical period (400-100 BCE).
- It was common among the Ayar people who lived in the 'Mullai (pastoral)' division of the ancient Tamil country.
- Later, it became a platform for the display of bravery, and prize money was introduced for participation encouragement.
- A seal from the Indus Valley Civilization depicting the practise is preserved in the National Museum, New Delhi.

Why is Jallikattu important in Tamil culture?

- Jallikattu is considered a traditional way for the peasant community to preserve their pure-breed native bulls.
- At a time when cattle breeding is often an artificial process, conservationists and peasants argue that
- Jallikattu is a way to protect these male animals which are otherwise used only for meat if not for ploughing.

Legal tussle surrounding jallikattu

- Jallikattu first came under legal scrutiny in 2007 when the Animal Welfare Board of India and the animal rights group PETA moved petitions in the Supreme Court against Jallikattu as well as bullock cart races. The Tamil Nadu government, however, worked its way out of the ban by passing a law in 2009, which was signed by the Governor.
- In 2011, the UPA regime at the Centre added bulls to the list of animals whose training and exhibition is prohibited.
- In May 2014, the Supreme Court banned the bull-taming sport, ruling on a petition that cited

INDIAN Pangolin

Geography & Environment

Why in the new?

- In a move aimed at protecting the most trafficked species in the world, China accorded pangolin the highest level of protection and removed its scales from its list of approved traditional medicines.

About:

- Pangolin- They are scaly anteater mammals of the order Pholidota and they have large, protective keratin scales covering their skin and they are the only known mammals with this feature.
- Pangolins are nocturnal, and their diet consists of mainly ants and termites, which they capture using their long tongues.
- Geographical location- There are eight species of pangolin found in Asia and Africa. While the Chinese Pangolin (*Manis pentadactyla*) is found in northeastern India, the Indian Pangolin is distributed in other parts of the country as well as Sri Lanka, Bangladesh and Pakistan.
- Protection- Both these species are protected and are listed under the Schedule I Part I of the Wild Life (Protection) Act, 1972 and under Appendix I of the Convention on International Trade in Endangered Species (CITES).
- IUCN status- Indian pangolin – Endangered; Chinese pangolin – Critically Endangered.
- Threats- According to the International Union for the Conservation of Nature, pangolin populations in China have dropped by more than 90% since 1960.
- These species are hunted for its meat across the northeastern States and in central India and smuggled for scales especially in China as it is believed that scales possess magic or charms and have medicinal properties.



Dzukou Forest Fire

Geography & Environment

- A forest fire occurred in Nagaland's Dzukou range, in which the Dzukou valley (a tourist hot spot) is located.
- This valley is located at the border of states of Nagaland and Manipur.
- It is a sanctuary for the endangered Blyth's tragopan - Nagaland's State Bird.
- It is famous for its wide range of flowers in every season. Rare Dzükou Lily is found only in this valley.
- This valley is 'Valley of flowers' of the Nagaland State.

Management Effectiveness Evaluation: MoEFCC

Geography & Environment

Why in news?

- Recently, the Minister for Environment, Forest and Climate Change has released the Management Effectiveness Evaluation (MEE) of 146 National Parks and Wildlife Sanctuaries (NP&WLS) in the country.

Management Effectiveness Evaluation:

- It is defined as the assessment of how well NP&WLS are being managed and if they are protecting their values and achieving the goals and objectives agreed upon.
- The term 'management effectiveness' reflects three main themes of Protected Areas (PAs) management:
 - Design and planning issues relating to both individual sites and PA systems.
 - Adequacy and appropriateness of management systems and processes.
 - Delivery of the objectives of NP&WLS, including conservation of values.
- A uniform theme has been provided to the assessments by the International Union for Conservation of Nature (IUCN) World Commission on Protected Areas (WCPA) Framework which aims both to give overall guidance in the development of assessment systems and to encourage basic standards for assessment and reporting.

- The WCPA Framework for Assessing Management Effectiveness is a system with six elements: Context, Planning, Inputs, Processes, Outputs and Outcomes.

Significance:

- **It has emerged as a key tool that is increasingly being used by governments and international bodies to understand the strengths and weaknesses of the PA management systems, in order to assess their efficacy.**
- **It provides valuable guidance on various aspects of wildlife and PA.**

Highlights of the Evaluation:

- The results of the present assessment are encouraging with an overall mean MEE score of 62.01% which is higher than the global mean of 56%.
- With this round of evaluation, MoEFCC has successfully completed one full cycle of evaluating all terrestrial NP&WLS of the country from 2006 to 2019.
- 70% of the global tiger population, 70% of Asiatic lions and more than 60% of the leopard population in India show India's blooming biodiversity.
- These animals are at the top of the food chain and their growing numbers show the well-being of the whole ecosystem.

State of Climate of India Report was released by the India Meteorological Department (IMD)

Geography & Environment

Why in News?

- The State of Climate of India Report was released by the India Meteorological Department (IMD) recently.
- What does the report say?
- The Statement on Climate of India in 2019 confirms that the extreme weather events have become par for the course in the country.
- This is what climate scientists have been claiming for more than half a decade.
- It notes that excessive heat, cold and rainfall killed 1,562 people in 2019.
- In 2019, the mean temperature was 0.36 above normal while the country also recorded excess rainfall during both the southwest and northeast monsoons.
- Intense dry spells were interspersed with floods in several parts of the country.
- This is a phenomenon that policymakers will increasingly be called to factor while drawing up projects in areas as diverse as agriculture, urban planning, water resources and disaster management.

How the report should be seen?

- The IMD report should be seen in conjunction with long-term meteorological trends.
- The World Meteorological Organization, for example, reckons that the decade starting 2011 remains on track to be the warmest on record.
- At the same time, data from the European Centre for Medium Range Forecast shows that the relative humidity in the mid-troposphere in the Subcontinent has increased by about 2% in the past four decades.
- Such warming has increased the capacity of oceans to form intense cyclonic disturbances.

What are the observed vagaries?

- In 2019, as the IMD report notes, the Indian Ocean witnessed eight cyclones.
- By that very fact, cyclones don't kill but buildings can turn hazardous during such extreme weather events.
- The Ministry of Housing and Urban Affairs does have guidelines for climate-friendly construction.
- But planners in coastal cities and towns rarely pay heed to its provisions.
- Kerala, southern Karnataka and Gujarat were heavily deficient till July 2019.
- But in the last week of July, these states recorded surplus rainfall.
- For farmers, such vagaries mean disruptions in the entire cropping cycle.

What is needed?

- Increasing their resilience calls for efficient rainwater storage and use.
- The changing dynamics of weather also demand cooperation between states that share a river basin.
- This year, Maharashtra and Karnataka debated over opening the gates of the Almatti dam on the Krishna.
- By the time the two states agreed over the amount of water to be discharged from the dam, the damage was already done.
- It's clear that dealing with exceptional weather will require interventions at the national, state & local-levels.
- The Statement on Climate of India 2019 drives home the urgency of such interventions.

Sulfur Dioxide Emission Norms Delayed**Geography & Environment****Why in News**

- The Supreme Court rejected the request of Association of Power Producers (APP) to extend the 2022 deadline for meeting pollution norms by two years.

Background

- In 2015, the Ministry of Environment, Forest and Climate Change (MoEF&CC) notified emission norms for particulate matter (PM), sulphur dioxide and oxides of nitrogen.
- Particulate matter is a mixture of solid particles and liquid droplets in the air. Some particles can be seen with the naked eye; others can only be detected under a microscope.
- PM can cause serious respiratory disorders and even damage the lungs.
- It set a 2017 deadline for thermal power plants to comply with emissions standards for installing Flue Gas Desulphurization (FGD) units that cut emissions of toxic sulphur dioxide.
- FGD is a set of technologies used to remove sulfur dioxide from exhaust flue gases of fossil-fuel power plants, and from the emissions of other sulfur dioxide emitting processes such as waste incineration.
- The deadline was later changed to varying deadlines for different regions, ending in 2022.
- More than 50% of the plants have not taken adequate steps to meet these emission norms.
- In February 2020, the Ministry of Power asked the Central Electricity Authority (CEA) to submit a paper to suggest periodicity of pollutant monitoring as well as emission standards specific to plant locations.
- Accordingly, the CEA prepared a report, which was deemed incomplete and invalid by the Centre for Science and Environment (CSE).

Flue Gas Desulphurization (FED)

- Removal of Sulfur Dioxide is called as Flue-gas Desulphurization (FGD).
- It seeks to remove gaseous pollutants viz. SO₂ from exhaust flue gases generated in furnaces, boilers, and other industrial processes due to thermal processing, treatment, and combustion.

Sulfur Dioxide Pollution**• Source**

- The largest source of SO₂ : Burning of fossil fuels by power plants and other industrial facilities.
- Smaller sources of SO₂ : Industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content.

• Impact

- Short-term exposures to SO₂ can harm the human respiratory system and make breathing difficult.
- People with asthma, particularly children, are sensitive to these effects of SO₂.
- SO₂ emissions that lead to high concentrations of SO₂ in the air generally also lead to the formation of other sulfur oxides (SO_x). SO_x can react with other compounds in the atmosphere to form small particles.
- These particles contribute to particulate matter (PM) pollution.

Sultanpur National Park

Geography & Environment

Why in the news?

- After confirmed cases of bird flu reported from Delhi, the forest department has also stepped up vigilance at Sultanpur National Park in Gurgaon district of Haryana.
- About Sultanpur National Park
- Sultanpur National Park, a bird sanctuary on Gurgaon-Farrukh Nagar Road is a seasonal wetland that attracts around 200 species of migratory birds every year between October and March from Europe, Siberia and Central Asia. The park is also a home of several species of insects, amphibians, reptiles and mammals.
- The park is located on the Sultanpur Jheel (an area of 1.21 sq. Km.) and the jheel was accorded Sanctuary status on 2 April 1971 under section 8 of the Punjab Wildlife Preservation Act of 1959. The decision of granting the Sanctuary status was taken after the 1969 Conference of the International Union of Conservation of nature and Natural resources (IUCN) in New Delhi.
- The status of the park was upgraded to National Park under Section 35 of the Wildlife (Protection) Act, 1972 on 5 July 1991. Simultaneously the area was increased to 1.42 sq. Km.
- The National Park has been carved out of the land of Sadhrana, Chandu, Sultanpur and Saidpur villages.

Kanha Tiger Reserve

Geography & Environment

Why in the news?

- A tigress was found dead in the buffer zone of Kanha tiger reserve in Madhya Pradesh.

About:

- Kanha National Park is a national park and a Tiger Reserve.
- **Location:** It is located in the Mandla and Balaghat districts of Madhya Pradesh. It is the largest national park in Madhya Pradesh with 940 sq. km under it.

Background:

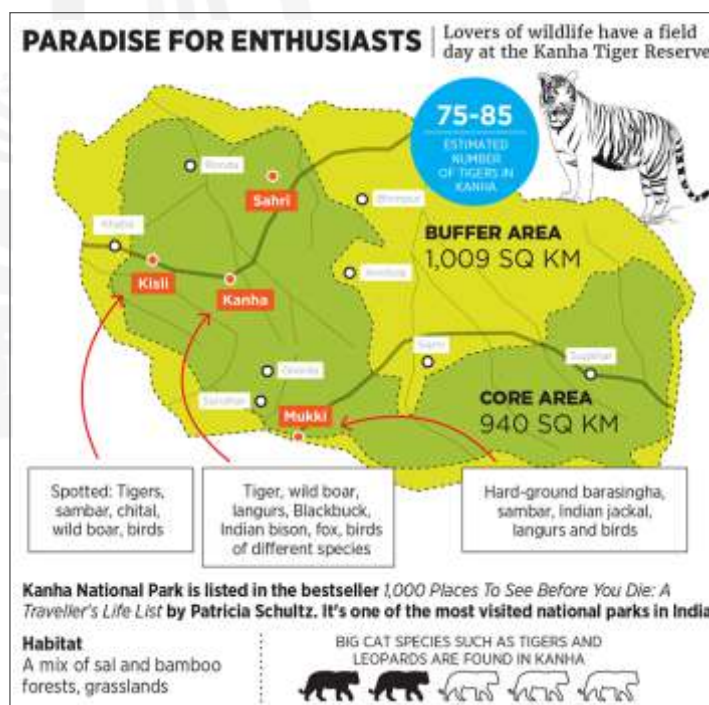
- In the 1930s, Kanha area was divided into two sanctuaries, Hallon and Banjar, of 250 and 300 km². Kanha National Park was created on 1 June 1955.
- Together with a surrounding buffer zone of 1,067 km² and the neighbouring 110 km² Phen Sanctuary it forms the Kanha Tiger Reserve.

Fauna:

- The park has a significant population of Royal Bengal Tiger, leopards, the sloth bear, Barasingha and Indian wild dog.
- The Park is respected globally for saving the Barasingha from near extinction. It is also the first tiger reserve in India to officially introduce a mascot, "Bhoorsingh the Barasingha".

Flora:

- The lowland forest is a mixture of sal (*Shorea robusta*) and other mixed forest trees, interspersed with meadows.
- The highland forests are tropical moist dry deciduous type and of a completely different nature with bamboo on slopes (*Dendrocalamus strictus*).
- Tribes in the vicinity: The forest of the Kanha Tiger Reserve was originally inhabited by two indigenous tribes of Central India, the Gonds and the Baigas. The vicinity of the reserve is still occupied with the villagers of these tribes.



Marine MegaFauna Stranding Guidelines

Geography & Environment

Why in the news?

- The Ministry of Environment Forest and Climate Change (MoEF&CC) has released '**Marine MegaFauna Stranding Guidelines and National Marine Turtle Action Plan**'.

Key updates

- Despite the immense economic, ecological and cultural values of marine habitats in India, marine mega fauna species and marine turtles face a wide variety of challenges including stranding and entanglement.
- Managing such challenging situations requires coordination, action and people's participation which would help in the long-term conservation of marine species and their habitats.
- The documents launched today contains ways and means to not only promote inter-sectoral action for conservation but also guide improved coordination amongst the government, civil society and all relevant stakeholders on the response to cases of stranding, entanglement, injury or mortality of marine mammals and also conservation of marine turtles.
- Highlights of the two documents:** These two documents highlight the following
 - Actions to be taken for handling stranded animals on shore, stranded or entangled animals in the sea or on a boat
 - Management actions for improved coordination
 - Reducing threats to marine species and their habitats
 - Rehabilitation of degraded habitats
 - Enhancing people's participation
 - Advance scientific research and exchange of information on marine mammals and marine turtles and their habitats.

What is Mega Fauna?

- Usage of the term in terrestrial zoology
- In terrestrial zoology, the megafauna comprises the large or giant animals of an area, habitat, or geological period.
- The most common thresholds used are weight over 40 kilograms (90 lb) or 44 kilograms (100 lb) (i.e., having a mass comparable to or larger than a human) or over a tonne, 1,000 kilograms (2,205 lb) (i.e., having a mass comparable to or larger than an ox).
- In practice, the most common usage encountered in academic and popular writing describes land mammals roughly larger than a human that are not (solely) domesticated.
- The term is especially associated with the Pleistocene megafauna – the land animals often larger than modern counterparts considered archetypical of the last ice age, such as mammoths, the majority of which in northern Eurasia, the Americas and Australia became extinct within the last forty thousand years
- Among living animals, the term megafauna is most commonly used for the largest extant terrestrial mammals, which are elephants, giraffes, hippopotamuses, rhinoceroses, and large bovines.
- Usage of the term for marine mammals
- Marine megafauna comprise all large-bodied organisms (body mass, ≥ 45 kg) inhabiting the coastal and open oceans, including bony fishes, elasmobranchs (sharks and rays), mammals (whales, seals, sea cows, and the polar bear), reptiles (sea turtles), a species of sea bird (i.e., the emperor penguin), and a few species of mollusks (clams, squids, and octopuses)

What is Marine wildlife stranding?

- A stranding is the beaching of a live or dead marine mammal.
- Stranded marine life can take the following forms:
 - Whales, dolphins, and porpoises (cetaceans) are considered stranded when they are found dead, either on the beach or floating in the water, or alive on the beach and unable to return to the water.
 - Seals and sea lions (pinnipeds) are considered stranded when they are found dead on land or in the water, or are in need of medical attention.
 - Stranded sea turtles are defined as any ocean turtle found on land or in the water that is dead, injured, or exhibits any indication of ill health or abnormal behavior.

Why do animals strand?

- Marine animals strand for numerous reasons, and the predominant known causes vary by species. Some of the common general causes include:
- Injuries caused by ship/vessel collisions.
- Entrapment or entanglement in fishing gear.
- Viral and bacterial infections.
- Parasitism.
- Disease resulting from exposure to harmful algal blooms.
- Other diseases, including cancer.
- Starvation.
- Unusual weather or oceanographic events.

Leuser Ecosystem

Geography & Environment

Why in the news?

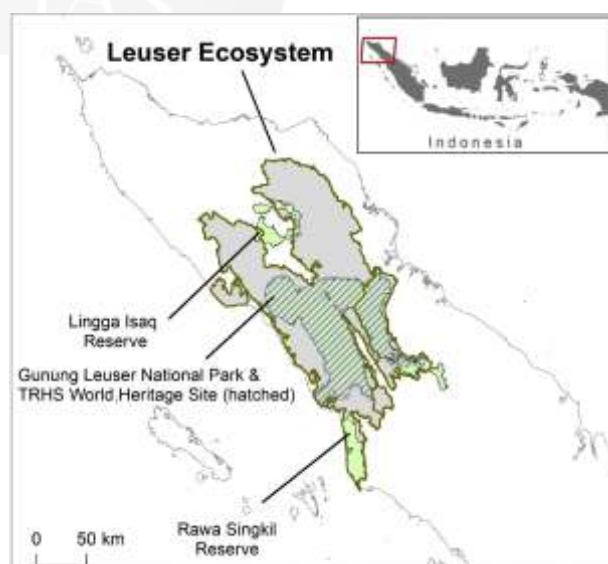
- Recently, an investigation by global watchdog Rainforest Action Network (RAN) has shown that food and cosmetic companies as well as financial institutions have links with companies implicated in the destruction of the Leuser Ecosystem, a forest area on the island of Sumatra, Indonesia.

Key findings

- RAN's investigation claimed the following companies for procured oil from and financed the Royal Golden Eagle (RGE) group, which has established the destructive oil palm and pulp plantations in the area through subsidiary companies.
- RGE, for example, procures palm oil from a mill supplied by PT Tualang Raya, a palm oil producer in the Leuser Ecosystem, the investigation claimed.
- PT Tualang Raya is also known to have cleared at least 60 hectares of lowland rainforest in the Leuser Ecosystem over the past six months. This is three times the rate of clearance in the last six months.
- RAN investigation pointed out that many of these companies and banks had pledged to conserve the environment.

About the Leuser Ecosystem

- **Location:** The Leuser Ecosystem is an area of forest located in the provinces of Aceh and North Sumatra on the island of Sumatra in Indonesia.
- Covering more than 2.6 million hectares it is one of the richest expanses of tropical rain forest in Southeast Asia and is the last place on earth where the Sumatran elephant, rhino, tiger and orangutan are found within one are
- It has one of the world's richest yet least-known forest systems, and its vegetation is an important source of Earth's oxygen.
- **Biodiversity:** Home to over 105 mammal species, 382 bird species, and 95 reptile and amphibian species, the Leuser Ecosystem is one of the last remaining habitats where so much wildlife can still thrive.
- **Unique feature:** This rainforest is said to be the only place left on Earth where tigers, orangutans, elephants and rhinos still coexist in the wild.
- **Threat:** Palm oil, Pulp and Paper industries and mining continue to threaten its ecosystem therefore deforestation is bringing the Leuser Ecosystem's wildlife to the very brink of extinction.
- Around 70-75% of Aceh's people live on the coastal plains of Sumatra, where many communities have established wet rice cultivation. They heavily depend upon the food and water supplied by this ecosystem.



Kalinga Frog

Geography & Environment

Why in the news?

- Recently, the scientists have reported a first-of-its-kind discovery of morphological phenotypic plasticity (MPP) in the Kalinga cricket frog

What is morphological phenotypic plasticity (MPP)?

- MPP is the ability of an organism to show drastic morphological (physical features) variations in response to natural environmental variations or stimuli.

About Kalinga Cricket Frog

- Its documentation was done in 2018 and reported from the Eastern Ghats.
- It was thought to be endemic to the hill ranges of the Eastern Ghats
- In the Eastern Ghats, the species is found on the higher-elevation hill ranges of Odisha and Andhra Pradesh.
- Its scientific name is *Fejervarya / Minervarya Kalinga*

Key highlights of the study

- The discovery was made by researchers from the Breeding Behaviour and Bioacoustics Lab, Department of Zoology, Karnatak University, Dharwad and Zoological Survey of India, Pune
- In the present research communication, the team have reported the Kalinga cricket frog from the central Western Ghats, with the evidence of considerable 'morphological phenotypic plasticity (MPP)
- According to them the physical characteristics of the species in Eastern Ghat vary entirely from the known *Fejervarya / Minervarya* species from the Western Ghats
- The research paper also evoked a large number of questions on taxonomic ambiguity within the genus *Fejervarya / Minervarya*.
- The biogeographic zones:** The frog from the Eastern Ghats is phenotypically showing certain differences when compared with the population that was observed in the Eastern Ghats
- DNA analysis:** As per the researchers only genetic analysis that helped prove that physically different-looking frogs were the same

Morphological difference

- While explaining the differences in morphological features, one of the researchers said both populations show substantial morphological characters.
- Colour variations across the different populations of the same species were quite common. But in this case, there are contrasting morphometric differences in terms of head shape and size; the number and size of the fingers vary from two to four, which are comparatively larger.
- Also, the toe sizes were observed to be smaller in the frog species found in the Western Ghats
- As per the researchers, in India, the *Fejervarya / Minervarya* group was complex and detailed studies on bioacoustics breeding ecology were needed to generate the information on these populations
- While explaining the significance of the recent findings, this information will not only help to trace the distribution of these species along the peninsular region of India but could also be used to evaluate the possible links with species that were found in the North East region.
- The researchers said that it is the first-of-its-kind finding in amphibian research in India.
- The researchers point out that earlier, there were reports of morphological variations but not the combination of genetics and morphology across two different biogeographic zones.
- The general perception of 'every species is everywhere' is not the case with many Western Ghats frogs
- They also said that If the species is widespread, its genetic divergence should be homogeneous. But in our case, there is some difference and not enough to say it is a new species
- The researchers, speculate that the Eastern Ghats would have been a connecting land bridge for species dispersal between the Western Ghats and northeast India as the *Fejervarya* genus frogs are widespread.

Plastic Parks Scheme

Geography & Environment

Why in the news?

- Union Minister for Chemicals & Fertilizers has said that the government is coming up with a scheme of Setting up of Plastic Parks with a state-of-the-art infrastructure through cluster development approach.

Key Points

- The Ministry of Chemicals & Fertilizers has approved setting up of 10 Plastic Parks in the country.
- **Major Objectives**
 - Increase the competitiveness, polymer absorption capacity and value addition in the domestic downstream plastic processing industry through adaptation of modern measures;
 - Achieve environmentally sustainable growth through innovative methods of waste management, recycling, etc.
- The Parks are being set up in the states of: Assam, Madhya Pradesh, Odisha, Tamil Nadu, Jharkhand, Uttarakhand and Chhattisgarh.
- A Plastic Park is an industrial zone devoted to plastic enterprises and its allied industries.
- **Implemented by:** A Special Purpose Vehicle (SPV) shall complete the setting up of the Plastic Park in a period of three years from the date of final approval.

About Plastic Parks Scheme

- Plastic Park is an industrial zone, developed in a cluster approach for establishing units for plastic enterprises and its allied.
- Under the scheme, the Central Government provides grant funding up to 50% of the project cost, subject to a ceiling of Rs. 40 crore per project.
- The remaining project cost is to be funded by the State Government, beneficiary industries and by loan from financial institutions.
- The Department of Chemicals and Petrochemicals has approved setting up of 10 Plastic Parks in the country, out of which 6 parks have been given final approval in the States of Assam, Madhya Pradesh (two parks), Odisha, Tamil Nadu and Jharkhand.
- The details of the 6 Plastic Parks are as under
 - **Madhya Pradesh:** The Plastic Park at Tamot has completed physical infrastructure and purchase of equipment for common facility centers (CFC) is in progress. One unit is functional in the Plastic Park.
 - **Madhya Pradesh:** The Plastic Park at Bilaua is at implementation stage and work of development of physical infrastructure is in progress.
 - **Odisha:** The Plastic Park at Paradeep is at implementation stage and work of development of physical infrastructure is almost completed.
 - **Jharkhand:** The Plastic Park at Deoghar is at implementation stage and work of development of physical infrastructure is in progress.
 - **Tamil Nadu:** The work at Plastic Park at Thiruvallur has started recently and land filling on the site is in progress.
 - **Assam:** The Plastic Park at Tinsukia is at implementation stage and work of development of physical infrastructure is in progress.

Central Vista Project

Polity & Governance

Why in the news?

- Supreme Court pronounced 2-1 judgment and cleared the Central Vista Redevelopment Project.

About the Central Vista Project

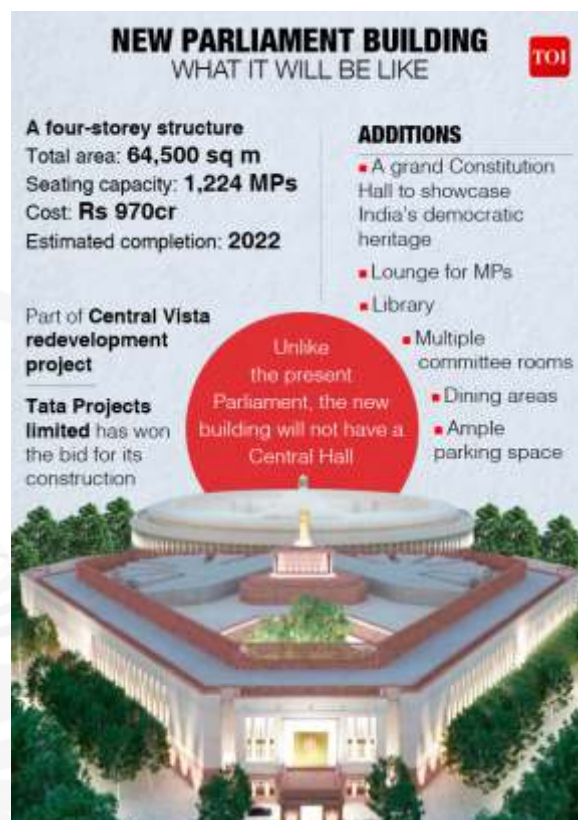
- Under the Central Vista project, the government is proposing to redevelop the region by constructing a new **Parliament house, a new residential complex**, which would house the **Prime Minister** and the **Vice President** besides several new office buildings including the **North and South Block buildings**.
- It will cover a 3-km stretch from Rashtrapati Bhavan to India Gate in Lutyens' Delhi.
- The new complex is likely to have a **triangular shape** and would be complete by 2022.
- In September this year, **Tata Projects Limited** won the bid to construct the new parliament building at a cost of Rs 861.90 crore.

Why there's a need to revamp Central Vista?

- Inadequate infrastructure:** The Government highlighted that the old Parliament buildings have an inadequate infrastructure to meet the present demand.
- Structural lives:** Most of the old buildings of Central Vista have outlived their structural lives.
- Inter-departmental coordination:** At present, the Central Government offices are spread over different locations, affecting the inter-departmental coordination, unnecessary travelling which leads to congestion and pollution.

What are the major concerns?

- Lack of transparency-** In the 're-development' of the Central Vista, the entire matter has been formed in secrecy and opacity.
- Several key approvals for the proposed Parliament building have been pushed during the lockdown which led to allegations of a lack of transparency.
- Environment clearance-** Many opposition and environmentalists point out concerns related to lack of studies to ascertain the need for the project and its impact on the environment, traffic and pollution.
- Financial burden-** The ambitious project, costing Rs 20,000 crore and It came when the country is in the midst of battling the COVID-19 pandemic and is staring at a serious economic crisis.
- The failure of the public health facilities to cope with the increasing number of corona cases, has highlighted the limitations of investing in infrastructure projects at the cost of the health sector
- Change in heritage status-** Central Vista has been accorded the highest Grade 1 heritage status by the Unified Building Bye-Laws of Delhi. Grade 1 classified buildings cannot be changed, and "no intervention can be made unless it is in the interest of strengthening and prolonging the life of the buildings".
- However, later on, the **Heritage Conservation Committee** made a distinction between pre-Independence and post-Independence buildings to redefine the status of 'heritage', allowing the demolition of post-independence constructions, built by Indian architects and engineers in the 60s
- The Central Government decided in May 2015 to **withdraw India's nomination to attain a World Heritage City** tag for **Delhi's Imperial Capital Cities from UNESCO**.



Supreme Court on Horizontal and Vertical quotas

Polity & Governance

Why in the news?

- The Supreme Court last month clarified the position of law on the interplay of vertical and horizontal reservations.

Types of Reservations

- Vertical Reservation:** Reservation for Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Classes (OBCs) is referred to as vertical reservation. It applies separately for each of the groups specified under the law.
- Horizontal Reservation:** It refers to the equal opportunity provided to other categories of beneficiaries such as women, veterans, the transgender community, and individuals with disabilities, cutting through the vertical categories. The horizontal quota is applied separately to each vertical category, and not across the board. For example, if women have 50% horizontal quota, then half of the selected candidates will have to necessarily be women in each vertical quota category, which means half of all selected SC candidates will have to be women, half of the unreserved or general category will have to be women, and so on.

Saurav Yadav versus State of Uttar Pradesh 2020

- The case **highlighted the issues arising from the way different classes of reservation are applied in various selection processes.**
- The question before the court was that if the **underlying criterion for making selections** is "merit".
- The interlocking of the types of reservation **raises questions on how certain groups are to be identified.**
- For example, would an SC woman be put in the category of women or SC. Since quotas are fixed in percentages, what percentage of quota would be attributed to each?
- The **state government's policy** was to **restrict and contain reserved category candidates to their categories**, even when they had secured higher grades.

SC's Decision

- The **court ruled against the Uttar Pradesh government**, holding that if a person belonging to an intersection of the vertical-horizontal reserved category had secured scores high enough to qualify without the vertical reservation, the person would be counted as qualifying without the vertical reservation, and **cannot be excluded from the horizontal quota in the general category.**
- A similar question had **arisen in the case of vertical reservations** in the past, and the law had been settled similarly.
- If a person in the SC category secures a higher score than the cut-off for the general category, the person would be **counted as** having qualified under the general category instead of the SC quota.

Supreme court inference

- If both vertical and horizontal quotas are applied together**, a high-scoring candidate who would otherwise qualify without one of the two reservations is knocked off the list and the **overall selection would have candidates with lower scores.**
- On the other hand, **if a high-scoring candidate is allowed to drop one category**, the overall selection would reflect more high-scoring candidates. In other words, the **"meritorious" candidates would be selected.**
- The ruling becomes important with respect to the **debate on "merit versus reservation"**, where **reservation is sometimes projected as being anti-merit.**
- On the state **government's view of** restricting reserved category candidates, it held that this approach is as good as ensuring that the general category was 'reserved' for upper castes.

Constitutional Provisions Related to Reservation

- The **Preamble** of the Indian Constitution **aims at securing social, economic and political reservation** for weaker sections of the society as an instrument of social justice.
- Article 14** incorporates within itself '**equal protection** of the laws' besides 'equality before law'. This means that a state must treat all individuals equally in similar conditions and circumstances.
- Article 15(4)** enunciates that the State can **make any special provisions for the advancement of any** Socially or Educationally Backward Classes of citizens (SEBCs) or for SCs/STs.

- **Article 15(5)** empowers the state to make any special provision, by law, in relation to the **admission to educational institutions** for the advancement of any SEBCs or for any SCs/STs.
- **Article 16(4)** empowers the State to make special provision for the **reservation of appointments or posts** in favor of any backward class of citizens which in the opinion of the State are not adequately represented in the services under the State.
- **Article 46** directs the State **to promote with special care** the educational and economic interests of the weaker sections of the people, and, in particular, of the SCs/STs.

Manipur and Urban Local Bodies Reforms

Polity & Governance

Why in the news?

- Manipur has become the 4th state in the country to successfully undertake Urban Local Bodies, ULB reforms stipulated by the Department of Expenditure, Ministry of Finance.

What are ULB Reforms?

- Reforms in the Urban Local Bodies and the urban utilities reforms are aimed at financial strengthening of ULBs in the States and to enable them to provide better public health and sanitation services.
- Economically rejuvenated ULBs will also be able to create good civic infrastructure.
- The reforms stipulated by the Department of Expenditure to achieve these objectives are:

Manipur reforms

- **Floor rates of property tax** in ULBs which are in consonance with the prevailing **circle rates** (i.e. guideline rates for property transactions)
- **Floor rates of user charges** in respect of the provision of water-supply, drainage and sewerage which reflect current costs/ past inflation. The State will put in place a system of periodic increase in floor rates of property tax/ user charges in line with price increases.

Citizen centric areas of reforms

- The four citizen centric areas identified for reforms were
 - Implementation of One Nation One Ration Card System
 - Ease of doing business reform
 - Urban Local body/ utility reforms
 - Power Sector reforms

Progress so far (citizen centric areas)

So far:

- 10 States have implemented the **One Nation One Ration Card System**
- 7 States have done **ease of doing business reforms**
- 4 States have done **local body reforms**

Total additional borrowing permission issued so far to the States who have done the reforms stands at Rs.- 54,265 crore.

The other states

- Manipur has now joined the three other States namely, Andhra Pradesh, Madhya Pradesh and Telangana, who have completed this reform.
- The state has become eligible to mobilise additional financial resources of 75 crore rupees through Open Market Borrowings.
- On completion of Urban Local Bodies reform, these four States have been granted additional borrowing permission of Rs.7,481 crore.

State	Amount (Rs in crore)
Andhra Pradesh	2,525
Madhya Pradesh	2,373
Manipur	75
Telangana	2,508

PM Fasal Bima Yojana

Polity & Governance

Why in the news?

- Recently, the flagship crop insurance scheme of the Government of India - the Pradhan Mantri Fasal Bima Yojana (PMFBY) - has completed five years of its launch.

About Pradhan Mantri Fasal Bima Yojana (PMFBY):

- The flagship crop insurance **scheme was launched on 13th January 2016**, in line with the **One Nation-One Scheme** theme.
- PMFBY is globally the **largest crop insurance scheme** in terms of **farmer participation** and **3rd largest in terms of premium**.
- The scheme **extends coverage** for the **entire cropping cycle** from **pre-sowing** to **post-harvest** including **coverage for losses** arising out of **prevented sowing** and **mid-season adversities**.
- Over **5.5 crore farmer applications** are received on a **year-on-year basis**.
- It replaced the existing **National Agricultural Insurance Scheme (NAIS)** and its modified version (**MNAIS**).

Key Features –

- There is **no upper limit** on **Government subsidy**.
- The **premium rates** to be paid by **farmers are very low**, and the **Government pays a balance premium to provide full insured amounts to the farmers**.
- The prescribed **premium is 2%** to be **paid by farmers** for **all Kharif crops** and **1.5% for all rabi crops**.
 - In the case of annual **commercial and horticultural crops**, the **premium is 5%**.
- Premium cost over and above the farmer share is equally subsidised by States and the Center**.
 - However, the Centre's share is 90% of the premium subsidy for the **Northeastern States** to **promote the uptake in the region**.
- Earlier, there was a provision of capping the premium rate, which resulted in low claims **being paid to farmers**, so it was **removed and farmers** will get a claim against full sum **insured without any reduction**.

Use of Technology-

- Integration of land records** with the **PMFBY portal**.
- Crop Insurance mobile app** for easy enrolment of farmers.
- Farmers can **report crop loss within 72 hours** of the occurrence of any event through the App, Common Service Centres (CSCs) or the nearest agriculture officer.
 - Claim benefit is then provided electronically into the bank accounts of the eligible farmer.
 - Usage of **satellite imagery, remote-sensing technology, drones, artificial intelligence (AI) and machine learning (ML)** to assess crop losses.

Objectives & significance-

- To provide insurance coverage and financial support to the farmers in the event of failure of any of the **notified crops as a result of natural calamities, pests and diseases**.
- It covers **yield losses, losses** arising out of **prevented sowing due to adverse weather conditions, post-harvest losses** and **losses due to certain localized problems like hailstorms, landslides and flooding**.
- To stabilise the **income of farmers** to ensure their **continuance in farming**.
- To **encourage farmers to adopt innovative and modern agricultural practices**.
- To ensure the **flow of credit** to the agriculture sector.

Revamped PMFBY (PMFBY 2.0):

- Over the past 5 years, the Ministry of Agriculture and Farmers Welfare has worked extensively towards revamping the PMFBY scheme by relooking at the structural, logistical, and other challenges.

- Under the revamped PMFBY, the scheme is made **voluntary for all farmers**.
- The **states have also been provided flexibility** to **rationalise** the sum insured so that **adequate benefit can be availed by farmers**.
- The average sum insured per hectare has increased from **Rs. 15,100** during the **pre-PMFBY schemes** to **Rs. 40,700 under PMFBY**.
- The **allocation of work** to **insurance companies** in a cluster has been set at **three years** for **ensuring proper infrastructure creation**, including setting up of stratified **grievance redressal mechanism**.

Achievements

- Claims worth Rs. **90,000 crore** have so far been disbursed to farmers since the launch of the scheme.
- The **Aadhaar seeding** has helped in **speedy claim settlement directly** into the farmer accounts.
- Even during the **Covid-19 lockdown period**, nearly **70 lakh farmers** benefitted and claims worth **Rs. 8,741.30 crore** were transferred.

Challenges at Present:

- **Insufficient reach and the issue of penetration.**
- **Data Constraints:** With just around 45% of the claims made by farmers over the last three crop seasons data for the last rabi season is not available paid by the insurance companies.
- **Low Payout of claims:** The reason for the very low payout of claims is that only few state governments are paying their share of the premiums on time and till they do, the central government doesn't pay its share either. Till they get the premium, insurance companies simply sit on the claims.
- **Gaps in assessment of crop loss:** There is hardly any use of modern technology in assessing crop damages. There is lack of trained outsourced agencies, scope of corruption during implementation and the non-utilisation of technologies like smart phones and drones to improve reliability of such sampling.
- **Less number of Notified Crops** than can avail insurance, Inadequate and delayed claim payment
- **High Actuarial Premium Rates:** Insurance companies charged high actuarial premium rates. If states delay notifications, or payment of premiums, or crop cutting data, companies cannot pay compensation to the farmers in time.
- **Poor capacity to deliver:** There has been no concerted effort by the state government and insurance companies to build awareness of farmers on PMFBY. Insurance companies have failed to set-up infrastructure for proper Implementation of PMFBY.

Plea to Bar Disqualified Lawmakers from Contesting Bye-Polls to same House

Polity & Governance

Why in the news?

- The Supreme Court Thursday agreed to hear a plea seeking directions to debar disqualified lawmakers from re-contesting bye-elections during the same term of the House for which they were earlier elected for a term of five years.

Arguments of petitioners

- There is a concerted pan-India effort by political parties to render the Constitution's 10th schedule (provision on disqualification on the ground of political defections) as "otiose and redundant".
- It said the import of the provisions of Article 191(1)(e) of the Constitution and its consequential effect on an MP or MLA, who suffers disqualification under the 10th schedule, would have to be considered by this Court which had no occasion till now to do so.
- The plea, highlighted that once a member of the House incurs disqualification under the 10th Schedule, he or she cannot be permitted to contest again during the term for which he was elected as Article 172 makes a membership of a House co terminus with the term of five years of the House except in circumstances mentioned there in.. Consequently his nomination shall be rejected as provided in Section 362 (a) of the Representation of Peoples Act

What is the anti-defection law?

Polity & Governance

The Tenth Schedule was inserted in the Constitution in 1985 by the 52nd Amendment Act.

What is law of anti-defection

- The law of Anti Defection states that if a member parliament of member legislative assembly:
 - Voluntarily gives up the membership of the party.
 - Votes or abstains for voting or defies any party whip.
 - Joins any other party.
- In these cases the member will be disqualified from the party and he will not hold the position of a nominated or an elected individual under the party. Thus he will lose his position as an MP or an MLA.

Exceptions

- Disqualification under the purview of Anti-Defection shall not apply in case of split/merger of 1/3rd or more of the members of a party to another party. It shall also not apply in the event of a merger i.e. 1/3rd of the members or more merge with any other party. This exception where 1/3rd members was however revised by the way of 91st amendment in the constitution and after which it the provision of split was removed and now it requires 2/3rd members of a party can merge with another party. This amendment revised these rules as there were mass defections by legislators and this amendment brought change in the requirements from 1/3rd members of party to 2/3rd members and by removing the provision of split from the party.

Decision of the Presiding Officer is subject to judicial review:

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

Issues with Anti-defection law

- **Loss of independence:** Anti-defection has led to loss of independence of an average legislator.
- **Reduced accountability:** It prevents parliamentarians from changing parties that has led to reduced the accountability of the government to Parliament.
- **Against dissent:** The law prevent dissent against party policies. Thus, it interferes with the member's freedom of speech and expression.
- **Unbridled power to presiding officer:** The defection cases are decided by the presiding officer of the House concerned; whereas, in other matters of disqualification, decision making power rests with the President or the Governor of State. The impartiality of presiding officer is not always guaranteed.
- **No respite in case kept pending:** A party aggrieved by the decision of the presiding office may approach the court. However, if the presiding officer does not dispose the matter and keeps it pending, the aggrieved fails to seek the aid of court.
- **Puppet of political party:** It destroys the spirit of liberty and lead to the practice of puppetry within the party system in a parliamentary democracy.
- **Prevent discussions and debates:** It prevent members to speak up their mind, thus leading to less discussions and lesser healthy debates and solutions in parliament.
- **No incentives:** Due to lack of accountability and limit on speech and expression MPs/MLAs find no incentives to research and understand policies and to find solutions to various issues.

- Various Recommendations to overcome the challenges posed by the law:
- Dinesh Goswami Committee on electoral reforms: Disqualification should be limited to following cases:
 - A member voluntarily gives up the membership of his political party
 - A member abstains from voting, or votes contrary to the party whip in a motion of vote of confidence or motion of no-confidence. Political parties could issue whips only when the government was in danger.
- Law Commission (170th Report):
 - Provisions which exempt splits and mergers from disqualification to be deleted. Pre-poll electoral fronts should be treated as political parties under anti-defection. Political parties should limit issuance of whips to instances only when the government is in danger.
- Election Commission:
 - Decisions under the Tenth Schedule should be made by the President/ Governor on the binding advice of the Election Commission.

PRAGATI Meeting

Polity & Governance

Why in the news?

- The Prime Minister of India recently chaired the 35th edition of Pro-Active Governance And Timely Implementation (PRAGATI) – the Information and Communication Technology (ICT) based multimodal platform, involving Central and State governments. Ten projects were taken for review involving a total investment of Rs. 54,675 crore. A review of Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana was also taken.

Details About PRAGATI Platform**About PRAGATI:**

- It is the **multimodal platform** which aimed at **addressing common man's grievances, and simultaneously monitoring and reviewing important programmes** and projects of the Government of India as well as projects flagged by State Governments.
- **Launched in 2015**; designed by- Prime Minister's Office (PMO) team with the help of the National Informatics Center (NIC).

Features:

- Multi-purpose and multi-modal platform
- Unique integrating and interactive platform
- This platform will fulfil three objectives: Grievance Redressal, Programme Implementation and Project Monitoring.
- It uniquely bundles three latest technologies: Digital data management, video-conferencing and geo-spatial technology.

Significance:

- It will make the government **more efficient and responsive**.
- It is a step in the **direction of cooperative federalism** since it brings on one stage the Secretaries of Government of India and the Chief Secretaries of the States.
- It is also an **innovative project in e-governance and good governance**.

Blocking Technology by Election Commission

Polity & Governance

Why in the news?

- Election Commission had, last month, held an online conference in collaboration with the Tamil Nadu e-Governance Agency ("TNeGA") and IIT Madras, through which they explored the possibility of using blockchain technology for the purpose of enabling remote elections

Blockchain technology and remote voting

- A blockchain is a distributed ledger of information which is replicated across various nodes on a "peer-to-peer" network for the purpose of ensuring integrity and verifiability of data stored on the ledger. Blockchain ledgers have traditionally been used as supporting structures for cryptocurrencies, such as Bitcoin and Ethereum; however, their use in non-cryptocurrency applications too has seen a steady rise, with some solutions allowing individuals and companies to draft legally-binding "smart contracts," enabling detailed monitoring of supply chain networks, and several projects focused on enabling remote voting and elections.
- **Arguments in favour of remote voting**
- Once the system proves robust and technology advances, it may eventually be possible to vote from home.
- It would especially help senior citizens and physically challenged voters.
- It would enable migrants to vote and also lessen parochialism in election voting patterns, thereby helping the cause of national integration.

- The envisioned solution might also be useful for some remotely-stationed members of the Indian armed forces, though it should be noted that, for the most part, vote casting has not been an issue for those serving in even the remotest of places including the Siachen Glacier, which, given its altitude, is considered to be the 'highest battleground' on the planet.

Key issues and concerns with the blockchain-based remote voting systems

- With this system, electors would still have to physically reach a designated venue in order to cast their vote, adding that systems would use "white-listed IP devices on dedicated internet lines", and that the system would make use of the biometric attributes of electors.
- Digitisation and interconnectivity introduce additional points of failure external to the processes which exist in the present day.
- The system envisioned by the Election Commission is perhaps only slightly more acceptable than a fully remote, app-based voting system
- The systems used in such low-stakes elections have suffered several blunders too, some of which could have been catastrophic if they had gone undetected.
- Blockchain solutions rely heavily on the proper implementation of cryptographic protocols.
- If any shortcomings exist in an implementation, it might stand to potentially unmask the identity and voting preferences of electors, or worse yet, allow an individual to cast a vote as someone else.
- Physical implants or software backdoors placed on an individual system could allow attackers to collect and deduce voting choices of individuals.
- The provisioning of a dedicated line may make the infrastructure less prone to outages, it may also make it increasingly prone to targeted Denial-of-Service attacks (where an attacker would be in a position to block traffic from the system, effectively preventing, or at the very least delaying the registration of votes).

Tableau of Indian Sign Language at Republic Day Parade

Polity & Governance

Why in the news?

- The Tableau of Indian Sign Language Research and Training Centre (ISLRTC), Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment at the this year's Republic Day Parade showcased the theme 'Bhartiya Sanketik Bhasha– Ek Rashtra, Ek Sanketik Bhasha'.

Aim of the Tableau: Bhartiya Sanketik Bhasha– Ek Rashtra, Ek Sanketik Bhasha'.

- It will highlight the unifying nature of Indian Sign Language (ISL) in a nation, where there is a great diversity in spoken languages. The aim of the Tableau is to raise awareness and highlight the commitment of the Government towards creating a barrier-free environment for persons with hearing disabilities by promoting ISL.

What is a sign language?

About:

- **Objective:** To give deaf people the constitutional right to speech and opportunity of freedom of expression.
- **Developed by:** Indian Sign Language Research & Training Centre (ISLR&TC) under Department of Empowerment of Persons with Disabilities (DEPwD), M/o Social Justice & Empowerment.

Format:

- The first edition of the dictionary with 3000 words was launched in March 2018. With the second edition, dictionary includes total 6000 words under the categories of **academic, legal, medical, technical and everyday terms**.
- It has over 6,032 Hindi and English words and their corresponding graphic representation of the signs. It would be available in both print and video formats.

Categories: The ISL dictionary consists of words of five categories:

- **Everyday Terms:** Terms that are used in everyday communication.

- **Legal Terms:** Legal terminology like "Affidavit", "Acquittal", etc.
- **Academic Terms:** Concepts from Physics, Geography, Biology, Maths, etc.
- **Medical Terms:** Medical terminology used in hospitals and in medical situations.
- **Technical Terms:** Terms that are used in vocational training or in computer courses.

Indian Sign Language Research and training Center (ISLRTC)

- It is an autonomous organization under the administrative and financial control of Department of Empowerment of Persons with Disabilities(Divyangjan) Ministry of Social Justice & Empowerment, Government of India.
- In Accordance with the provisions of societies registration act,1860. ISLRTC established on 28th of September, 2015.
- Indian Sign Language (ISL) is used in the deaf community all over India. But ISL is not used in deaf schools to teach deaf children.
- Teacher training programs do not orient teachers towards teaching methods that use ISL. There is no teaching material that incorporates sign language. Parents of deaf children are not aware about sign language and its ability to remove communication barriers.
- ISL interpreters are an urgent requirement at institutes and places where communication between deaf and hearing people takes place but India has only less than 300 certified interpreters. Therefore, an institute that met all these needs was a necessity. After a long struggle by the deaf community, the Ministry approved the establishment of ISLRTC at New Delhi on 28th September, 2015.

Section 29 of the POCSO Act

Polity & Governance

Why in the news?

- Delhi High Court has ruled that the presumption of guilt engrafted in Section 29 of the Protection of Children from Sexual Offences (POCSO) Act gets triggered and applies only once trial begins, that is after charges are framed against the accused. POCSO Act Section 29 Implication.

What is Section 29?

- POCSO Act Section 29 : When a person is prosecuted for committing an offence of sexual assault against a minor, the special court trying the case shall presume the accused to be guilty.
- This reverse burden on the accused to prove his innocence was incorporated in the POCSO Act keeping in view the low conviction rate of sexual offences against children.
- Presumption of guilt on the part of the accused if he is prosecuted for committing, abetting or attempting offences under Sections 3, 5, 7 and 9 of the Act.
- Importance of the act is that
 - To take care of the child who has limited capabilities.
 - To achieve its object of protection of children.

Delhi High Court Ruling

- If a bail plea is being considered before charges have been framed, Section 29 has no application.
- Trial commences when charges are framed against an accused and not before that.
- Only at the stage when charges are framed does the court apply its judicial mind to whether there is enough evidence on record to frame a precise allegation, which the accused must answer.
- Therefore, it is only once charges are framed that the accused knows exactly what he is alleged to be guilty of; and therefore, what guilt he is required to rebut.
- Also set out fresh norms while deciding a bail plea at the post-charge stage.
- In addition to the nature and quality of the evidence before it, the court would also factor in certain real-life considerations.
- This includes whether the offence allegedly involved threat, intimidation, violence or brutality.

Protection of Children from Sexual Offences Act, 2012

- It was enacted to protect the children from offences of sexual assault, sexual harassment and pornography with due regard for safeguarding the interest and well-being of children.
- It defines a child as any person below eighteen years of age and regards the best interests and welfare of the child as a matter of paramount importance at every stage, to ensure the healthy physical, emotional, intellectual and social development of the child.
- It defines different forms of sexual abuse, including penetrative and non-penetrative assault, as well as sexual harassment and pornography.
- It deems a sexual assault to be "aggravated" under certain circumstances, such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority like a family member, police officer, teacher, or doctor.
- It also casts the police in the role of child protectors during the investigative process.
- The Act stipulates that a case of child sexual abuse must be disposed of within one year from the date the offence is reported.
- It was amended in August 2019 to provide more stringent punishment, including the death penalty, for sexual crimes against children.

Iron Ore Policy 2021

Polity & Governance

Why in the news?

- **Ministry of Railways rolls out a new iron ore policy governing allocation of rakes and transportation of iron ore**

Key highlights of the policy

- The **existing categorisation** based on customer's profile into **CBT/Non CBT customers** henceforth is being done away with.
- The **old and new plants will be treated similarly** as far as allotment/loading of rakes is concerned.
- The **Categorization of Priority of movement of Iron Ore** has now been based on the availability of Railway infrastructure developed by the customer for loading/unloading and the nature of movement between various types of sidings.
- The **priority preferences for the customers will be self-generated** by the system (Rake allotment scheme) based on customer profile fed in the system by the concerning zone.
- The customers are **free to choose the priorities or combination of priorities** for moving their traffic as per eligibility and necessity.
- The **scrutiny of documentation by Indian Railways** has been **removed** in order to promote ease of doing business.

Significance of Iron Ore Policy

- The new Iron-ore Policy is expected to have **positive impact on the steel industry, provide powerful impetus to the core sector** of the economy and **boost country's economic growth**.
- The aim of policy is to attune the policy to the present day needs of customers and assure them that **Indian Railways is fully committed to meet the complete requirement of transportation** of iron ore customers.
- It aims to provide total **logistics support to steel industry** to meet the competitive challenges domestically and globally.
- The policy sets down clear guidelines on how to fully **meet the requirement of customers by leveraging infrastructure facilities** available at loading and unloading ends to the fullest.

Iron ore:

- Iron-ore is the **second most important stream of traffic of Railways** and along with steel accounts for nearly 17% of total 1210 Million Tonne freight loading of IR in 2019-20.
- The policy sets down **clear guidelines on how to fully meet the requirement of customers** by leveraging infrastructure facilities available at loading and unloading ends to the fullest.
- The mines ministry has made a proposal to **terminate the iron ore leases of those working mines that have not started production** even after lapse of 7-8 months of auction and have not maintained minimum dispatch for three consecutive quarters.

Right of Persons with Disabilities Act, 2016

Polity & Governance

Why in the news?

- The Department of Empowerment of Persons with Disabilities (DEPwD) under the Union Ministry of Social Justice withdrew the proposal to amend the Rights of Persons with Disabilities Act 2016 to "decriminalise minor offences".

About the amendment

- The DEPwD had proposed amendments to insert **a new section "95A" in the existing law** to allow that "any offence under certain sections (89, 92 (a) and 93) may be compounded by the chief commissioner or the state commissioner for persons with disabilities, with the consent of the aggrieved person with a disability in such manner which is specified by the Central government.
- Amendment sought "decriminalisation of minor offences and it would alleviate the risk of imprisonment for actions which do not necessarily have "malafide intent".
- The Act was a hurdle in attracting investments by domestic and foreign investors which were necessary to revive the economy amid the Covid-19 pandemic.

Concerns associated with this move

- The proposal had evoked a sharp response from activists and civil rights bodies who saw it as a means to dilute the legislation.
- The disabled community was unified in its view that this amendment would have made the Act toothless and removed the protection it gives to the disabled community.

About the Rights of Persons with Disability act, 2016:

- The Act **replaces the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995**, it came into force in 2016.
- It fulfils the obligations to the **United National Convention on the Rights of Persons with Disabilities (UNCRPD)** to which India is a signatory.
- It aims to uphold the dignity of every Person with Disability (PwD) in society and prevent any form of discrimination.
- The act also facilitates full acceptance of people with disability and ensures full participation and inclusion of such persons in the society.
- It defines PwD as any person with long-term physical, mental, intellectual, or sensory impairments which on interacting with barriers hinder effective and equal growth in the society.

Why in the news?

- The government of India has launched the third phase of its flagship skilling scheme Pradhan Mantri Kaushal Vikas Yojana (PMKVY 3.0).

About PMKVY

- Pradhan Mantri Kaushal Vikas Yojana(PMKVY): It is the flagship scheme of the Ministry of Skill Development & Entrepreneurship (MSDE) launched in 2015 and implemented by National Skill Development Corporation(NSDC).
- **Objective:** To enable a large number of Indian youth to take up industry-relevant skill training that will help them in securing a better livelihood.
- Under the scheme, Individuals with prior learning experience or skills will also be assessed and certified under Recognition of Prior Learning (RPL).
- Training and Assessment fees are completely paid by the Government

About PMKVY Scheme:

- PMKVY is a comprehensive scheme for skill development in Indian youth with connectivity with local jobs. This scheme has different phases of implementation. These phases are:-

PMKVY 1.0 (2015-16)

- The first version of **PMKVY (1.0) scheme** was launched in 2015 to encourage skill development in the country by providing free short duration skill training and give them encouragement by providing monetary rewards for skill certification.
- Launched by **Ministry of Skill Development and Entrepreneurship**.
- Implemented by **National Skill Development Corporation**.
- The objective is To increase local youth participation in local jobs by providing short duration skill training.

PMKVY 2.0 (2016-2020)

- It is the second phase of PMKVY scheme.
- Launched for scaling up sectors, geographies and by greater alignment with other missions such as MAKE IN INDIA, DIGITAL INDIA, and SWATCH BHARAT etc
- The objective is to encourage youth for skill development to boost their employability related to industrial and digital demand for employment.

PMKVY 3.0 (2020-2026)

- It is the third phase of **PMKVY scheme**.
- Spearheaded by the **Ministry of Skill Development and Entrepreneurship (MSDE)**, this phase will focus on new-age and COVID-related skills.
- **Implementation-** It will be Implemented by the State and district machinery through SSDMs and DSCs under the guidance of SSDS in PMKVY 3.0
 - SSDM is a nodal agency for implementation of skill development initiatives in the state/ UTs.
 - SSCs are autonomous industry bodies which play a vital role in bridging the gap between skilling demand and supply.
 - Implementation will be in two phases i.e. the first phase is pilot basis during the year 2020-2021 and in the second phase, this scheme shall initiate the creation of implementation framework during year 2021-2026.
- **Skill India Mission PMKVY 3.0** envisages training of eight lakh candidates over a scheme period of 2020-2021 with an outlay of Rs. 948.90 crore.
- The **729 Pradhan Mantri Kaushal Kendras (PMKKs)**, empanelled non-PMKK training centres and more than 200 ITIs under Skill India will be rolling out PMKVY 3.0 training to build a robust pool of skilled professionals.

- **Objectives are-** To generate **livelihood opportunities** for the youth trained under this scheme.
 - To create an ecosystem for the youth to make informed choices on the available skilling avenues
 - To provide support to youth for skill training and certification
 - To promote sustainable skill centres for greater participation of the private sector.

Longitudinal Ageing Study of India (LASI)

Social Welfare & Schemes

Why in news?

- Union Health Ministry has released the Longitudinal Ageing Study in India (LASI).

About the study

- **LASI:** It is a full scale national survey of scientific investigation of the health, economic, and social determinants and consequences of population ageing in India.
- **Study conducted by:** National Programme for Health Care of Elderly, Ministry of Health & Family Welfare has undertaken the study through International Institute for Population Sciences, (IIPS), Mumbai in collaboration with Harvard School of Public Health, University of Southern California, USA, United Nations Population Fund (UNFPA) and National Institute on Ageing
- **Objective:** To provide a longitudinal database for designing policies and programmes for the older population in the broad domains of social, health and economic well-being.
- **Coverage:** The study covered a panel sample of 72,250 individuals age 45 years and above, including 31,464 people above 60 and 6,749 oldest-old persons aged 75 and above.



Highlights of the study

- In the 2011 census, the 60+ population accounted for 8.6% of India's population, accounting for 103 million elderly people. Growing at around 3% annually, the number of elderly people will rise to 319 million in 2050.
- About 75 million elderly persons in India or one in two people above 60 years of age suffer from some chronic disease.
- About 40% have some form of disability and as high as 20% are suffering from mental health issues. Also, 27% of this population group has multi-morbidities which translates to roughly 35 million people.
- About a third (32%) of elderly age 60 and above have hypertension, 5.2% were diagnosed with chronic heart disease and 2.7% with stroke. The self-reported prevalence of diabetes mellitus among older adults age 45-59 is 9% and among the elderly age 60 and above is 1%.
- The prevalence of asthma, bronchitis, and COPD is higher among elderly age 60 and above (5.9%, 1.6% and 2.8% respectively) than in older adults aged 45-59 (3.1%, 0.7%, and 1.6% respectively).

Satyameva Jayate

Social Welfare & Schemes

Why in news?

- **The Kerala Government recently announced a digital media literacy program called 'Satyameva Jayate' (Truth alone triumphs).**

About the initiative

- Launched by Kerala Government, it is a digital media literacy program aimed at curbing the spread of lies and wrong information through social media, which does not have any editorial supervision.

- The program would be taught at schools and colleges, which would be a courage to develop a curriculum on digital media literacy.
- It will educate students on what fake news is, how it's dangerous and what can be done to curb it and thus distinguish between truth and untruth.
- It will help people understand the laws and benchmarks which control social media and the internet.

The Satyameva Jayate program would cover five points –

- What is wrong information;
- Why they are spreading fast;
- What precautions have to be adopted while using the content of social media;
- How those who spread fake news make a profit;
- What steps can be initiated by citizens?
- This initiative was started in 2018 by Kannur (city in Kerala) collector Mir Mohammad Ali in government schools which has been officially launched by the Kerala government in 2021.

Pradhan Mantri Rashtriya Bal Puraskar

Social Welfare & Schemes

Why in News

- Recently, 32 children have been awarded the '**Pradhan Mantri Rashtriya Bal Puraskar**' for their exceptional abilities and outstanding accomplishments.

About the award

- The Pradhan Mantri Rashtriya Bal Puraskar, formerly known as the National Child Award for Exceptional Achievement, is India's Highest Civilian Honour bestowed upon exceptional achievers under the age of 18.
- **Instituted by** the Ministry of Women and Child Development, Government of India in 1996 to recognize children with exceptional abilities and outstanding status in various fields such as arts, culture, design, innovation, research, social service, and sports.
- The award is conferred by the President of India in the week preceding the Republic Day in the Durbar Hall of Rashtrapati Bhavan in New Delhi. Previously, the awards were conferred on Children's Day.

Award:

- A medal, a cash prize of Rs. 1,00,000, book vouchers worth Rs. 10,000, a certificate, and citation.

Eligibility:

- A child who is an Indian Citizen and residing in India above the age of 5 years and not exceeding 18 years (as of 31st August of the respective year).
- Excellence in any one of the following fields (achievements that benefit society will be encouraged): Innovation, Social Service, Scholastic, Sports, Art and Culture, Bravery.

Padma Awards:

- The major categories of Awards in India are:
 - Civilian Awards
 - Gallantry Awards
- **Civilian Awards** are conferred to people without standing achievements in their field of work. These awards are presented to the respective recipients by the President of India on Republic Day. The inception year of these Civilian awards is 1954.
 - Civilian Awards are categorized according to the degree of honour.
 - Bharat Ratna-1st degree of honour
 - Padma Vibhushan-2nd degree of honour
 - Padma Bhushan-3rd degree of honour
 - Padma Shri-4th degree of honour
- **Padma Awards:** This year the President has approved the conferment of 119 Padma Awards.
- The Union Home Ministry on the eve of Republic Day also announced the recipients for Padma awards. These are given by **President every year**.
- **Instituted** in 1954

• **Gallantry Awards:**

- The Union home ministry announced a list of gallantry awards on the eve of India's 72nd Republic Day.
- **Gallantry Awards** are presented to the personnel in the forces for bravery and valour.
- The Gallantry awards that are conferred in India as Param Vir Chakra, Mahavir Chakra, Vir Chakra, Ashoka Chakra, Kirti Chakra and Shaurya Chakra.
- Prominent among those who received the awards is Col.Santosh Babu, who was killed in a skirmish with Chinese soldiers in Ladakh's Galwan Valley in June last year. He was awarded the Mahavir Chakra, the second-highest war time gallantry medal.

Feminization of Agriculture

Social Welfare & Schemes

Why in news?

- According to the agricultural census, 73.2% of rural women are engaged in farming activities but only 12.8% own land holdings. The gender gap in the agriculture sector will only widen more with the current farm laws.

Impact of feminization of agriculture:

- FAO estimates that if women had the same access to productive resources as men, they could increase yields on their farms by 20-30%. This could raise total agricultural output in developing countries by up to 4% which would mean a dramatic reduction in hunger.
- Research worldwide shows that women with access to secure land, formal credit and access to market have greater propensity to invest in improving harvest, increasing productivity, and improving household food security and nutrition.
- Women are more likely than men to hold low-wage, part-time, seasonal employment and they tend to be paid less even when their qualifications are higher than men's, but new jobs in high-value, export-oriented agro-industries offer much better opportunities for women.

Challenges faced by women in Agriculture:

- **Lack of Institutional Credit:** Lack of ownership of land does not allow women farmers to approach banks for institutional loans as banks usually consider land as collateral.
- **Non-recognition:** According to Oxfam India, women are responsible for about 60-80% of food and 90% of dairy production, respectively. But the work by women farmers, in crop cultivation, livestock management or at home, often goes unnoticed.
- **Lack of Property Rights-** Women are generally not given the land rights in their name. Because of this, women lack bargaining power in the family as against the property holding male member.
- **Contract farming:** Female farmers are largely excluded from modern contract-farming arrangements because they lack secure control over land, family labour and other resources required to guarantee delivery of a reliable flow of produce.
- **Innovation in Agriculture:** When a new technology is introduced to automate specific manual labour, women may lose their jobs because they are often responsible for manual duties & also due to low skill level.
- **Lack of Training:** Attempts by the government to impart them training in poultry, apiculture and rural handicrafts is trivial given their large numbers.
- **Gender discrimination:** The 17-country study by Corteva Agriscience revealed that almost 78% women farmers in India face gender discrimination.
- **Poor Representation:** As of now, women farmers have hardly any representation in society and are nowhere discernible in farmers' organisations or in occasional protests.
- **Access to resource and inputs:** When compared to men, women generally have less access to resources and modern inputs (seeds, fertilizers, pesticides) to make farming more productive.

Government Interventions to improve women's role in Agriculture:

- The government is earmarking at least 30% of the budget allocation for women beneficiaries in all ongoing schemes-programmes and development activities.
- Government is also giving preference to women under various policies such as organic farming, self-employment scheme, Pradhan Mantri Kaushal Vikas Yojana etc.

- Cooperative education programs of women are organized through State Cooperative Societies to ensure women participation in various activities in the field of cooperatives.
- Under Agriculture policies there are provisions of issuing Kisan Credit Card to women and creating livelihood opportunities through livestock practices, agricultural processing.
- Focussing on women self-help groups (SHG) to connect them to microcredit through capacity building activities and also ensuring their representation in different decision-making bodies.
- Special importance is being given to the role of women in achieving the goal of doubling farmers' income by 2022.

How do the recent farm laws affect them?

- The policies fall short of reducing disparity or alleviating their distress.
- Given this, women farmers fear that the farm laws will further deepen gender inequality in the sector.
- In this context, the first concern is the lack of any mention of MSP (minimum support price) that protects farmers from exploitation.
- Also, farmers will have no bargaining power in the corporatisation of agriculture.
- Corporates get to decide the price, with less safety net or adequate redressal mechanism for the farmers.
- Consequently, the small, marginal and medium farmers will be forced to sell their land to big agro-businesses and become wage labourers.
- In this, women are barely in a position as empowered agents who can either understand or negotiate (written) agreements with traders and corporate entities.
- Perhaps, this is why women are notable part of the ongoing farmers struggle to remind that they are farmers too and have an equal stake in this fight.

Paving the way for women farmers

- Provision of credit without collateral under the micro-finance initiative of NABARD should be encouraged. Better access to credit, technology, and provision of entrepreneurship abilities will further boost women's confidence and help them gain recognition as farmers.
- A declining size of land holdings may act as a deterrent due to lower net returns earned and technology adoption. The possibility of collective farming can be encouraged to make women self-reliant.
- Training and skills imparted to women as has been done by some self-help groups and cooperative-based dairy activities (Saras in Rajasthan and Amul in Gujarat). These can be explored further through farmer producer organisations.
- Government flagship schemes such as the National Food Security Mission, Sub-mission on Seed and Planting Material and the Rashtriya Krishi Vikas Yojana must include women-centric strategies and dedicated expenditure.
- Most of the farm machineries are difficult for women to operate, so it is important to have gender-friendly tools and machinery for various farm operations. Farm machinery banks and custom hiring centres can be roped in to provide subsidised rental services to women farmers. Krishi Vigyan Kendras in every district can be assigned an additional task to educate and train women farmers about innovative technology along with extension services.
- According to Food and Agriculture Organisation, equalising access to productive resources for female and male farmers could increase agricultural output in developing countries by as much as 2.5% to 4%. An 'inclusive transformative agricultural policy' should aim at gender-specific intervention to raise productivity of small farm holdings and integrate women as active agents in rural transformation

Beti Bachao Beti Padhao scheme

Social Welfare & Schemes

Why in news?

- Recently, the Ministry of Women and Child Development Saturday has said that many districts covered under the '**Beti Bachao Beti Padhao Andolan**' have shown an improvement in sex ratio at birth.

About Beti Bachao Beti Padhao

- It is a joint initiative of **Ministry of Women and Child Development, Ministry of Health and Family Welfare** and **Ministry of Human Resource Development**.

- The **objectives** of the initiative are:
 - Prevention of gender biased sex selective elimination
 - Ensuring survival & protection of the girl child
 - Ensuring education and participation of the girl child
- The **target groups** of BBBP are:
 - **Primary:** Young and newly married couples; Pregnant and Lactating mothers; parents
 - **Secondary:** Youth, adolescents (girls and boys), in-laws, medical doctors/ practitioners, private hospitals, nursing homes and diagnostic centres
 - **Tertiary:** Officials, PRIs; frontline workers, women SHGs/Collectives, religious leaders, voluntary organizations, media, medical associations, industry associations, general public as a whole.
 - The Ministry of Women and Child Development would be responsible for budgetary control and administration of the scheme from the Centre.

Achievement of Beti Bachao Beti Padhao

- **Sex Ratio at Birth:** The Ministry said that Sex Ratio at Birth (SRB) metric has improved by 16 points from 918 (2014-15) to 934 (2019-20) in 422 out of the 640 districts covered under the scheme.
- The districts, which had very low SRB in 2014-15, have shown huge improvement after implementation of the scheme.
- The Ministry highlighted to Mau in Uttar Pradesh (694 in 2014-15 to 951 in 2019-20), Haryana's Karnal (758 to 898), Mahendergarh (791 to 919), and Rewari (803 to 924), and Punjab's Patiala (847 to 933).
- **Health:** The percentage of first trimester antenatal care registration has also improved from 61 per cent in 2014-15 to 71 per cent in 2019-2020.
- The percentage of institutional deliveries has increased from 87 per cent to 94 per cent in the same period.
- **Education Sector:** The gross enrolment ratio of girls in schools at the secondary level has improved from 77.45 per cent to 81.32 per cent between 2014-15 to 2018-19.
- The percentage of schools with functional separate toilets for girls has shown improvement from 92.1% in 2014-15 to 95.1% in 2018-19.

Significance of Beti Bachao Beti Padhao

- It has been able to bring the **focus on important issue of female infanticide, lack of education amongst girls and deprivation of their rights** on a life cycle continuum.
- The scheme has **successfully engaged with Community to defy the age old biases** against the girl child and introduce innovative practices to celebrate the girl child.
- People are using the **BBBP logo on their own volition** at various places such as school buses, building, stationeries, transport vehicles etc. to affirm their commitment to the cause.
- The frontline government employees have been **successfully collaborating at the level of community for observing the son centric rituals** while celebrating the birth of girl child i.e. Kuwapoojan, Thalibajana etc.
- The mothers and girl child are being **felicitated at community level and in hospitals by Administration** to establish the relevance of the girl child.

School Bag Policy, 2020

Social Welfare & Schemes

Why in News?

- Recently, the Directorate of Education issued a circular asking school to follow the new '**School Bag Policy, 2020**'

About School Bag Policy 2020 :

- It was released by the National Council of Educational Research and Training (NCERT).
- It lays down the guidelines on **homework and weight of school bags for classes I to XII**.

Provisions:

- As per the new policy, school bags should not be more than **10% of the bodyweight of students** across **classes I to X** and there should be no bags in **pre-primary students**.

- It recommends no homework up to class II and a maximum of two hours per week for classes III to V, one hour a day for classes VI to VIII and two hours a day for classes IX and above.
- The policy will also require schools to **introduce infrastructural changes** as students will not be able to carry many books daily.
- The schools need to provide lockers right from preschool to senior secondary to enable children to leave books in school and carry home only what is required.

Table 2: Class wise range of average body weight of children

S.No.	Class	Average Body Weight Range (in Kg)	Bag Weight Range (Recommended)
1.	Pre-primary	10-16	No bag
2.	Class I	16-22	1.6-2.2
3.	Class II	16-22	1.6-2.2
4.	Class III	17-25	1.7-2.5
5.	Class IV	17-25	1.7-2.5
6.	Class V	17-25	1.7-2.5
7.	Class VI	20-30	2-3
8.	Class VII	20-30	2-3
9.	Class VIII	25-40	2.5-4
10.	Class IX	25-45	2.5-4.5
11.	Class X	25-45	2.5-4.5

Concerns associated with Heavy school bags :

- Heavy school bags are a **serious threat to the health and well-being of students.**
- It has severe/adverse **physical effects** on **growing children** which can cause damage to their **vertebral column** and knees

Mera Gaon Mera Gaurav

Social Welfare & Schemes

Why in news?

- Under the ICAR's initiative 'Mera Gaon Mera Gaurav', Cleanliness drive was carried out recently in Ibrampur, Veling and Parra villages.

About the scheme

- The flagship programme of the Prime Minister of India, "Mera Gaon Mera Gaurav" was launched in 2015.
- The objective of this scheme is to provide farmers with required information, knowledge and advisories on regular basis by adopting villages. The programme aims to promote the direct interface of scientists with the farmers to hasten the lab to land process.
- It is implemented by the Indian Council of Agricultural Research (ICAR), an autonomous body responsible for co-ordinating agricultural education and research in India. It reports to the Department of Agricultural Research and Education, Ministry of Agriculture.

Indian Council of Agricultural Research (ICAR)

- The Indian Council of Agricultural Research (ICAR) is an autonomous organisation under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare.
- The Council is the apex body for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country. With 97 ICAR institutes and 45 agricultural universities spread across the country this is one of the largest national agricultural systems in the world.
- Formerly known as Imperial Council of Agricultural Research, it was established on 16 July 1929 as a registered society under the Societies Registration Act, 1860 in pursuance of the report of the Royal Commission on Agriculture.
- The ICAR has its headquarters at New Delhi.
- The Council is the apex body for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country.
- Union Minister of Agriculture is the ex-officio President of the ICAR Society

Global Housing Technology Challenge

Economy

Why in news?

- Recently, the Prime Minister laid the foundation of **Light House Projects (LHPs) under Global Housing Technology Challenge (GHTC)-India**, across six states in the country

Light House Projects (LHP)

- The Light House Projects (LHP) will consist of about 1,000 houses each with physical & social infrastructure facilities.
- The project will be implemented in the cities namely Indore, Rajkot, Chennai, Ranchi, Agartala and Lucknow.
- The projects will showcase the use of the following six distinct shortlisted innovative technologies offered by six different companies.
- The technologies selected are:**
 - Prefabricated Sandwich Panel System for Indore.
 - Precast Concrete Construction System – Precast Components Assembled at Site for Chennai.
 - A monolithic Concrete system using Tunnel form for Rajkot.
 - Precast Concrete Construction System – 3D Volumetric for Ranchi.
 - Light Gauge Steel Structural System & Pre-engineered Steel Structural System for Agartala.
 - PVC Stay In Place Form work System for Lucknow.

About Global Housing Technology Challenge-India (GHTC-India)

- GHTC-India aims to identify and mainstream a basket of innovative technologies from across the globe that are sustainable and disaster-resilient. Such technologies would be cost-effective, speedier and ensure a higher quality of construction of houses, meeting diverse geo-climatic conditions and desired functional needs.

Trade Policy Review (TPR)

Economy

Why in the news?

- Recently, the final session of India's seventh Trade Policy Review (TPR) concluded at the World Trade Organization (WTO) in Geneva, Switzerland.

What is a Trade Policy Review?

- The Trade Policy Review is a mechanism that is under WTO's monitoring function.
- In this member countries, trade and policies related to it are examined by the World Trade Organization.
- They also aim towards better adherence to the rules set by WTO.
- All WTO Members are subject to review under the Trade Policy Review Mechanism.
- Previously India's Trade Policy Review was conducted in 2015.

Seventh Trade Policy Review -

Benefits for India:

Appreciation for India:

- Introduction of **Goods & Services Tax** in 2016.
- India's efforts in the implementation of **WTO's Trade Facilitation Agreement**.
- Role played by India in furthering "**Ease of Doing Business**" in the country.
- India's improved ranking in "**Trading across Borders**" indicator under the **Ease of Doing Business Report**.
- Trade Facilitation Agreement (TFA)**, aims to speed up customs procedures and make trade easier, faster, and cheaper.
- The steps taken by India for **liberalizing its Foreign Direct Investment (FDI) regime** and India's **National Intellectual Property Rights Policy, 2016**.

Concerns for India:

- India's trade **policy remained largely unchanged** since the previous review.
- India continues to **rely on trade policy instruments** such as the **tariff, export taxes, minimum import prices, import and export restrictions, and licensing**, WTO said.
- These are **used to manage domestic demand and supply requirements**, protect the economy from wide domestic price fluctuations, and ensure conservation and proper utilization of natural resources.
- As a result, **frequent changes** are made to tariff rates and other trade policy instruments, which **create uncertainty for traders**.

India's Request:

- The ongoing pandemic has again brought to the fore, the importance of food and livelihood security and **urged for a permanent solution to Public Stock Holding (PSH) for food security**.

India's Efforts on Covid-19:

- Far-reaching efforts by effectively addressing the **health and economic challenges** posed by the pandemic, including the **Aatmanirbhar Bharat initiative**.
- Reaffirmed its commitment to **ensuring equitable and affordable access to vaccines and Covid-19 treatments** for all.
- Underlined the critical role that multilateral trading system can play and has **advocated a short-term package of effective measures at the WTO**:
- A **temporary waiver of certain Trade-Related Aspects of Intellectual Property Rights (TRIPS) provisions** to increase manufacturing capacity and ensure timely and affordable availability of new diagnostics, therapeutics and vaccines for Covid-19.
- A **permanent solution for Public Stock Holding (PSH) for food security** purposes to address the food security concern.
- A **multilateral initiative** that provides for easier access to medical services **under mode-4 to facilitate easier cross-border movement** of healthcare professionals.

Trade Policy Review (TPR)

- It is an important mechanism under the WTO's monitoring function in which all member countries' trade and related policies are examined by the WTO.
- It aims to contribute towards improved adherence to WTO rules, while providing constructive feedback. It was introduced into General Agreement on Tariffs and Trade (GATT) in 1989 following the Mid-Term Review of the Uruguay Round and became an integral part of WTO since its formation in 1995.
- **Goods, Services and IP**: Trade policy reviews extend to goods, services and other trade related concerns like Intellectual property rights. Before 1995, it was restricted to only trade in goods.
- Member are reviewed under one of three different cycles: every 2 years (largest trading members), 4 years (next 16 members) or 6 years (remaining ones)

High Speed Rail work gathers momentum for Delhi – Varanasi**Economy****Why in the news?**

- With the start of LiDAR (Aerial Ground) Survey, High Speed Rail work gathered momentum for Delhi – Varanasi High Speed Rail Corridor.

Key takeaways

- The ground survey is a crucial activity for any **linear infrastructure project** as the survey provides accurate details of areas around the alignment.
- This technique uses a combination of **Laser data, GPS data, flight parameters and actual photographs to give accurate survey data**.

Light Detection and Ranging Survey (LiDAR) technology

- Lidar is a method for measuring distances (ranging) by illuminating the target with **laser light and measuring the reflection with a sensor**.
 - Differences in laser return times and wavelengths can then be used to make **digital 3-D representations of the target**.
 - It has **terrestrial, airborne, and mobile applications**.
 - Lidar sometimes is called **3-D laser scanning, a special combination of a 3-D scanning and laser scanning**.
- The INS (Inertial Navigation System) records the precise orientation of the scanner.

INS

The laser scanner emits infrared laser pulses, then captures and records the returned pulses that are reflected from the surface of the earth and objects.

GPS

The GPS (Global Positioning System) gives the precise location of the scanner.

GPS base station
- Lidar is commonly used to make high-resolution maps, with applications in **surveying, geodesy, geomatics, archaeology, geography, geology, geomorphology, seismology, forestry, atmospheric physics [6] laser guidance, airborne laser swath mapping (ALSM), and laser altimetry**.
 - The technology is also used in **control and navigation for some autonomous cars**.

Kochi – Mangaluru Natural Gas Pipeline

Economy

Why in the news?

- PM will today dedicate the Kochi – Mangaluru Natural Gas Pipeline to the nation
- Kochi – Mangaluru Pipeline
- The 450 km long pipeline has been built by GAIL (India) Ltd.
- It has a transportation capacity of 12 Million Metric Standard Cubic Metres per day.
- It will carry natural gas from the Liquefied Natural Gas (LNG) Regasification Terminal at Kochi (Kerala) to Mangaluru (Dakshina Kannada district, Karnataka).
- It will pass through Ernakulam, Thrissur, Palakkad, Malappuram, Kozhikode, Kannur and Kasaragod districts.

ONE NATION, ONE GRID

- It is a concept to improve India's connectivity infrastructure and to ensure availability of power to states at 'affordable' rates.
- Finance Minister in her maiden Union Budget 2019 speech proposed the concept of a one nation one grid.
- Power grids in India: The Indian power system is currently divided into five regional grids.
- The integration of the regional grids and thereby the establishment of a national grid was conceptualised in the early 1990s.
- The integration of regional grids which began with asynchronous HVDC back-to-back inter-regional links facilitating limited exchange of regulated power was subsequently graduated to high capacity synchronous links between the regions.
- **The evolution of the National Grid:**
 - Grid management on regional basis started in sixties.
 - Initially, State grids were inter-connected to form regional grid and India was demarcated into 5 regions namely **Northern, Eastern, Western, North Eastern and Southern region**.
 - In October **1991** North **Eastern and Eastern grids** were connected.

- In March **2003 WR and ER-NER** were interconnected.
- August 2006 **North and East grids** were interconnected thereby 4 regional grids **Northern, Eastern, Western and North Eastern** grids are synchronously connected forming central grid operating at one frequency.
- On 31st December 2013, Southern Region was connected to Central Grid in Synchronous mode with the commissioning of **765kv Raichur- Solapur Transmission** line thereby achieving '**ONE NATION'- 'ONE GRID'- 'ONE FREQUENCY'**'.

Advantages

- **Energy Sufficiency:** Presently, India imports more than 54% of its energy needs in terms of Oil and natural gas from international market But, India has abundance of natural gas reserves which can feed its domestic needs upto 2040. **Initiatives like SATAT** which envisages for production of natural gas from agricultural wastes and residues, HELP which provides flexibility in hydrocarbon production and licensing and distribution system like 'One Nation, One Grid', will help India to achieve self-sufficiency in oil and natural gas sector.
- **Increase per capita energy usage:** India's Per Capita Energy Consumption: India's per capita energy consumption stands at 30% of the world's average. Access to affordable gas will increase the per capita energy usage which is a sign of economic development.
- **Cuts pollution:** It is the cleanest energy resource which can be used with renewable sources of energy such as solar and wind energy as energy mix.
- Increasing Gas usage will also help to achieve our commitments for Paris Climate deal i.e. to reduce carbon emission by 33-35% as compared to 2005 levels in India.
- **Saves Transportation Cost:** One Nation One Gas grid will help to deliver Piped Natural Gas (PNG) to households and industrial unit free of cost. This will cut cost of household expenditure and manufacturing costs for industries.
- **Easily transportable:** Natural gas can be easily transported through pipelines and this cuts the cost and the pollution caused during transportation of other fuels such as Coal.
- **Cost-effective Raw materials to industry:** Natural gas is a cost-effective raw material to be used in industrial units as compared to petroleum.
- **Cuts Health Expenditure:** As a cleaner fuel, LNG will cut the health expenditure by reducing pollution related diseases such as respiratory and lungs diseases.
- **Best Suitable energy mix:** LNG can easily replace coal and petroleum from energy basket as it has high calorific value and can be used in conventional power plants and engines. It can also be used to generate cleaner and sustainable electricity.
- **Alternative Source of Income:** Initiatives like SATAT which provides for development of gas based plants such as bio-gas plants to be operated with agricultural waste will help to generate alternative source of income to farmers. Initiatives like GOBARDHAN has been proposed to realize these potential.
- **Network of City Gas Stations:** 'One Nation One Gas' will help to build network of gas stations. This will be beneficial for transport sector and reduce dependency on petrol and diesel.
- **Touch-less transportation:** Pandemic like COVID-19 has signified importance of touchless and decentralized transportation. Gas Grids will help to deliver fuel to door steps in emergency situations like pandemic and war.

Challenges in implementation of "One Nation, One Gas Grid":

- **Existing infrastructure is insufficient:** Existing pipelines are insufficient for national grid as they mainly connect the northern states. The existing pipelines are also grossly underutilized. This leads to a low return on investment for companies, thus disincentivizing more companies to carry forth natural gas exploration. Also, India has only six natural gas refueling terminals presently, including those at Mundra, Ennore, etc.
- **Challenges in laying pipeline Infrastructure:** Land acquisition and building pipeline infrastructure across the country is a difficult task. Land in India is considered as an asset and thus long pending land litigations make it difficult to acquire land. Further, vast natural terrains and relief features across India makes development of pipeline infrastructure difficult.
- **Huge investment required:** This project will require an investment of 60 billion dollars (approximately 4.5 lakh crores in the Indian Rupees) which can be a challenge.

- **Gasfields in India are concentrated** in only a few pockets across the country, namely in Bombay high, offshore Mumbai coast, Tripura and Assam in the North East, and Krishna Godavari Basin down south.
- **Safety issues:** This become a major concern given the explosive nature of natural gas, including accidents due to human error and technical fault.
- **Gas Pricing:** Further, Administered Price Mechanism (APM) system which had been influencing the pricing mechanism of oil and gas sector since 1970s to 2002 is still present in India's gas sector in some way or other. According to it, government had to fix prices in all the stages of oil production to refining to distribution.
- **Difficult to replace coal:** The production and transportation of natural gas is still costly as compared to coal. Further, technical expertise is required to replace coal in different sector of economy.
- **Environmental Impacts:** Drilling to explore gas can have major repercussions on the marine habitat.
- **Heavy taxation of government** coupled with above limitations have checked investments in 'Oil and Gas Sector' in India. India must follow international benchmark of pricing standards and a stable policy regime to achieve sustainability in this sector.
- **Political Challenges:** Successful implementation of 'One Gas One Grid' is subject to land availability which is a subject under List II of the constitution i.e. State List. It depends on will and political equations of the state government with center to implement such projects.

Steps taken by government towards gas based economy

- **Budget 2020:** In Budget 2020, finance minister envisaged to expand National Gas Grid to 27,000 km to achieve energy basket share of natural gas upto 15%.
 - The budget allocated Rs22,000 crore for power and renewable energy sector.
 - The budget aimed to expand the city gas distribution projects by adding kilometers of steel pipeline.
- **The North East Gas Grid project:** The Budget provided ` 5,559 crore for the construction of the North East Gas Grid project across the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura.
- **Indradhanush Gas Grid Limited:** The Cabinet Committee on Economic Affairs had approved the project of Indradhanush Gas Grid Limited" with viability Gap Funding/Capital Grant at 60% of the estimated cost of ` 9,265 crore. The estimated amount was allocated by the budget.

Initiatives by government

Pradhan Mantri Urja Ganga Project

- To ensure connectivity in different sectors of the economy government has launched **Urja Ganga**.
Nodal Agency: GAIL. It aims to provide Piped Natural Gas to house hold in cities across states like Uttar Pradesh, Bihar, Jharkhand, West Bengal and Odisha. The scheme is primarily dedicated to eastern India with an aim of providing PNG connections 20 lakhs households by laying 2540 km of gas pipeline.

SATAT:

- Sustainable Alternative Towards Affordable Transportation (SATAT) is an initiative which is aimed at setting up of Compressed Bio-Gas production plants.
- It aims to make natural gas available in the market for use in automotive fuels.
- It aims to harness biogas naturally through a process of anaerobic decomposition from waste/bio-mass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc.
- The initiative aims to develop new technologies in order to harness natural gas resources and march towards self sufficiency in natural gas production.

North-East Gas Pipeline Grid Project:

- **Nodal Agency:** Indradhanush Gas Grid
- It is a joint venture of state-owned GAIL India, Indian Oil Corp (IOC), Oil and Natural Gas Corp (ONGC), Oil India Ltd (OIL) and Numaligarh Refinery Ltd (NRL).
- **About:** The project has been implemented under Urja Ganga pipeline project and aims to connect North-Eastern states in a single gas grid.
- Total length of the project is 1,656 km long and will be constructed across north-east India with Guwahati as its centre.

City Gas Distribution Network:

- **City Gas Network:** 18 states and union territories, covering 96 cities, towns and districts in India have city gas networks.
- **Nodal Agency:** Petroleum and Natural Gas Regulatory Board(PNGRB). It is nodal agency to regulate distribution of natural gas across country.
- **About:** The scheme is dedicated to connecting house holds and industrial units across city to deliver natural gas through pipeline.

Sagarmala Seaplane Services (SSPS)**Economy****Why in the news?**

- Recently, the Ministry of Ports, Shipping and Waterways is kicking off its ambitious **Project of Sagarmala Seaplane Services (SSPS)**. The Seaplane Service is already in operation between **Kevadia and Sabarmati Riverfront** in Ahmedabad, which was inaugurated by Prime Minister on 31st October 2020.

About Sagarmala Seaplane Services (SSPS)

- The project aims at initiating the process of commencing operations of the Seaplane services, on the select routes, under a Special Purpose Vehicle (SPV) framework through prospective airline operators.
- The project execution and implementation would be through Sagarmala Development Company Ltd (SDCL). The SDCL is under the administrative control of the Ministry of Shipping.
- The proposed Origin-Destination pairs under Hub and Spoke model include:
 - Islands of Andaman & Nicobar and Lakshadweep,
 - Guwahati Riverfront & Umranso Reservoir in Assam,
 - Yamuna Riverfront / Delhi (as Hub) to Ayodhya, Tehri, Srinagar (Uttarakhand), Chandigarh and many other tourist places of Punjab & HP;
 - Mumbai (as Hub) to Shirdi, Lonavala, Ganpatipule;
 - Surat (as Hub) to Dwarka, Mandvi & Kandla, Khindsi Dam, Nagpur & Erai Dam and Chandrapur (MH)
- The joint development and operation of "Sagarmala Seaplane Services (SSPS)" will be undertaken by forming a Special Purpose Vehicle (SPV) with Sagarmala Development Company Limited (SDCL).

Significance of Sagarmala Seaplane Services (SSPS)

- SDCL is exploring plans to leverage the potential of the vast coastline and numerous water bodies/rivers across India by commencing seaplane operations to provide connectivity and easier accessibility to remote locations.
- The Sea Plane will utilize the nearby water bodies for take-off and landing and thus connect those places in a much economical way as conventional airport infrastructure.
- The seaplanes services will be a game-changer providing a supplementary means of faster and comfortable transportation across the nation.
- It will boost tourism for domestic and international holiday makers.
- It will save travel time and stimulate localized short distance travelling especially in the hilly regions or across the rivers/lakes etc.

Sagarmala programme

Components of the programme

- **Port Modernization & New Port Development:** Debottlenecking and capacity expansion of existing ports and development of new greenfield ports
- **Port Connectivity Enhancement:** Enhancing the connectivity of the ports to the hinterland, optimizing cost and time of cargo movement through multi-modal logistics solutions including domestic waterways (inland water transport and coastal shipping)
- **Port-linked Industrialization:** Developing port-proximate industrial clusters and Coastal Economic Zones to reduce logistics cost and time of EXIM and domestic cargo
- **Coastal Community Development:** Promoting sustainable development of coastal communities through skill development & livelihood generation activities, fisheries development, coastal tourism etc.

Main features of the Coastal Community Development plan consists of below:

- 1. Skill development
- 2. Coastal tourism
- 3. Development of fishing harbours
- 4. R&D in Port and Maritime Sector

Rewari – Madar section on Western corridor**Economy****Why in the news?**

- The Prime Minister of India has inaugurated the Rewari – Madar section on Western Corridor.

About the section

- **Rewari – Madar section:** It is a part of Western Dedicated Freight Corridor(WDFC).It falls in Haryana (for approximately 79 Km in Mahendragarh & Rewari districts) and Rajasthan (approximately 227 Km in Jaipur, Ajmer, Sikar, Nagaur and Alwar districts) State.

Significance:

- The section would be beneficial to farmers, industrialists and businessmen in the National Capital Region, Haryana and Rajasthan.
- The ports of Gujarat like Kandla, Pipavav, Mundhra, Dahejetc will have an uninterrupted connectivity to the Northern parts of India.
- With the dedication to the Nation of the 351-km Bhaupur-Khurja section, and construction of connecting link between Khurja – Boraki-Dadri- Rewari, seamless movement between WDFC & EDFC can ensue.

About Dedicated freight corridor

- It is meant to create a safe and efficient freight transportation system in the country.
- **Nodal Body:** Dedicated Freight Corridor Corporation of India(DFCCIL) is constructing the Western DFC (1506 Route km) and Eastern DFC (1875 route km including Sonnagar-Dankuni PPP Section).
- **EDFC:** The EDFC is starting from Sahnewal near Ludhiana (Punjab) and will pass through the states of Punjab, Haryana, Uttar Pradesh, Bihar and Jharkhand to terminate at Dankuni in West Bengal. It is being majorly funded by the World Bank.
- **WDFC:** The Western Corridor is connecting Dadri in Uttar Pradesh to Jawaharlal Nehru Port (JNPT) in Mumbai and will traverse through the states of UP, Haryana, Rajasthan, Gujarat and Maharashtra of WDFC. Approx. 40% of WDFC is in Rajasthan. It is being majorly funded by Japan International Cooperation Agency(JICA).

IFSCA becomes member of IOSCO**Economy****Why in the news?**

- The International Financial Services Centers Authority (IFSCA) has become an Associate Member of the International Organization of Securities Commissions (IOSCO).

About International Financial Services Centres Authority (IFSCA)

- It has been established in 2020 under the International Financial Services Centres Authority Act, 2019.
- It is headquartered at GIFT City, Gandhinagar in Gujarat.
- It is a unified authority for the development and regulation of financial products, financial services and financial institutions.
- The GIFT IFSC is the maiden international financial services centre in India.
- The main objective of the IFSCA is to develop a strong global connect and focus on the needs of the Indian economy as well as to serve as an international financial platform for the entire region and the global economy as a whole.

- About Associate Member of the International Organization of Securities Commissions.
- The IOSCO is the international organization that brings together the world's securities regulators, covering more than 95% of the world's securities markets, and is the global standard setter for the securities sector.
- IOSCO works closely with the G20 and the Financial Stability Board (FSB) in setting up the standards for strengthening the securities markets. The IOSCO Objectives and Principles of Securities Regulation have been endorsed by FSB as one of the key standards for sound financial systems.
- The membership of IOSCO would provide IFSCA the platform to exchange information at the global level and regional level on areas of common interests. Further, the IOSCO platform would enable IFSCA to learn from the experiences and best practices of the regulators of other well established financial centers.
- The IOSCO's membership is a significant milestone in connecting IFSCA with the regulators of securities markets globally and would contribute immensely towards the development and regulation of the financial products, financial services and financial institutions at the Gujarat International Finance Tec-City International Financial Services Centre.

Significance for IFSCA's membership of IOSCO

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Academic advisory council for College of Supervisors (COS)

Economy

Why in the news ?

- The RBI has set up an academic advisory council with former deputy governor N S Vishwanathan as the chairperson to advise the full-time director of the central bank's College of Supervisors (CoS).

Functions of COS

1. Identify areas where skill building/up-skilling is required
2. Plan and develop curricula of all programmes;
3. Benchmark the programmes with international standards/best practices;
4. Develop appropriate teaching methods, etc.

College of Supervisors (CoS)

- The RBI had set up a CoS to augment and reinforce supervisory skills among its regulatory and supervisory staff both at entry level and on a continuous basis.
- This was done to facilitate the development of unified and focused supervision by providing training and other developmental inputs to the concerned staff
- The CoS was functioning in a limited way in virtual mode since May 2020, it is now being fully operationalised.
- The CoS will have a full-time Director supported by an Academic Advisory Council (AAC).
- The AAC will identify areas where skill building/up-skilling are required, plan and develop curricula of all programmes, benchmark the programmes with international standards/best practices, develop appropriate teaching methods, etc.
- Rabi Narayan Mishra, former Executive Director, RBI, has been appointed as the Director of CoS.
- The full-fledged operationalisation of the CoS will further contribute to effective oversight of the regulated entities by augmenting and ensuring a consistent quality of supervisory resources pool

Remission of Duties and Taxes on Exported Products (RoDTEP)

Economy

Why in the news?

- The Union govt. has decided to extend the benefit of the Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP) to all export goods with effect from 1st January 2021

RoDTEP Scheme

- RoDTEP is a scheme for the Exporters to make Indian products cost-competitive and create a level playing field for them in the Global Market.
- It has replaced the current Merchandise Exports from India Scheme, which is not in compliance with WTO norms and rules.
- The new RoDTEP Scheme is a fully WTO compliant scheme.
- It will reimburse all the taxes/duties/levies being charged at the Central/State/Local level which are not currently refunded under any of the existing schemes but are incurred at the manufacturing and distribution process.

Significance of RoDTEP Scheme

- The annual savings of Rs 40,000 crore be utilised to roll out production-linked incentive (PLI) schemes in "sectors of strength to create global champions", once the RoDTEP scheme replaces the MEIS, .
- It will enhance the contribution of Indian exports in the international markets.
- The scheme will be implemented with end to end digitization.
- The refunds under the RoDTEP scheme would be a step towards "zero-rating" of exports, along with refunds such as Drawback and IGST.
- It will enhance the employment opportunities in the export oriented manufacturing industries.
- Certain taxes/duties/levies are outside the purview of GST, such as, VAT on fuel used in transportation, Mandi tax, Duty on electricity used during manufacturing and are not refunded for exports as these would be covered for reimbursement under the RoDTEP Scheme.
- When the rates under the RoDTEP Scheme are announced for a tariff line or item, the Merchandise Exports from India Scheme (MEIS) benefits on such tariff line or item will be discontinued.

Deepening and Optimization facilities at PARADIP PORT

Economy

Why in the news?

- Cabinet approves Deepening and Optimization of Inner Harbour Facilities including Development of Western Dock on Build, Operate and Transfer (BOT) basis under Public-Private Partnership PPP mode to handle cape size vessels at Paradip Port

Implementation Strategy and Targets:

- The project would be developed by the selected Concessionaire on BOT basis. However, the Port will provide the Common Supporting Project Infrastructure.

Impact:

- On commissioning of the project, it shall cater to the requirement of coal & limestone imports besides export of granulated slag & finished steel products considering the large number of steel plants established in the hinterland of Paradip Port.
- The project shall also facilitate**
 - de-congestion of the Port
 - reduce Sea freight making coal imports cheaper, and
 - boost the industrial economy in the hinterland of the port leading to creation of job opportunities.

Paradip Port

- Paradip Port Trust (PPT), a **Major Port** under Government of India and administered under the Major Port Trusts Act, 1963, was commissioned in 1966 as a mono commodity port for export of iron ore.
- In the last 54 years, the Port has transformed itself to handle a variety of Exim cargoes which include iron ore, chrome ore, aluminium ingots, coal, POL, fertilizer raw materials, lime stone, clinker, finished steel products, containers, etc.
- Paradip Port is a **natural, deep-water port on the East coast of India** in Jagatsinghpur district of Odisha.
- It is situated at **confluence of the Mahanadi river and the Bay of Bengal**.
- It is situated 210 nautical miles south of Kolkata and 260 nautical miles north of Visakhapatnam.
- The port is administered by the Paradip Port Trust (PPT), an autonomous corporation wholly owned by the Government of India.

GI tag sought for Guchhi mushroom

Economy

Why in the news?

- Recently, **Guchhi mushroom** of **Jammu and Kashmir's Doda district** received the Geographical Indication (GI) tag.

About

- Guchhi mushroom is a species of fungus in the family Morchellaceae of the Ascomycota
- They are pale yellow in colour with large pits and ridges on the surface of the cap, raised on a large white stem.
- It is primarily obtained from the forests and pastures of Doda district and it is also found in the high altitude areas of Kupwara, Pahalgam, Shopian, Kishtwar and Poonch of Jammu & Kashmir.
- It is one of the costliest mushrooms in the world which is known for its spongy, honeycombed head and savoury flavour.
- Benefits- They are rich in antioxidant and antimicrobial properties that prevent health issues including heart diseases and diabetes by removing reactive oxygen species that harm the body.
 - They are also considered a rich source of protein, potassium, copper, carbohydrates and Vitamin B.
 - The exotic wild mushrooms are used in pulaos and served during celebratory occasions such as marriages.

What is a GI Tag?

- A geographical indication is a name or sign used on products which correspond to a specific geographical location or origin.
- It possesses the qualities or reputation that are inherent in the products due to that origin.
- It is used for natural, agricultural and manufactured goods.
- The Department for promotion of industry and internal trade (DPIIT) under the Ministry of Commerce and Industry, provides the GI tag in India.

Benefits of registration of geographical indications:

- A GI tag provides a better market for these products and prevents misuse of the name.
- A GI registration is given to an area, not a trader, but once a product gets the registration, traders dealing in the product can apply for selling it with the GI logo.
- Authorised traders are each assigned a unique GI number. For example, Kullu shawl has 135 authorised traders. A shawl made in Ludhiana cannot be sold as a Kullu shawl.
- If any unauthorised trader, even from Kullu, tries to sell a shawl under the name of Kullu shawl, he or she can be prosecuted under The Geographical Indications of Goods (Registration and Protection) Act, 1999.
- GIs are also expected to boost or revive the items whose production has declined, as is being aimed in the case of Chamba Chukh and metal crafts.

SEBI moots entry norms to set up stock exchanges

Economy

Why in the news?

- **Securities and Exchange Board of India (SEBI) has proposed a new framework for ownership of Market Infrastructure Institutions (MII) to facilitate new entrants to set up stock exchanges and depositories.**

Background

- The stock exchanges and depositories fundamentally represent the intersection of technology and markets and SEBI said there is a concern that excessive concentration may lead to abuse of one's dominant position in the business.
- The entities may fall behind the curve in embracing innovations which have a direct bearing on enhancing efficiency in trading and record-keeping space and improving supervision and risk management practices.
- According to SEBI, there is a need to forge a competitive landscape in MIIs' space by way of creating an ownership framework which facilitates not only the entry of new players but also enables merger and acquisition of the existing entities.

Proposals

- **A resident promoter setting up an MII may hold up to 100% shareholding, which will be brought down to not more than (either 51% or 26%) in 10 years.**
- **A foreign promoter from Financial Action Task Force FATF member jurisdictions setting up an MII may hold up to 49% shareholding, which shall be brought down to not more than (either 26% or 15%) in 10 years.**
- **Foreign individuals or entities from other than FATF member jurisdictions may acquire or hold up to 10% in an MII.**
- **Any person other than the promoter may acquire or hold less than 25% shareholding.**
- **At least 50% of ownership of the MII may be represented by individuals or entities with experience of five years or more in the areas of capital markets or technology related to financial services.**

What are Market infrastructure investments?

- It is a system administered by a public organisation or other public instrumentality, or a private and regulated association or entity, that provides services to the financial industry for trading, clearing and settlement, matching of financial transactions and depository functions.
- **Examples:** Examples of MIIs include stock exchanges, depositories and clearing corporations. These are systemically important institutions whose failure could lead to bigger cataclysmic collapses bringing down the economy.

Eri Silk

Economy

Why in the news?

- The Assam government has decided to provide khadi shirts, and shawls and stoles made of 'Eri' to grade IV employees in a phased manner as a mark of respect to Mahatma Gandhi.

About Eri silk

- Eri is a variety of silk produced in Assam which is processed without killing the silkworm.
- India has the unique distinction of being the only country producing all the five kinds of silk namely, Mulberry, Eri, Muga, Tropical Tasar and Temperate Tasar.
- India is the second largest producer of silk in the world and the total raw silk production in the country was 35,261 Metric Tonne during 2018-19.
- Among the four varieties of silk produced in 2018-19, Mulberry accounts for 71.50 per cent (25,213 MT), Tussar 8.44 per cent (2,977 MT), Eri 19.40 per cent (6,839 MT) and Muga 0.66 per cent (232 MT) of the provisional total raw silk production of 35,261 MT.

- **Eri Silk** – Eri silk is the product of the domesticated silkworm, *Philosamia ricini* that feeds mainly on castor leaves. Eri yarn is produced in Assam, Bihar, Manipur, Meghalaya, Nagaland and West Bengal. Unlike other kind of silk, this cannot be reeled and hence it is only spun. It has natural copperish colour.

- India is the second largest producer of silk in the world after China
- India has the distinction of producing all the four types of silk i.e. (a) Mulberry silk (91.7%); (b) Tasar silk (1.4%); (c) Eri silk (6.4%); and (d) Muga silk (.5%) which are produced by different species of silkworms.
- Mulberry silk is produced extensively in the States of Karnataka, West Bengal and Jammu & Kashmir. Similarly, Tasar silk worms are reared traditionally by the tribes of Madhya Pradesh, Bihar and Orissa; Muga and Eri silk are produced exclusively in Assam. The food plant of silkworms is Mulberry for producing Mulberry silk.

Golden Quadrilateral & Golden Diagonal sections

Economy

Why in the news?

- Recently, Indian Railways enhanced the maximum speed to 130 kmph for 1,280 km length out of 1,612 Km in Golden Quadrilateral – Golden Diagonal (GQ-GD) route.

Details

- This covers the entire GQGD route over South Central Railway except for Vijayawada – Duvvada section where signalling up-gradation work is in progress.
- The enhanced speed limits could be achieved due to the systematic and planned strengthening of tracks & its infrastructure by removing bottlenecks in these sections at a fast pace.

About golden quadrilateral project

- It is a highway network which links Delhi, Mumbai, Kolkata and Chennai thus connecting the major industrial, agricultural and cultural centers of India
- The project was started in 2001 by Atal Bihari Vajpayee under the NDA government and was completed in January 2012.
- It was the Phase-1 of the bigger National Highway Development Project that was launched in 1998 by the same government.
- It is managed by the National Highways Authority of India (NHAI) under the Ministry of Road, Transport and Highways.



K-Shaped Recovery

Economy

Why in the news?

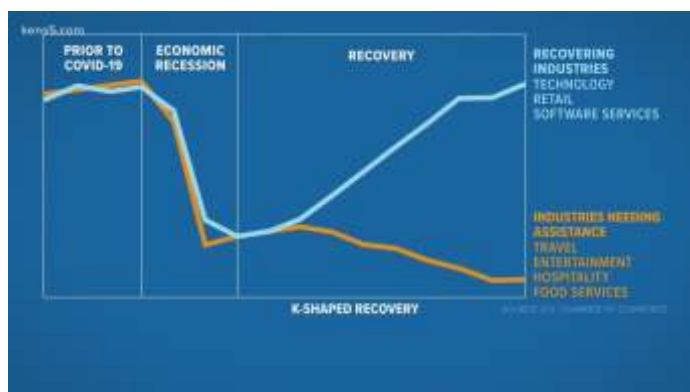
- Recently Sajid Chinoy, chief India economist in JP Morgan said that the prospects of economic recovery after COVID-19 are increasing in India and around the world. This recovery is in the form of "K" shape recovery.

What is K-Shaped Recovery?

- A K-shaped recovery happens when different sections of an economy recover at starkly different rates.
- Households at the top of the pyramid are likely to have seen their incomes largely protected, and savings rates forced up during the lockdown, increasing 'fuel in the tank' to drive future consumption.
- Meanwhile, households at the bottom are likely to have witnessed permanent hits to jobs and incomes.

What is a K-shaped Economic Recovery?

- The K-shaped Economic Recovery concept rests on the idea that while the fortunes of some in the economy have nearly or fully recovered but the fortunes of many are still declining.
- A "K-shaped" recovery is between a "V" and "L" depending upon the nature of activity such as industries like technology, retail, and software services have recovered and begun re-hiring, while the travel, entertainment, hospitality, and food services industries have continued to decline.
- The line heading upward symbolizes those parts of the economy that have benefited from pandemic such as Technology, general merchandise retailers, entertainment, Biotech and Pharmaceuticals, work from home firms and online retailers.
- The K-shaped narrative is gaining traction as the tale of two recoveries conforms well with the ongoing outperformance of risk assets and real estate while front-line service sector jobs risk permanent elimination.
- The K-shaped recovery is unique in a sense that it was a government-induced recession, a by product of efforts to contain the pandemic by purposely keeping people away from their jobs and subsequently greatly reducing the ability of businesses to operate.



Types of Economic Recovery

- V-shaped recovery: A "V-shaped" recovery suggests that economic spending and employment will rapidly decline, but quickly pick back up like a V.
- U-shaped recovery: A "U" shape is similar to V-shaped but it suggests the period of unemployment and low economic activity will remain longer than a V-shaped recovery.
- L & I-shaped recovery: The "L" and "I"-shaped recovery outlooks are much direr, suggesting the high unemployment and low spending will have other ramifications, like cause debt defaults and overwhelm health systems.
- Z-shaped recovery: It means that despite the lockdown slowing down business activity, and forcing people to remain indoors instead of going out and purchasing goods and services, employers managed to retain their workers while continuing to remunerate them as well.
- A SWOOSH recovery: A SWOOSH is a cross between a V-shaped recovery and a U-shaped recovery. It means the relaxations and unwinding of restrictions on business activity and mobility will initially lead to an immediate uptick in output resembling that of a V-shaped recovery, but then begins to slow down.
- W-shaped recovery: In such a scenario, an immediate economic rebound is followed by another sudden fall in output, potentially arising from a resurgence of the virus that causes state governments to re-introduce lockdown and containment measures at the cost of business activity.

Concerns associated with K-shaped economic recovery

- Widening the gap between top and bottom: The 'K' shape implies that those at the top are seeing things go up and those at the middle and below are seeing things go down and get worse.
- The strong asset market performance and a disparate recovery in the labor market represent just two of the many pieces of evidence showing that the rift between those faring best and those faring worst has become wider than in the past.
- Uneven labour market recovery: The K-shaped recovery indicates the uneven performance in the labor market as the lower-skilled services industries generally suffered the greatest number of job losses.
- It implies an uneven recovery where the wealthy quickly bounce back to pre-pandemic prosperity while lower-income families continue to suffer economic harm.

What are the macro implications of a K-shaped recovery?

- Upper-income households have benefitted from higher savings for two quarters.

- Households at the bottom have experienced a permanent loss of income in the forms of jobs and wage cuts; this will be a recurring drag on demand, if the labour market does not heal faster.
- To the extent that COVID has triggered an effective income transfer from the poor to the rich, this will be demand-impeding because the poor have a higher marginal propensity to consume (i.e. they tend to spend (instead of saving) a much higher proportion of their income.
- If COVID-19 reduces competition or increases the inequality of incomes and opportunities, it could impinge on trend growth in developing economies by hurting productivity and tightening political economy constraints.

Increase in the Urban jobless rate

Economy

Why in the news?

- As per quarterly Periodic Labour Force Survey (PLFS) Unemployment rate in urban areas rose to 9.1 per cent in January-March 2020 from 7.9 per cent in October-December 2019.

What is unemployment?

- As defined by the International Labour Organization, "unemployed workers" are those who are currently not working but are willing and able to work for pay, currently available to work, and have actively searched for work.

What is labour force participation?

- The labour force participation rate is a measure of the proportion of a country's working-age population that engages actively in the labour market, either by working or looking for work; it provides an indication of the size of the supply of labour available to engage in the production of goods and services, relative to the population at working age. The breakdown of the labour force (formerly known as economically active population) by sex and age group gives a profile of the distribution of the labour force within a country.

Key findings of the survey

- According to quarterly Periodic Labor Force Survey (PLFS) by the Ministry of Statistics and Programme Implementation (MoSPI), unemployment rate in urban areas rose to 9.1 per cent in January-March 2020 from 7.9 per cent in October-December 2019 but marginally lower than 9.3 per cent in January-March 2019,
- Urban unemployment was recorded at 8.4 per cent in July-September 2019, 8.9 per cent in April-June 2019 and 9.9 per cent in October-December 2018.
- The survey finds that urban unemployment in the age group 15-29 years was 21.1 per cent in January-March, up from 19.2 per cent in October-December.
- It also states that female unemployment rate was recorded in double digits at 10.5 per cent in January-March, up from 9.8 per cent in the previous quarter. For urban males, it was at 8.7 per cent in January-March as against 7.3 per cent in the previous quarter.
- As per the PLFS, labour force participation rate rose to over a five-quarter high of 37.5 per cent, as against 37.2 per cent in the previous quarter.
- Unemployment data for urban areas is released quarterly based on current weekly status.
- This dataset differs from the Annual Report of Periodic Labour Force Survey, which covers both rural and urban areas and gives estimates of employment and unemployment in both usual status (ps+ss) and CWS.

WHAT SOLUTIONS ARE NECESSARY TO PROTECT THE LIVELIHOODS OF WORKERS IN URBAN AREAS?

- In collaboration with local governments, the emphasis should be on urban job generation programmes.
- The creation and execution of employment-intensive investment policies will be a significant local initiative.
- Private investments need to be facilitated by conducive labor-capital contractual partnerships.
- Small and micro businesses, the heart of industrialization, require extra help because they do not have collective bargaining powers to balance the needs of labour and capital.

- An urban jobs scheme aimed at building large-scale medical, health and sanitation infrastructure in cities and towns across India needs to be launched.
- Reducing vulnerabilities by demonstrating decent wages and some sort of job protection
- It is critical that MGNREGA be extended by the both the budgetary allocations and the minimum number of working days guaranteed.
- Universal basic income- It is a government initiative in which every adult person receives on a regular basis a fixed sum of money. Improving poverty and eliminating other need-based social services that may require greater official participation are the aims of a basic income scheme.
- Prioritize facilities in urban environments-
- Investments in infrastructure will stimulate jobs, generate earnings and lead to the formation of small businesses.
- Another task that can be carried out using labour-intensive techniques is the development of low-cost housing, thus generating major collateral benefits for urban dwellers.

IS AN URBAN JOB GUARANTEE PROGRAM NEEDED?

- According to the National Sample Survey Office (NSSO) Periodic Labour Force Survey (PLFS) report, the unemployment problem is exacerbated in India particularly in cities and towns. More than half of the budget is destined for rural India.
- The economic influence of the lockdown was largely an outcome of urban India.
- For a host of companies, the Nutcracker scenario demands major devastation on the one hand, and a lack of enough labour to restart production/operations
- According to the 2017-2018 PLFS, open unemployment stands at an all-time high of 6.1%, and unemployment among skilled youth has hit 20%.
- At 7.8%, urban unemployment is higher than the unemployment rate in rural areas (5.3%).
- Indian cities and towns continue to be plagued by the prevalence of low-wage, informal jobs of poor quality.
- Despite an increase in the prevalence of regular-salaried jobs, just over 50 percent of the urban population remains either self-employed or in casual wage employment, PLFS data show.
- In the context of the current job crisis, the implementation of an employment guarantee system in urban areas is worth considering. The scheme, which is similar to MGNREGS, will provide the poorest of the poor in urban areas with minimum livelihood protection.
- Centrally sponsored projects, such as the Smart Cities Mission and the National Urban Renewal Mission of Jawaharlal Nehru (JNNURM), have focused overwhelmingly on the growth of larger cities and towns. These services assist in the growth of small towns and communities.

ShramShakti Portal

Economy

Why in the news?

- **The Union Minister of Tribal Affairs launched "ShramShakti", a National Migration Support Portal at a programme held at Panjim, Goa.**

Why in News?

- Union Minister of Tribal Affairs has virtually launched the **ShramShakti** Portal for data related to Tribal migrants. The Minister also launched the tribal training module- **ShramSaathi**.

About Shram Shakti portal:

- The portal has been launched to tackle the challenge of lack of real-time data on the migrants with the Governments.
- **ShramShakti Portal:** It is a National Migration Support Portal that aims to collect data related to tribal migrant workers and link them with the existing welfare schemes.
- The various data that will be recorded via the portal include demographic profile, livelihood options, skill mapping, and migration pattern.
- **Significance:**
 - The portal would be able to successfully address the data gap and empower tribal migrant workers, who

generally migrate in search of employment and income generation.

- It would also effectively help in the smooth formulation of state and national level programs for migrant workers.
- **ShramSaathi – Training module**
- It is a tribal training module. It aims to ensure the process of livelihood migration is safe and productive for tribal migrants. Once training is done the tribal migrant worker can demand and access services, rights and entitlements etc.
- **Reason for the launch of module:**
 - Tribal migrants have low awareness about their rights and entitlements
 - They also do not know the ways to access services and social security in source and destination areas

Monetary Transmission

Economy

Why in the news?

- Banks with higher capital ratios transmit monetary policy actions more smoothly than banks with lower capital base according to recent study by RBI.

About RBI study

- The RBI study attempts to understand the link between bank capital and monetary transmission by looking at the relationship between bank capital and loan growth/cost of funds.
- It states that for each one percentage point increase in CRAR, there is a 7.8 percentage points rise in loan growth rate. On the contrary, one percentage point increase in GNPA ratio reduces the loan growth rate by 0.9 percentage points.
- In effect, while rise in capital ratio helps in better monetary policy transmission, a significant amount of stressed assets could limit credit supply.

What is monetary policy transmission?

- Repo rate is the interest rate that the RBI charges the banks when it lends them money.
- The banks' lending rate is the interest rates that banks charge from customers when they take a loan.
- By cutting the repo rate, the RBI has been sending a signal to the rest of the banking system that the lending rates in the system should come down.
- This process of repo rate cuts leading to interest rate cuts across the banking system is called "monetary policy transmission"

What was RBI's response?

- In response to the sluggish transmission, the RBI decided to cut the repo rate by another 25 basis points in October 2019.
- It urged banks to link their lending rates to the repo rate.
- Yet, for the most part, the banking system has ignored the signaling.
- Only some banks have reduced lending rates on new loans by 10 basis points.
- Indeed, even though it is counter-intuitive, interest rates on existing loans (not new loans) have actually.

How does lowering interest rates help?

- A lower interest rate regime is expected to help in resolving both of these.
- Consumption
- The prevalent argument is that if banks reduce their lending rates, they would also have to reduce their deposit rates.
- Reducing deposit rates will, in turn, incentivize people to save less and spend more i.e. increased consumption.
- [Deposit rate is the interest rate banks pay when consumers park their money in a savings bank deposit or a fixed deposit.]

Investment

- The low investment by businesses is partly because they have unsold inventories because people are not buying as much.
- But, part of the reason is also that the interest rate charged on loans is quite high.
- If interest rates are lowered, more businesses are likely to be enthused to borrow new loans for investment.
- This is particularly fitting as the government has recently cut corporate tax rates in the hope to boost investment and corporate sector's profitability.
- So, given that overall retail inflation too has been well within the comfort zone of 4%, the RBI's decision to cut repo rates was a justified move.

K.V. Kamath Committee

Economy

Why in the news?

- The Supreme Court recently asked the Centre and the Reserve Bank of India about the steps taken to implement the K.V. Kamath Committee report on recommendations to bail out sectors affected by the COVID-19 pandemic.

Key Points

- **Objective:** The Committee is tasked to recommend parameters for one-time restructuring of corporate loans.
- **Background:** In the recent Monetary Policy report, RBI has allowed banks to restructure loans to reduce the rising stress on incomes and balance sheets of large corporates, Micro, Small and Medium Enterprises (MSMEs) as well as individuals.
- **Reasons:** A large number of firms that otherwise maintain a good track record are facing the challenge as their debt burden is becoming disproportionate, relative to their cash flow generation abilities.

Recommendations made by the Committee

- Graded approach to restructuring of stressed accounts based on severity of the impact on the borrowers- Banks can classify the accounts into mild, moderate and severe as recommended by the committee.
- Five financial parameters to gauge the health of sectors facing difficulties- total outside liabilities to adjusted tangible net worth, total debt to earnings before interest, taxes, depreciation, and amortization (Ebitda), debt service coverage ratio (DSCR), current ratio and average debt service coverage ratio (ADSCR).
- 26 sectors have been identified including auto, aviation, construction, hospitality, power, real estate and tourism.

Applicability of these recommendations:

- The committee was to scrutinize restructuring of loans above ₹1500 crore.
- The resolution under this framework is applicable only to those borrowers who have been impacted on account of Covid.
- Only those borrowers which were classified as standard and with arrears less than 30 days as at March 1, 2020 are eligible under the Framework.

Faceless Tax Scheme

Economy

Why in the news?

- The government's faceless tax assessment scheme has managed to deliver about 24,000 final orders since its introduction in August 2020.

About Faceless tax scheme:

- In the Union Budget 2019, the Finance Minister proposed the introduction of a scheme of faceless assessment.

- It is an attempt to remove individual tax officials' discretion and potential harassment for income tax payers.
- The scheme allows for appropriate cases where a certain hearing is necessary, so then after following protocols, a hearing is given.
- The main objective is to remove physical interaction as much as possible.

Production-linked incentive (PLI) scheme

Economy

Why in the news?

- The government will extend the production-linked incentive (PLI) scheme to eight more sectors to boost domestic manufacturing.

About production linked incentive

- PLI Scheme is an outcome- and output-oriented scheme where incentives will be paid only if the manufacturers make the goods.
- This scheme will give cash incentives for five to seven years and all the sunrise and important sectors are proposed to be covered in this.
- The sectors may be automobile, networking products, food processing, advanced chemistry and solar PV manufacturing.
- **Need for PLI**
- Sunrise sectors are promising sectors but they may need support in the initial stage.
- Export base can be developed in sectors under PLI scheme.
- There is a growing demand in the world for diversification in supply chains & India can become a major player.
- With the view to make India a manufacturing hub, the government launched the PLI scheme for mobile phones (electronic manufacturing) and it was extended to pharma products and medical equipment sectors.

National Migrant Information System

Economy

Why in the news?

- National Disaster Management Authority (NDMA) launched NMIS to capture the information regarding movement of migrants recently.

About the National Migrant Information System (NMIS)

National Migrant Information System (NMIS)

- National Migrant Information System (NMIS) - a **central online repository** on Migrant Workers - **developed by NDMA** to facilitate their seamless movement across States.
- Government of India has allowed the movement of migrant workers by buses and 'Shramik' special trains to enable them to travel to their native places.
- In order to capture the information **regarding movement of migrants** and facilitate the smooth movement of stranded persons across States, **National Disaster Management Authority (NDMA) has developed an online Dashboard - National Migrant Information System (NMIS).**

Advantages

- The **online portal** would maintain a **central repository** on migrant workers and help in speedy inter-State communication/co-ordination to facilitate their smooth movement to native places.
- It has **additional advantages like contact tracing**, which may be useful in overall COVID-19 response work.
- The **key data pertaining** to the persons migrating has been standardized for uploading such as name, age, mobile no., originating and destination district, date of travel etc., which States are already collecting.
- States will be able to visualize how many people are going out from where and how many are reaching destination States.
- The mobile numbers of people can be used for contact tracing & movement monitoring during COVID-19.

National Disaster Management Authority (NDMA)

- NDMA, headed by the Prime Minister of India, is the apex body for Disaster Management in India. Setting up of NDMA and the creation of an enabling environment for institutional mechanisms at the State and District levels is mandated by the Disaster Management Act, 2005.
- NDMA is mandated to lay down the policies, plans and guidelines for Disaster Management. India envisions the development of an ethos of Prevention, Mitigation, Preparedness and Response.
- NDMA has 5 major divisions viz. Policy & Plans, Mitigation, Operations & Communications & Information & Technology, Administration and Finance.

Financial Stability Report

Economy

Why in news?

- The Reserve bank of India released the 22nd issue of the Financial Stability Report (FSR)

About the Financial Stability Report (FSR)

- The report reflects the collective assessment of the Sub-Committee of the Financial Stability and Development Council (FSDC) on risks to financial stability, and the resilience of the financial system in the context of contemporaneous issues relating to development and regulation of the financial sector. The release of FSR was rescheduled to incorporate the first advance estimates of national income for 2020-21 that were released by the National Statistical Office on January 7, 2021

Key Highlights of Financial Stability Report 2021

- The capital to risk-weighted assets ratio (CRAR) of Scheduled Commercial Banks (SCBs) improved to 15.8 per cent in September 2020 from 14.7 per cent in March 2020.
- The gross non-performing asset (GNPA) ratio of SCBs declined to 7.5 per cent from 8.4 per cent.
- The provision coverage ratio (PCR) of SCBs improved to 72.4 per cent from 66.2 per cent.
- The Macro stress tests incorporating the first advance estimates of gross domestic product (GDP) for 2020-21 indicate that the GNPA ratio of all SCBs may increase from 7.5 per cent in September 2020 to 13.5 per cent by September 2021.
- It highlights the need for proactive building up of adequate capital to withstand possible asset quality deterioration.
- The network analysis reveals that total bilateral exposures among entities in the financial system increased marginally during the quarter-ended September 2020.
- The gross non-performing asset (GNPA) ratio of private sector banks (PVBs) and foreign banks (FBs) may increase from 4.6% and 2.5% to 7.9% and 5.4%, respectively.

Financial Stability Report's forecasts for investors

- As compared with the initial phase of Covid-19, most banks have indicated a lower number of loan recast requests from corporate borrowers signalling the overall stress in the sector may not be as big as initially feared.
- The loan growth has begun to pick up and NPA levels remain on the expected lines.
- The banks have made significant provisions on their NPA books which gives investors major comfort with respect to the banking system preparedness to fight NPAs.

Recommendation of RBI to deal existing stock of Bad Loans

- **Idea of Bad Bank:** The Bad Bank refers to a separate entity where all the bad assets of the banking industry can be bundled into.
 - A bad bank can be a reality only if the government takes the lead and provides the initial capital.
- **Recapitalizing weak public sector banks:** The banks may not be in a position to raise money on their own unlike the bigger ones (SBI, PNB, BoB etc.) and may require handholding from the government.
- **RBI as banking judge of the Banking System:** The interventions from judiciary and government on stressed asset resolution have done much damage to the banking sector in the past. The RBI is given a free hand to do its job and regulator is the best judge of what is good for the banking system.

Financial Stability and Development Council (FSDC)

- The Financial Stability and Development Council (FSDC) was set up by the Government as the apex level forum in **December 2010**.
- The objective of FSDC is to strengthen and institutionalize the mechanism for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development.
- The Chairman of the Council is the **Finance Minister** and its members include the heads of all Financial Sector Regulators (RBI, SEBI, PFRDA & IRDA), Finance Secretary and/or Secretary, Department of Economic Affairs (DEA), Secretary, Department of Financial Services (DFS), and Chief Economic Adviser.
 - **In May, 2018** government reconstituted FSDC to include the Minister of State responsible for the Department of Economic Affairs (DEA), Secretary of Department of Electronics and Information Technology, Chairperson of the Insolvency and Bankruptcy Board of India (IBBI) and the Revenue Secretary.
- **FSDC sub-committee** is headed by the **Governor of RBI**.
- The Council can invite experts to its meeting if required.
- The **Raghuram Rajan committee (2008)** on financial sector reforms first **proposed the creation of FSDC**.

Migrant Integration Policy Index (MIPEX) -2020

Economy

Why in the news?

- As per fifth edition of Migrant Integration Policy Index (MIPEX), India ranked the lowest among 52 countries assessed for key indices of migrant inclusivity in 2020.

What is Migrant Integration Policy Index (MIPEX)?

- MIPEX is a unique tool which measures policies to integrate migrants in countries across five continents, including all EU Member States (including the UK), other European countries (Albania, Iceland, North Macedonia, Moldova, Norway, Serbia, Switzerland, Russia, Turkey and Ukraine), Asian countries (China, India, Indonesia, Israel, Japan, and South Korea), North American countries (Canada, Mexico and US), South American countries (Argentina, Brazil, Chile), and Australia and New Zealand in Oceania.

Indices of MIPEX

- MIPEX2020 consists of 58 indicators that have been updated for the period 2014-2019.
- The project identifies and measures integration policies in eight policy areas:
 - **Labor market mobility**
 - **Family reunification**
 - **Education**
 - **Political participation**
 - **Permanent residence**
 - **Access to nationality**
 - **Anti-discrimination and**
 - **Health.**

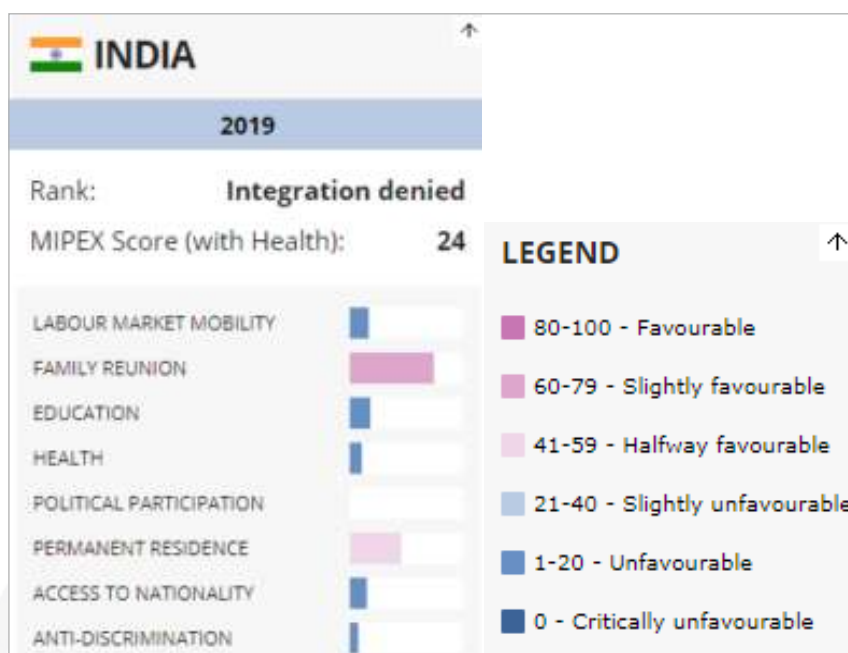
Global perspective.

- Top Ten countries (average score: 75/100). Countries in this group represent the top ten out of the 52 MIPEX countries. They adopt a comprehensive approach to integration, which fully guarantees equal rights, opportunities and security for immigrants and citizens. Policies in these countries generally encourage the public to see immigrants as their equals, neighbors and potential citizens.

What does the index say about India?

- While most countries, including China and Indonesia, have improved their integration policies over the past five years, India has not yet developed immigrant integration policies.

- According to it, India did not follow the international reform trends of other MIPEX countries (+2 points on average).
- International migrants in India face many obstacles to integration under the slightly unfavorable policies in India, which ranked last out of 52 MIPEX countries.
- India scores 24 on the 100-point MIPEX scale, while the average MIPEX scored 50/100. Among MIPEX countries, Indian policies are most similar to Indonesia's.
- The obstacles facing migrants in India are greater than in the other Asian MIPEX countries.
- India's approach to integration is categorized by MIPEX as 'immigration without integration' because Indian policies refuse to recognize India as a country of immigration.



Key highlights

- **Labour market mobility: Unfavourable:** Immigrants with the legal right to work face major obstacles to access the labour market, with no general and targeted support to improve their professional skills or opportunities.
- **Family reunification: Slightly favourable:** Although many foreign citizens are favourably eligible to apply for their close family members, these reunited families are made entirely dependent on the sponsor for their integration.
- **Education: Unfavourable:** Like other countries with small numbers of foreign pupils, India does relatively little to encourage them across the education system or support diversity at school, although basic targeted support is available.
- **Health: Unfavourable:** Legal migrants and asylum seekers face additional requirements to access the Indian health system and enjoy little information or support targeted to meet their specific health needs.
- **Political participation: Unfavourable:** Immigrants are fully denied the opportunity to participate in public life in India, as foreign citizens have no right to vote, support or consultation by policymakers.
- **Permanent residence: Halfway favourable:** The path to permanent residence for newcomers in India is mainly linked to their ability to fulfil its economic requirements, but even permanent residents are denied equal treatment with Indian nationals in key areas of life like social security and assistance.
- **Access to nationality: Unfavourable:** The path to Indian citizenship is long (>10 years) and burdensome, as India has not followed international reform trends to open up dual nationality for foreign citizens or birthright citizenship entitlements or their Indian-born children.
- **Anti-discrimination: Unfavourable:** Foreign citizens who are victims of ethnic, racial, religious or nationality discrimination have little chance to access justice in India, as they are not covered by anti-discrimination laws or a dedicated independent equality body

World Food Price Index

Economy

Why in the news?

- The **FAO Food Price Index** averaged 107.5 points in December 2020 which is 2.2 per cent higher than the previous month.

About the World Food Price Index:

- The **Food and Agriculture Organization's (FAO)** food price index, which measures monthly changes in international prices of a basket of cereals, oilseeds, dairy products, meat and sugar
- It was introduced in 1996 as a public good to help in monitoring developments in the global agricultural commodity markets.
- It takes into **account the Base Period: 2014-16**.

About the Food and Agriculture Organization (FAO):

- It was established by the **United Nations in 1945** and is a **neutral intergovernmental organization**.
- It is headquartered in **Rome, Italy**.
- It is a specialized agency of the **United Nations** that leads **international efforts to defeat hunger**.
- It strives to **provide information** and **support sustainable agriculture** through legislation and national strategies, with a goal of **alleviating hunger**.
- It works to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives.

Various Initiatives of the Food and Agriculture Organization (FAO):

- The International Treaty on Plant Genetic Resources for Food and Agriculture was adopted by the **Thirty-First Session of the Conference** of the Food and Agriculture Organization in 2001.
- Globally Important Agricultural Heritage Systems (GIAHS)**.
- Monitors the Desert Locust** situation throughout the world.

Major Publications released by FAO:

- The State of World Fisheries and Aquaculture (SOFIA).
- The State of the World's Forests (SOFO).
- The State of Food Security and Nutrition in the World (SOFI).

National Strategy for Additive Manufacturing

Economy

Why in the news?

- The Ministry of Electronics and Information Technology invited comments on the Draft National Strategy for Additive Manufacturing

What is additive manufacturing?

- Additive manufacturing (AM) is the digital revolution of industrial production that embraces innovation in digital processes, communications, imaging, architecture and engineering to provide digital flexibility and efficiency to manufacturing operations. Additive manufacturing (popularly known as 3D printing) refers to the construction of a three-dimensional object from a digital 3D model by adding materials layer by layer.

Aim of the strategy

- The strategy aims at promoting creation of a conducive ecosystem for design, development and deployment, and to overcome technical and economic barriers for local manufacturers to seamlessly adopt Additive Manufacturing. This is also expected to facilitate creation of a support base of domestic manufacturers for setting up of operations with supporting ancillaries in India by foreign companies as well as Global AM leaders.

How Does 3D or Additive Manufacturing Work?

- Using computer aided design (CAD) or 3D object scanners, additive manufacturing allows for the creation of objects with precise geometric shapes. These are built layer by layer which is in contrast to traditional manufacturing that often requires machining or other techniques to remove surplus material.

Key challenges to additive manufacturing

- **The Ministry of Electronics and Information Technology identifies certain key challenges in the adoption of additive manufacturing. These include:**
 - High cost of equipment and material due to dependence on import
 - Lack of formal industry standards
 - Lack of skilled manpower, and
 - Uncertainty in the regulatory and legal framework.

Recommendations under the draft strategy

- **Promoting additive manufacturing:**
 - The strategy suggests to that the government to procurement policies should encourage the purchase of additive manufacturing machines, manufactured components , and systems for their operations
 - It also recommends to develop a preferential market access policy to support local manufacturers.
- **National Additive Manufacturing Centre:** It suggests that a dedicated Centre may be constituted to lead the national initiative for development and adoption of additive manufacturing technologies.
- The Centre may take initiatives such as a study of the sectoral potential for integrating additive manufacturing and development of standards and certifications.
- **Centre of excellence:** A centre of excellence dedicated to additive manufacturing may be established. The research efforts in the area of additive manufacturing could be supported by an increase in grants-in-aid. Intellectual property developed through government-funded projects should be made accessible.
- It also proposes for the development of manpower for additive manufacturing, engineering curriculum, as well as industry driven apprenticeship programs, should include additive manufacturing.
- It also recommends free online resources, certifications, and diplomas to be provided with training modules for all educational levels.
- The strategy also recommends developing a special curriculum for the training of teachers to acclimatize them with the technology.

Bharatiya Nirdeshak Dravya

Economy

Why in the news?

- The Prime Minister dedicated the Bharatiya Nirdeshak Dravya: India Reference Materials to the nation during National Metrology Conclave 2021.

About the Conclave

- The Conclave was organised by Council of Scientific and Industrial Research-National Physical Laboratory (CSIR-NPL), New Delhi, on its 75th year of inception. The theme of the conclave is 'Metrology for the Inclusive Growth of the Nation'

About Bharatiya Nirdeshak Dravya: India Reference Materials

- Bharatiya Nirdeshak Dravyas (BNDs) i.e. Indian reference materials are Certified Reference Materials (CRMs) developed by CSIRNPL.
- CSIR-National Physical Laboratory has taken a lead for the production of Indian Reference Material registered trademark as Bharatiya Nirdeshak Dravya (BND) in association with the ministry of commerce and industries for self-reliant India.
- BND activity at CSIR-NPL has recently been reinforced aiming to bring a paradigm shift in socioeconomic fabric of the country through quality control assurance for export, import and domestic consumer products in every sector and versatile job creation.

- The availability of BNDs is poised to enhance the national quality infrastructure and equip the quality regulatory bodies of almost all the ministries of the Government of India.
- CSIR-NPL is developing BNDs by its own and in collaboration with specific reference material producers (RMPs) following the stringent conditions of ISO17025 and ISO 17034 & 35.

Significance of Bharatiya Nirdeshak Dravya

- Bhartiya Nirdeshak Dravya dedicated to the nation recently, would help the industry to make quality products in sectors like Heavy metals, Pesticides, Pharma and Textiles by drafting a 'Certified Reference Material System'.
- Certified reference materials (BNDs) are essential for quality assurance of life in terms of calibration, quality control, and method validation, assignment of values to other materials and to establish measurement traceability to SI units.
- Complying with the International standards will help the large foreign manufacturing companies coming to India to find a local supply chain
- It will also provide quality goods to the general consumer of India and reduce the problems faced by the exporter.

CSIR-National Physical Laboratory, India (NPLI)

- The National Physical Laboratory is the National Metrology Institute of India and a Premier Research Laboratory in the field of Physical Sciences.
- NPLI is the Time Keeper of the Country and is responsible for highest level of time and frequency measurements in India at par with the international standards
- The National Physical Laboratory was conceptualized in 1943 by the Governing Body of Council of Scientific and Industrial Research (CSIR) , with a view to pave way for using science and technology as a means for industrial growth and development, as well as to give fillip to the fledgling Indian industry.
- Pandit Jawaharlal Nehru, the then Prime Minister of India, laid the foundation stone for the laboratory on January 4, 1947 and it was one of the first National Laboratory to be set-up under the CSIR.
- In 1956, the Legal Metrology Act entrusted NPLI to establish a measurement foundation of the country at par with international ones and to create and implement the programs needed for inclusive growth of the nation and the quality of life.
- In 1956, NPLI also became a permanent member of the International Bureau of Weights and Measure (BIPM), France.

Negative Yield Bonds

Economy

Why in the news?

- China sold negative-yield debt for the first time, and this saw a high demand from investors across Europe.

What are Negative-yield Bonds?

- A negative bond yield is when an investor receives less money at the bond's maturity than the original purchase price for the bond. A negative bond yield is an unusual situation in which issuers of debt are *paid* to borrow. In other words, the depositors, or buyers of bonds, are effectively paying the bond issuer a net amount at maturity instead of earning a return through interest income.
- Understanding Negative Bond Yields
- Bonds are debt instruments typically issued by corporations and governments to raise money. Investors purchase the bonds at their face value, which is the principal amount invested.
- In return, investors typically get paid an interest rate—called the coupon rate—for holding the bond. Each bond has a maturity date, which is when the investor gets paid back the principal amount that was initially invested or the face value of the bond.

Why do investors buy Negative Yield Bonds?

- **Pledge asset:** Bonds are often used to pledge as collateral for financing and as a result need to be held regardless of their price or yield.

- **Currency Gain:** Some investors believe they can still make money even with negative yields. For example, foreign investors might believe the currency's exchange rate will rise, which would offset the negative bond yield.
- **Deflation Risk:** Domestically, investors might expect a period of deflation, or lower prices in the economy, which would allow them to make money by using their savings to buy more goods and services.
- **Safe Haven Assets:** Investors might also be interested in negative bond yields if the loss is less than it would be with another investment.

Current High Demand of Negative-yield Bonds

- The 10-year and 15-year bonds are offering positive returns is a big attraction at a time when interest rates in Europe have dropped significantly.
- It is important to note that while the majority of the large economies are facing a contraction in their GDP for 2020-21, China is one country that is set to witness positive growth in these challenging times.
- Europe, the US and other parts of the world are facing a second wave of Covid-19 cases and China has demonstrated that it has controlled the spread of the pandemic and is therefore seen as a more stable region.

System for Assessment, Awareness and Training in Hospitality Industry (SAATHI)

Economy

Why in the news?

- Recently, the Vice President of India called for leveraging tourism potential to enhance India's soft power globally & also referred to SAATHI for COVID-19 safety and hygiene.

SAATHI programme

- It is a System for Assessment, Awareness & Training for Hospitality Industry.
- It is a certification programme of the Ministry of Tourism with Quality Council of India.
- It aims to assist the hospitality industry to continue to operate safely and thereby instill confidence among the Staff, employees and the guests about the safety of the hotel/unit.
- The Certification will have three components i.e. Self-Certification (Initial stage); Capacity Building (Training in terms of SOPs and Guidelines), and finally the Third party Assessment (Certification).

Risk Based Internal Audit (RBIA) Framework

Economy

Why in the news?

- Recently, the Reserve Bank of India (RBI) has asked banks to ensure that the **internal audit function** has sufficient authority, stature, independence and resources under the **Risk-Based Internal Audit (RBIA) Framework**.

Key Highlights

- The framework lays out the basic approach for risk based internal audit functions, banks are expected to re-orient their approach, in line with the evolving best practices, as a part of their overall Governance and Internal Control framework.
- Banks are encouraged to adopt the International Internal Audit standards, like those issued by the Basel Committee on Banking Supervision (BCBS) and the Institute of Internal Auditors (IIA).

What is Risk Based Internal Audit (RBIA) Framework?

- **Authority, Stature and Independence:** The internal audit function must have sufficient authority, stature, independence and resources within the bank, thereby enabling internal auditors to carry out their assignments with objectivity.
 - The **Head of Internal Audit (HIA)** shall be a senior executive of the bank who shall have the ability to exercise independent judgement.

- The HIA as well as the internal audit function shall have the authority to communicate with any staff member and have access to all records or files that are **necessary to carry out the entrusted responsibilities**.
- **Competence:** The requisite professional competence, knowledge and experience of each internal auditor is essential for the effectiveness of the bank's internal audit function.
 - The desired areas of knowledge and experience may include banking operations, accounting, information technology, data analytics and forensic investigation, among others.
 - The banks should ensure that internal audit function has the requisite skills to audit all areas of the bank.
- **Staff Rotation:** Except for the entities where the internal audit function is a specialised function and managed by career internal auditors, the Board should prescribe a minimum period of service for staff in the Internal Audit function.
- **Tenor for appointment of Head of Internal Audit:** Except for the entities where the internal audit function is a specialised function and managed by career internal auditors, the HIA shall be appointed for a reasonably long period, preferably for a minimum of three years.
- **Reporting Line:** The HIA shall directly report to either the Audit Committee of the Board (ACB) / MD & CEO or Whole Time Director (WTD). The HIA shall not have any reporting relationship with the business verticals of the bank and shall not be given any business targets.
- **Remuneration:** The independence and objectivity of the internal audit function could be undermined if the remuneration of internal audit staff is linked to the financial performance of the business lines for which they exercise audit responsibilities.
- The internal audit function shall not be outsourced and where required, experts could be hired on contractual basis subject to the ACB being assured that such expertise does not exist within the audit function of the bank.
- The banks must ensure and demonstrate through proper documentation that their risk-based internal audit framework captures all the significant criteria / principles suited for their organisational structure, the business model and the risks.

Basel Committee on Banking Supervision (BCBS)

- The Basel Committee on Banking Supervision (BCBS) is the primary global standard setter for the prudential regulation of banks and provides a forum for regular cooperation on banking supervisory matters.
- Its 45 members comprise central banks and bank supervisors from 28 jurisdictions.
- The Basel Committee, initially named the Committee on Banking Regulations and Supervisory Practices
- It was established by the central bank Governors of the Group of Ten countries at the end of 1974 in the aftermath of serious disturbances in international currency and banking markets
- The Committee, headquartered at the Bank for International Settlements in Basel, was established to enhance financial stability by improving the quality of banking supervision worldwide, and to serve as a forum for regular cooperation between its member countries on banking supervisory matters.
- The Committee's first meeting took place in February 1975, and meetings have been held regularly three or four times a year since.
- Since its inception, the Basel Committee has expanded its membership from the G10 to 45 institutions from 28 jurisdictions.
- Starting with the Basel Concordat, first issued in 1975 and revised several times since, the Committee has established a series of international standards for bank regulation, most notably its landmark publications of the accords on capital adequacy which are commonly known as **Basel I, Basel II and, most recently, Basel III**.

Institute of Internal Auditors (IIA)

- Established in 1941, The Institute of Internal Auditors (IIA) is an international professional association with global headquarters in Lake Mary, Florida, USA. The IIA is the internal audit profession's global voice, recognized authority, acknowledged leader, chief advocate, and principal educator. Generally, members work in internal auditing, risk management, governance, internal control, information technology audit, education, and security.

Lakshmi Vilas Bank (LVB) Crisis

Economy

Why in the news?

- Scheme of amalgamation of Lakshmi Vilas Bank with DBS Bank India Ltd approved giving benefits to about 20 Lakh account holders.

Background of the crisis

- LVB shifted its focus from SMEs (Small and Medium Enterprises) to large businesses, in 2016-17 and loaned Rs 720 crore against fixed deposits of Rs 794 crore, which later turned into bad loans.
- In 2018, Religare Finvest sued the Delhi branch of LVB to recover fixed deposits worth about Rs 800 crore that the bank invoked to recover those loans.
- RBI put LVB under Prompt Corrective Action (PCA) framework in September 2019 due to which the bank was not able to issue fresh loans or open a new branch anywhere.
- Now RBI has formalised a scheme for its amalgamation as mentioned above.

Prompt Corrective Action (PCA)

- PCA is a framework under which banks with weak financial metrics are put under watch by the RBI.
- The RBI introduced the PCA framework in 2002 as a structured early-intervention mechanism for banks that become undercapitalised due to poor asset quality, or vulnerable due to loss of profitability.
- It aims to check the problem of Non-Performing Assets (NPAs) in the Indian banking sector.

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 renew 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 the interbank market.

What are the types of restrictions?

- There are two types of restrictions, mandatory and discretionary.
- Mandatory restrictions on dividend, branch expansion, directors compensation, while discretionary restrictions could include curbs on lending and deposit.

Why this decision was taken?

- **Erosion of the bank's net-worth:** Deposits has undergone a steady decline, with continuous losses over the last three years.
- **Experiencing low levels of liquidity:** Inability to raise adequate capital from market and due to continuous withdrawal of deposits.
- **Increase in Non-performing assets:** Almost one fourth of the bank's advances have turned bad assets. Its gross non-performing assets (NPAs) stood 25.4% of its advances as of June 2020.

Benefits of amalgamation

- This will protect about 20 Lakh depositors' interest and will give financial stability to the Bank. LVB had been under moratorium for a period of 30 days
- LVB will be amalgamated with DBIL from the appointed date and with this there will no further restrictions on withdrawal
- There will not be any job risk for about 4,000 employees who will be retained as per previous terms and conditions

Issues facing Private Banking Sector

- Collapse of IL&FS (Infrastructure Leasing & Financial Services) in 2018 had set off a chain reaction in the financial sector, leading to liquidity issues and defaults.
- RBI had earlier this year bailed out Yes Bank through a scheme backed by State Bank of India and other banks
- Punjab & Maharashtra Co-op Bank was hit by a loan scam involving HDIL (Housing Development and Infrastructure Limited) promoters and the bank is yet to be bailed out.
- Most of the old generation Private banks **do not have strong promoters**, making them targets for mergers or forced amalgamation. For ex: In Karur Vysya Bank, the promoter stake is 2.11%, and in Karnataka Bank, there's no promoter
- **Asset Quality:** biggest risk to India's banks including Private banks is the rise in bad loans or Non Performing Assets (NPAs) along with the slowdown in the economy. This unforeseen COVID-19 Pandemic just increased that further. However, the impact will differ depending upon the sector. Ex: banks lend to pharmaceuticals and IT seem to have benefited from reduced NPA and those who lend to hospitality, tourism, aviation expect to increase NPA's further.
- **Regulatory challenges:** RBI's CAR (Capital Adequacy Ratio) and other stringent regulations reduce Private sector banks Alternative investment opportunities
- **HR challenges:** Shortage of experienced and trained private bankers and high attrition levels means that talent is always in short supply
- **Infrastructure challenges:** Lack of appropriate and adequate physical and IT infrastructure is one of the major challenges facing the PB sector in India. Bank branches are not well equipped to cater to HNIs (High Net Worth Individuals) and UHNWIs (Ultra High Net Worth Individuals)

North East venture fund and North Eastern Development Finance Corporation Ltd (NEDFi)

Economy

Why in the news?

- The Ministry of DoNER collaborated with the North Eastern Development Finance Corporation Ltd (NEDFi) to set up the North East Venture Fund (NEVF) with an initial corpus of Rs 100 crore.

Key Points

About:

- Set up by North Eastern Development Finance Corporation Limited (NEDFi) in association with the Ministry of Development of North Eastern Region (M-DoNER), the North East Venture Fund scheme was launched in September 2017.
- It is the first dedicated venture capital fund for the North Eastern Region (NER).
- Venture capital is a form of private equity and a type of financing that investors provide to startup companies and small businesses that are believed to have long-term growth potential. Venture capital generally comes from well-off investors, investment banks and any other financial institutions.

Objectives:

- To contribute to the entrepreneurship development of the NER and achieve attractive risk-adjusted returns through long term capital appreciation by way of investments in privately negotiated equity/equity related investments.
- The fund targets to invest in Start-Ups and unique business opportunities to provide resources for new entrepreneurs in Food Processing, Healthcare, Tourism, segregation of services, IT, etc.

Range of funds:

- The investment under this scheme ranges from Rs. 25 lakh to Rs.10 crore per venture, which is long term nature with an investment horizon of 4-5 years.
- Other Initiatives for the Development of North-Eastern Region
- North East Rural Livelihood Project (NELRP):
- Launched in 2012, the NELRP is a World Bank aided, multi-state project under the Ministry of Development of North Eastern Region (DoNER).

- The project has been implemented in 11 districts of Mizoram, Nagaland, Tripura and Sikkim with an aim to improve rural livelihoods especially that of women, unemployed youth and the most disadvantaged, in the four North Eastern States.
- North Eastern Region Vision 2020 document provides an overarching framework for the development of the North Eastern Region.

Science & Technology Interventions in the North East Region (STINER):

- STINER aims to bring relevant technologies developed by the academic, scientific and research institutions to the artisans and farmers especially women.

North Eastern Region Power System Improvement Project (NERPSIP):

- The Scheme was initially approved in December 2014 as a Central Sector Scheme of the Ministry of Power. It aims to create a reliable power grid and improve NER States' connectivity to the upcoming load centers, and thus extend the benefits of the grid connected power to all categories of consumers of beneficiaries in the North Eastern Region.

About the North Eastern Development Finance Corporation Ltd (NEDFi)

- The North Eastern Development Finance Corporation Ltd (NEDFi) is a Public Limited Company registered under the Companies Act 1956 on 9th August, 1995.
- It is notified as a Public Financial Institution under Section 4A of the said Act and was registered as an NBFC in 2002 with RBI.
- The shareholders of the Corporation are IDBI, SBI, LIC, SIDBI, ICICI, IFCI, SUUTI, GIC and its subsidiaries.
- The management of NEDFi has been entrusted upon the Board of Directors comprising representatives from shareholder institutions, DoNER, State Governments and eminent persons from the NE Region and outside having wide experience in industry, economics, finance and management.
- Its mission is for the economic development of the North Eastern Region of India by identifying, financing and nurturing commercially and financially viable projects in the region.
- NEDFi provides financial assistance to micro, small, medium and large enterprises for setting up industrial, infrastructure projects in the North Eastern Region of India and also Microfinance through MFI/NGOs.
- Besides financing, the Corporation offers Consultancy & Advisory services to the state Governments, private sectors and other agencies.
- It conducts sector or state specific studies under its Techno-Economic Development Fund (TEDF) and is the designated nodal agency for disbursement of Govt. of India incentives to the industries in the North-East India under North-East Industrial and Investment Promotion Policy 2007 (NEIIPP 2007).
- NEDFi's promotional activities include NEDFi Convention Center, NEDFi Pavillion, Promotion of craftsector etc.

A brief note on North-East Venture Fund (NEVF)

- The North East Venture Fund (NEVF) is the first and the only dedicated Venture Fund for the North Eastern Region
- The Venture Fund Scheme launched by the Ministry of Development of North Eastern Region (DoNER) intended to promote growth of business ventures and skill development in the region.
- Ministry of DoNER had joined with North Eastern Development Finance Corporation Ltd (NEDFi) to set up the North East Venture Fund, the first and the only Venture Fund for Northeast with an initial corpus of Rs. 100 crores.
- The fund targets to invest in Start-Ups and unique business opportunities to provide resources for new entrepreneurship.
- The main focus of North East Venture Fund (NEVF) is for mostly the enterprises involved in Food Processing, Healthcare, Tourism, segregation of services, IT, etc.
- The investment size with the Venture Fund Scheme ranges between Rs.25 lakhs and Rs. 10 crores with a long term horizon of five to ten year.

World Economic Forum

International Relations

Why in the news?

- Prime Minister of India addressed the World Economic Forum's Davos Dialogue on 28th January, 2021 via video conferencing. **He spoke on the 'Fourth Industrial Revolution - using technology for the good of humanity'. Prime Minister also interacted with the CEOs during the event.**

About P.M address (highlights)

- India's ambition of self-reliance will strengthen globalism and will help in Industry 4.0
- India is working on all the four factors of Industry 4.0- connectivity, automation, artificial intelligence or machine learning and real-time data.
- India is among the countries where data charges are the cheapest and mobile connectivity and smart phones have reached far and wide.
- India's automation design expert pool is vast and the country has made a mark in the field of AI and machine learning.

51st World Economic Forum Annual Meeting

- The 51st World Economic Forum Annual Meeting will be held on the theme "The Great Reset" representing a commitment to jointly and urgently build the foundations of the global economic and social system for a more fair, sustainable and resilient future.
- The Meeting will be organized in a "twin" format, being both in-person and virtual, connecting key global governmental and business leaders in Davos with a global multi-stakeholder network in 400 cities around the world for a forward-oriented dialogue driven by the younger generation.

World Economic Forum

- The World Economic Forum (WEF), is an international NGO established in 1971 as a not-for-profit foundation and is headquartered in Geneva, Switzerland.
- The WEF's mission is stated as "committed to improving the state of the world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas".
- It is independent, impartial and not tied to any special interests.
- The WEF hosts an annual meeting at the end of January in Davos, a mountain resort in Graubünden, in the eastern Alps region of Switzerland.
- The meeting brings together some 3,000 business leaders, international political leaders, economists, celebrities and journalists for up to five days to discuss global issues, across 500 sessions.
- The organization also convenes some six to eight regional meetings each year in locations across Africa, East Asia, Latin America, and India and holds two further annual meetings in China and the United Arab Emirates.
- Beside meetings, the organization provides a platform for leaders from all stakeholder groups from around the world - business, government and civil society - to collaborate on multiple projects and initiatives.
- It also produces a series of reports and engages its members in sector-specific initiatives.

Reports published by WEF

- The Global Competitiveness Report
- The Global Information Technology Report
- The Global Gender Gap Report
- The Global Risks Report
- The Global Travel and Tourism Report
- The Financial Development Report
- The Global Enabling Trade Report
- The Risk Response Network
- Nature Risk Rising

International Organization of Securities Commissions (IOSCO)

International Relations

Why in the news?

- Recently, the **International Financial Services Centres Authority (IFSCA)** has become an Associate Member of the **International Organization of Securities Commissions (IOSCO)**.

About International Financial Services Centres Authority (IFSCA)

- It has been established in 2020 under the **IFSCA Act, 2019**.
- It is headquartered at **GIFT City, Gandhinagar** in Gujarat.
- It is a unified authority for the **development and regulation** of financial products, financial services and financial institutions.
- The GIFT IFSC is the **maiden international financial services centre** in India.
- The main objective of the IFSCA is to **develop a strong global connect** and **focus on the needs of the Indian economy** as well as to serve as an international financial platform for the entire region and the global economy as a whole.

Significance for IFSCA's membership of IOSCO

- The membership of IOSCO would provide IFSCA the platform to **exchange information at the global level and regional level** on areas of common interests.
- The IOSCO platform would enable **IFSCA to learn from the experiences and best practices of the regulators** of other well established financial centres.
- The IOSCO's membership is a significant milestone in **connecting IFSCA with the regulators of securities markets globally**.
- It would contribute immensely towards the **development and regulation of the financial products, financial services and financial institutions** at the Gujarat International Finance Tec-City International Financial Services Centre.

About the International Financial Services Centres Authority (IFSCA)

- It is a statutory unified regulatory body under the Department of Economic Affairs, Ministry of Finance
- IFSCA was established in the year 2019 with its head office in Gandhinagar.
- In December 2019, Parliament passed a bill to set up a unified authority for regulating all financial activities at IFSCs in the country
- IFSCA has been established as a unified regulator with a holistic vision in order to promote ease of doing business in IFSC and provide a world class regulatory environment.
- The main objective of the IFSCA is to develop a strong global connect and focus on the needs of the Indian economy as well as to serve as an international financial platform for the entire region and the global economy as a whole.
- Financial Sector Assessment Programs (FSAPs) of the International Monetary Fund (IMF) and the World Bank
- The FSAP, a joint IMF and World Bank effort introduced in May 1999.
- It is a comprehensive and in-depth assessment of a country's financial sector.
- FSAPs analyze the resilience of the financial sector, the quality of the regulatory and supervisory framework, and the capacity to manage and resolve financial crises.
- Based on its findings, FSAPs produce recommendations of a micro- and macro-prudential nature, tailored to country-specific circumstances.

USA's S301 report on Equalisation Levy

International Relations

Why in the news?

- US Trade Representative (USTR) has released the findings of the Section 301 report. The report has said that India's 2% equalisation levy is unreasonable or discriminatory potentially attracting withdrawal of US trade concessions or duties on Indian exports.

About Equalisation Levy

- In the Finance Bill 2020-21 a 2% digital service tax (DST) was imposed on non-resident e-commerce operator in India.
- **Eligibility:** Companies with a turnover of over Rs. 2 crore, will pay this levy on the consideration received for online sales of goods and services.
- **Purpose:** The purpose of the levy is to ensure fair competition, reasonableness and exercise the ability of governments to tax businesses that have a close nexus with the Indian market through their digital operations

USTR concerns

- USTR is mainly concerned as 72% companies that will face the levy are American. Aggregate tax bill for US companies will exceed US \$ 30 Million. The USTR report has said that the Equalisation Levy is a violation of international tax principles:
- **Firstly**, it is discriminatory as the law explicitly exempts Indian companies while targeting non-Indian firms.
- **Secondly, levy** is contravening the international tax principle that companies absent a territorial connection to a country should not be subject to that country's corporate tax regime.
- **The third** issue is of taxing revenue instead of income. This is inconsistent with the international tax principle that income—not revenue—is the appropriate basis for corporate taxation.
- **Fourth, levy is discriminating against US companies.** As shown above, majority of the affected companies will be American.

Response of Indian Government

- India has said that **levy does not discriminate against US companies** as it applies equally to all non-resident e-commerce operators irrespective of their country of residence.
- The levy **does not have extraterritorial application** as it applies only on the income generated from India.
- **Government is in its rights to tax digital transactions** as the levy is recognition of the principle that in a digital world, a seller can engage in business transactions without any physical presence.
- In addition, Equalisation levy was one of the methods suggested by the 2015 OECD/G20 Report on Action 1 of BEPS Project which was aimed at tackling the taxation challenges arising out of digitization of the economy.
- Equalisation levy is a way to tax foreign digital companies and seen as a temporary alternative to the **GAFA** (Google, Apple, Facebook and Amazon) **tax** until such measure is well defined in India.

The Office of the United States Trade Representative (USTR)

- It is responsible for **developing** and **coordinating US international trade**.
- The **Section 301** gives the USTR broad authority to investigate and respond to a **foreign country's actions** which may be **unfair or discriminatory** and may negatively affect US commerce.
- Section 301 was adopted through the 1974 Trade Act.
- It **allows** the US President to **impose tariffs** or other curbs on foreign nations. However, the law mandates consultations with trading partners.

Russia to exit Open SKies treaty

International Relations

Why in news?

- Russia has announced that it was pulling out of the Open Skies Treaty, saying that the pact had been seriously compromised by the withdrawal of the United States.

About Open SKies treaty

- First proposed in 1955 by former US President Dwight Eisenhower **as a means to deescalate tensions during the Cold War**.
- The landmark treaty was eventually signed in 1992 between NATO members and former Warsaw Pact countries following the demise of the Soviet Union.

- It went into effect in 2002 and had 35 signatories, including key players US and Russia, along with one non-ratifying member (Kyrgyzstan).
- The OST aims **at building confidence among members through mutual openness, thus reducing the chances of accidental war.**
- Under the treaty, a **member state can "spy" on any part of the host nation, with the latter's consent.**
- A country can undertake aerial imaging over the host state after giving notice 72 hours before, and sharing its exact flight path 24 hours before.
- The **information gathered**, such as on troop movements, military exercises and missile deployments, **has to be shared with all member**
- **Only approved imaging equipment is permitted** on the surveillance flights, and officials from the host state can also stay on board throughout the planned journey.

Why did the US leave the Open Skies Treaty?

- Many in Washington had for over a decade **accused Russia of non-compliance with OST protocols**, blaming Moscow of obstructing surveillance flights on its territory, while misusing its own missions for gathering key tactical data.

Why did Russia leave after the US?

- A contentious issue regarding Russia's compliance with the OST was its alleged **reluctance to allow flights over Kaliningrad**, its exclave in Eastern Europe that sits between NATO allies Lithuania & Poland.
- Russia defended its position by saying that the **restrictions were permissible under treaty rules**, and gave the example of the US imposing similar limits on flights over Alaska.
- After the US left the OST, Russia sought assurances from NATO allies who continued to remain on the treaty that they would not transfer data collected by their flights over Russia to Washington.
- In its statement, Russia said that these requests were not backed by the NATO members, prompting it to leave the treaty.

Significance of the Open Skies Treaty

- The OST was signed in 1992, much before the advent of advanced satellite imaging technology which is currently the preferred mode for intelligence gathering.
- Surveillance aircraft **provide key information** that still cannot be gathered by satellite sensors, such as thermal imaging data.

What happens now that both the US and Russia are out?

- The failure of the Open Skies Treaty follows the demise of another significant arms control accord, the **Intermediate-Range Nuclear Forces (INF) Treaty**, after both the US and Russia left it in 2019.
- The INF Treaty was signed between the United States and the Soviet Union in 1987, in which both powers agreed to **destroy two categories of lethal missile systems** from their own stocks as a means to **decelerate the nuclear arms race.**
- Experts now worry about the fate of the much larger **US-Russia 'New START' nuclear arms control agreement**, which is slated to expire on February 5, 2021.

Palk Bay Conflict

International Relations

Why in the news?

- **Recently, four fishermen from Tamil Nadu died in yet another instance of the unresolved fisheries conflict in the Palk Bay.**

About the recent conflict

- Recently four fishermen from Tamil Nadu died while fishing in **Palk Bay**.
- Tamil Nadu has accused Sri Lankan Navy of that. But, the Sri Lankan navy maintains that they died when their trawler collided with a naval vessel while trying to avoid arrest.

- The timing of the incident signifies the sensitivity of this issue. As recently, after a three-year gap, India-Sri Lanka have resumed their discussion on fisheries through a **Joint working Group (JWG)**.
- In JWG, India demanded the early release of fishermen and the boats in Sri Lankan custody. On the other hand, Sri Lanka demanded to curb illegal fishing by Indian fishermen, which has adversely affected the livelihood of its fishermen.

Why the conflict still lingers on ?

- **Failure in implementing joint working group resolutions:** Earlier both the sides agreed for no violence or loss of life while handling the fishermen. A hotline was **established** between the respective Coast Guards for that. However, the proposed **hotline** has not been operationalized yet.
- **Alternate solutions failed:** The plan to replace Tamil Nadu fishermen trawlers with **deep sea fishing vessels** has not been successful.
- **Failure of Direct talks:** Attempts to negotiate a settlement through direct talks between fishermen from both sides have also failed.
- **Inability to find a common ground:** Sri Lanka favors an immediate **ban on unsustainable fishing practices** such as **bottom trawling**. While Tamil Nadu fishermen want a lengthy **phase-out period for the same**.
- **Insensitivity of Tamil Nadu Political leaders.** Political leaders in Tamil Nadu fail to acknowledge that incursion into Sri Lankan waters by the State's fishermen contribute immensely to the problem.

India's maritime issue with Sri Lanka:

- **Though India has successfully demarcated its maritime boundary with Sri Lanka through 1974 and 1976 agreements, some issues are still there regarding the fishermen and Kachchatheevu island.**
- **Kachchatheevu issue:**
 - As per 1974 Agreement, Kachchatheevu island was given to Sri Lanka and special provisions like pilgrimage rights were included but fishing was not explicitly mentioned.
 - 1 Indian fishermen have claimed their traditional fishing rights in the region which have been denied by the Sri Lankan authorities.
 - 2 In 2014, Tamil Nadu Government pleaded in SC to cancel the ceding of the island to Sri Lanka, Indian government clarified that, island was a disputed territory and therefore was given during the boundary settlement process. (In Berubari Union case it has been decided that settling territorial disputes does not require Parliamentary approval.)
- **Fisherman's issue:**
 - The Sri Lankan Navy started exercising greater control & vigilance over Palk Strait since Tamil Elam war.
 - During the process many times they had fired on Indian fishermen who had strayed into Sri Lankan waters which had infuriated dispute.
 - Along with this the ease of the restriction on Sri Lankan fisherman, use of high end technology by Indian fishermen has complicated the issue.
- **About Palk bay**
 - Palk Bay is a semi-enclosed shallow water body with a water depth maximum of 13m. It is located between the southeast coast of India and Sri Lanka.



India at UNSC expresses serious concern over security

International Relations

Why in the news?

- **India has expressed serious concern over the security situation in the Sahel and Lake Chad region in West Africa, saying that terrorism, drug trafficking and organized crime have continued unabated in the area.**

Details

• Lake Chad

- Lake Chad is located in the Sahelian zone of west-central Africa at the conjunction of Chad, Cameroon, Nigeria, and Niger.
- 1 The freshwater lake is located in the far west of Chad and the northeast of Nigeria. Parts of the lake also extend to Niger and Cameroon.
- 2 It is fed mainly by the Chari River through the Lagone tributary, which used to provide 90 percent of its water.
- 3 It was once Africa's largest water reservoir in the Sahel region, covering an area of about 26,000 square kilometres, about the size of the US state of Maryland and bigger than Israel or Kuwait.

• Sahel

- The Sahel region of Africa is a 3,860-kilometre arc-like land mass lying to the immediate south of the Sahara Desert and stretching east-west across the breadth of the African continent.
- 1 Commonly, the Sahel stretches from Senegal on the Atlantic coast, through parts of Mauritania, Mali, Burkina Faso, Niger, Nigeria, Chad and Sudan to Eritrea on the Red Sea coast.

• Key-highlights

- India condemned terrorist attacks by Boko Haram in Nigeria and Lake Chad region and by Islamic State in West Africa.
- India also called for closer coordination in counter-terrorism cooperation. The international community also needs to develop a coherent, coordinated and cooperative approach to deal with the worrisome humanitarian situation in the Sahel.
- India lauded the positive developments and leadership of the countries of West Africa and Sahel for their commitment to sustainable peace and development, and safeguard fundamental rights.

Iran Steps Up Uranium Enrichment

International Relations

Why in the news?

- Iran has begun enriching uranium up to 20% at an underground facility and seized a South Korean-flagged oil tanker in the crucial Strait of Hormuz, further escalating tensions in West Asia between Tehran and the West.

What is Uranium Enrichment?

• Uranium Enrichment

- Natural uranium consists of nearly 99% U-238 and only around 0.7% of U-235
- U-235 is a fissile material that can sustain a chain reaction in a nuclear reactor.
- Therefore, we need more U-235
- Enrichment process increases the proportion of U-235 through the process of isotope separation (U-238 is separated from U-235). Isotope separation is possible due to the mass difference between U-238 and U-235
- For nuclear weapons, enrichment is required upto 90% or more which is known as Highly Enriched Uranium/weapons-grade uranium
- For nuclear reactors, enrichment is required upto 3-4% which is known as Low Enriched Uranium/reactor-grade uranium

• Concerns of west

- Iran's decision to begin enriching to 20% purity a decade ago nearly triggered an Israeli strike targeting its nuclear facilities, tensions that only abated with the 2015 atomic deal.
- A resumption of 20% enrichment could see that brinkmanship return as that level of purity is only a technical step away from weapons-grade levels of 90%.

Joint Comprehensive Plan of Action (JCPOA)

- JCPOA is also known as the "**Iran deal**" or "Iran nuclear deal".
- The deal was made in July 2015.
- It is an agreement on Iran's nuclear program **made between Iran, the P5+1** (the five permanent members of the United Nations Security Council—China, France, Russia, United Kingdom, United States—plus Germany) **and the European Union**.

- **JCPOA limits Iran's uranium enrichment programme until 2030** and contains monitoring and transparency measures that will remain in place long after that date.
- A few days after the JCPOA was agreed, it was **endorsed by the United Nations Security Council (UNSC)**.
- However, in May 2018, **United States announced its withdrawal from JCPOA**.

Strait of Hormuz

- The Strait of Hormuz is a strait between the Persian Gulf and the Gulf of Oman.
- It provides the only sea passage from the Persian Gulf to the open ocean and is one of the world's most strategically important choke points.
- The waterway separates Iran and Oman, linking the Gulf to the Gulf of Oman and the Arabian Sea.
- The Strait is 21 miles (33 km) wide at its narrowest point, but the shipping lane is just two miles (three km) wide in either direction.



United Kingdom has invited PM Modi to attend the G7 summit

Science and Technology

Why in the news?

- The United Kingdom has invited Prime Minister Narendra Modi to attend the G7 summit. The summit is scheduled to be held in Cornwall from June 11 to 13.

Significance of G7

- **Adding weightage to the profile:** The participation and eventual inclusion of Australia, South Korea, Russia (not favoured by the UK) and India could certainly add more weight to the grouping's profile.
- **Strategic interests:** Diplomatically, a seat at the high table could help New Delhi further its security and foreign policy interests, especially at the nuclear club and UN Security Council reform as well as protecting its interests in the Indian Ocean.

IDEA of D-10

- The United Kingdom is seeking to form a new alliance of 10 5G countries, dubbed as 'D10', to align against China and reduce its reliance on Beijing.
- G7 plus **India, Australia and South Korea** is seen as a gathering of D-10 — 10 leaders who represent over 60% of people living in democracies around the world.

Increasing concerns over China

- Britain's relationship with China has slid to its most confrontational levels in a generation, chiefly because of the national security law Beijing has imposed in Hong Kong and London's decision to ban 5G network services by Huawei Technologies, which it contends is closely linked to the Chinese government.
- Increasing concerns over China's assertive moves in the Indo-Pacific have also resulted in greater diplomatic efforts in the region by the US, Britain and the European Union - with India, Australia and the 10-nation Asean group at the forefront of their focus.

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G7 Countries

- The G7 (or Group of Seven) is an organisation made up of the world's seven largest so-called advanced economies: **Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.**
- Together, the G7 countries represent 40% of global GDP and 10% of the world's population.
- It was for a while, known as the G8 as it also included Russia, but after their 2014 annexation of Crimea, they were booted out of the summit, reducing it to the G7.
- The group regards itself as "a community of values", with freedom and human rights, democracy and the rule of law, and prosperity and sustainable development as its key principles.

G-7 and G-20

- The G-20 is a larger group of countries, which also includes G7 members.
- The G-20 was formed in 1999, in response to a felt need to bring more countries on board to address global economic concerns.
- Apart from the G-7 countries, the G-20 comprises **Argentina, Australia, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea,** and
- Together, the G-20 countries make up around 80% of the world's economy.
- As opposed to the G-7, which discusses a broad range of issues, deliberations at the G-20 are confined to those concerning the global economy and financial markets. India is slated to host a G-20 summit in 2022.

India in Gavi Board

International Relations

Why in news?

- **Union Minister of Health and Family Welfare has been nominated by the Global Alliance for Vaccines and Immunization (GAVI) as a member on the GAVI Board.**

About:

- The GAVI Alliance is a global health partnership of public and private sector organizations dedicated to "immunization for all".
- **GAVI and the WHO:** GAVI has observer status at the World Health Assembly of the World Health Organisation.
- **The functions of the Board:** The GAVI Board is responsible for strategic direction and policy-making, oversees the operations of the Vaccine Alliance and monitors program implementation.
- **Members:** Membership includes developing country and donor governments, the World Health Organization, UNICEF, the World Bank, the vaccine industry in both industrialized and developing countries, research and technical agencies, civil society organizations, the Bill & Melinda Gates Foundation, and other private donors.



Functions:

- Gavi supports vaccine programs in developing countries.
- Vaccine program includes Rotavirus vaccine, Polio Vaccine, Ebola vaccine, etc.
- **Involvement in Covid-19 Pandemic:** GAVI is one of the organizations leading the COVAX vaccine allocation plan, Gavi would ensure that any new COVID-19 vaccine would be shared equally between the world's richest and poorest countries.
- GAVI program can often produce quantified, politically appealing, easy-to-explain results within an election cycle, which is appealing to parties locked in an election cycle.

India Mongolia Relationship

International Relations

Why in news?

- India is supporting establishment of Mongolia's first petrochemical refinery. The GoI would establish required infrastructure and develop capacity of Mongolian workers to facilitate the project.
- India is looking forward to Mongolian companies for supplying coking coal to the Indian steel industry.

Significance of India-Mongolia relations

- **Strategic angle:** It is said that Mongolia is to China what Nepal is to India. Northern neighbor trying to break free of perceived big brother south of it. Presently, when China is making inroads to Nepal, New Delhi can utilize Mongolia for containing China's aggressive stance.
- **Mineral resource:** Mongolia has vast untapped mineral resources including uranium, copper, coal, molybdenum, tin, tungsten, and gold.
- **Geo-political:** India established diplomatic relations with Mongolia in 1955. Mongolia and Bhutan co-sponsored UN Resolution for the recognition of Bangladesh as an independent country in 1972. In 2015, the prime Minister of India visited Mongolia for the first time and the bilateral relation had been upgraded to 'Strategic Status'.
- **Defence:** India-Mongolia Joint Working Group for Defense cooperation meets annually. Joint India-Mongolia military exercise 'Nomadic Elephant' is held annually.
- **Trade:** Bilateral trade is modest in value and volumes. In 2016, bilateral trade amounted to 25 million US dollars. Both countries have provided 'Most Favored Nation (MFN) status' to each other.
- **Energy Cooperation:** At present, the focus is on Nuclear energy and solar energy.
- **Cultural cooperation:** Several festivals have been organized in both Mongolia and in India to improve people to people ties and cultural understanding. Hindi films are fairly popular in Mongolia. The serial Mahabharata, dubbed in Mongolian, has been telecast on Ulaanbaatar TV.
- **Diaspora:** Indian diaspora in Mongolia is small in size, numbering about 250-300 according to Mongolian Immigration figures. Most Indians are either employed in the organized sector or are self-employed. There is a small number of Persons of Indian Origin (PIO).

Ignite IAS

FSSAI slashes limit for Trans Fats level in food

Science & Technology

Why in the news?

- The Food Safety and Standards Authority of India (FSSAI) has capped the amount of trans fatty acids (TFA) in oils and fats to 3% for 2021 and 2% by 2022 from the current permissible limit of 5%.

New FSSAI norms

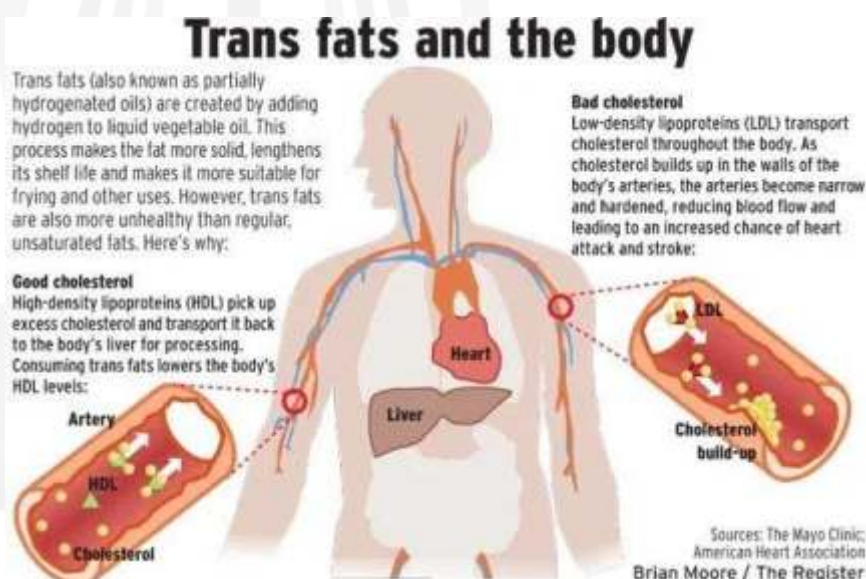
- FSSAI has brought this change through an amendment to the Food Safety and Standards (Prohibition and Restriction on Sales) Regulations, 2011.
- The regulation comes into effect immediately and applies to:
 - Edible refined oils, vanaspati (partially hydrogenated oils), margarine, bakery shortenings, and other mediums of cooking such as vegetable fat spreads and mixed fat spreads.
- The FSSAI rule comes at the time of a Covid-19 pandemic where the burden of non-communicable diseases (NCD) has risen.
- In 2018, industry players were asked to comply with the World Health Organisation's (WHO) call for action to reduce TFA by 3% by 2021, allowing them three years to comply with the latest regulation.
- WHO has recommended limiting trans fat to less than 1% of total energy intake. It has called for the total elimination of TFAs in the global food supply by 2023.

What are Trans Fats?

- These are unsaturated types of fats which have adverse effects on our body. These fats are largely produced artificially but a small amount also occurs naturally.

Types of Trans fats:

- Naturally-occurring trans fats** are produced in the gut of some animals and foods made from these animals (e.g., milk and meat products) may contain small quantities of these fats.
- Artificial trans fats** are created in an industrial process that adds hydrogen to liquid vegetable oils to make them more solid. Since they are easy to use, inexpensive to produce and last a long time, and give foods a desirable taste and texture, they are still widely used despite their harmful effects being well-known.



Health Hazards related to Trans-Fat:

- It poses a **higher risk of heart disease than saturated fats** and death from **coronary heart disease**.
- 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 against heart disease.
- These are also associated with a higher risk of developing **obesity, type 2 diabetes, metabolic syndrome, insulin resistance, infertility**, certain types of cancers and can also lead to compromised foetal development.
- Cardiovascular diseases along with diabetes are proving **fatal for Covid-19 patients**.
- As per the WHO, approximately **5.4 lakh deaths take place each year** globally because of intake of industrially produced TFAs.

Global Efforts to Reduce TFA Consumption:

- **REPLACE trans fat:** This initiative by WHO provides a strategic approach to eliminating industrially-produced trans fat from national food supplies, with the **goal of global elimination by 2023**. The **six areas of action** include:
 - Review dietary sources of industrially-produced trans fat and the landscape for required policy change.
 - Promote the replacement of industrially-produced trans fat with healthier fats and oils.
 - Legislate or enact regulatory actions to eliminate industrially-produced trans fat.
 - Assess and monitor trans-fat content in the food supply and changes in trans fat consumption in the population.
 - Create awareness of the negative health impact of trans fat among policy-makers, producers, suppliers, and the public.
 - Enforce compliance with policies and regulations.
- Around 60 countries have **introduced laws to protect people from TFAs by the end of 2021** however, more than 100 countries still need to take actions regarding this.
- **Canada, Latvia, Slovenia and the USA**, which account for two-thirds of the deaths by TFAs, **established mandatory limits for trans-fats to 2%** of oils and fats in all foods or by banning partially hydrogenated oils.
- The WHO **pointed out significant disparities in action taken**, despite the progress made. Most policy actions were only in higher-income countries and in the **WHO regions of the Americas and Europe**.
- **None of the low-income or lower-middle-income countries has yet implemented** best-practice policies.

Indian Measures to Reduce TFAs:

- FSSAI launched two initiatives for reducing consumption of TFAs viz. **Eat Right Movement** and **Heart Attack Rewind mass media campaign**.
- **Eat Right Movement:** Launched in 2018, the programme is built on two broad pillars of 'Eat Healthy' and 'Eat Safe'. It aims to cut down on salt, sugar and oil consumption by 30% in three years.
- **Heart Attack Rewind:** It is a 30-second public service announcement which was broadcasted in 17 languages on social media platforms. The objective of the campaign was to warn citizens about the health hazards of consuming trans fats and offer strategies to avoid them through healthier alternatives.
- Swastha Bharat Yatra, a Pan-India cyclothon, was launched under the Eat Right Movement to **aware the citizens on issues of food safety, combating food adulteration and healthy diets**.
- Health experts have held that the **regulations must not be restricted to oils and fats, but must apply to all foods**.

40th Indian Scientific Expedition to Antarctica

Science & Technology

Why in the news?

- Recently, India has launched the **40th scientific expedition to Antarctica**, which marks four decades of the country's scientific endeavour to the southern white continent.

Objective:

- The **chartered ice-class vessel MV Vasily Golovnin** will start this journey **from Goa on 5th January 2021** with 43 members on board and will reach Antarctica in 30 days.
- It **aims to support the ongoing scientific projects** on climate change, geology, ocean observations, electric and magnetic flux measurements, environmental monitoring, resupplying of food, fuel, provisions and spare and accomplishing the return of the winter crew.
- The **scientific and logistic activities of this expedition are limited** due to the existing challenges associated with **Covid-19 pandemic**.
- The expedition will duly follow all protocols for the deployment of men and material as per the **Council of Managers of National Antarctic Programs (COMNAP)**.
- Formed in **1988**, COMNAP is the **international association** which brings together its members, who are the **national antarctic programmes of various countries**.

- Extra precautions of sanitizing the cargo, mandatory fourteen days of quarantine (pre-, and post-expedition), and RT-PCR testing before boarding the ice-class vessel is also being conducted.

India in Antarctica:

- India began its Antarctic expeditions in 1981 and the first team to the continent comprised of a team of 21 scientists as well as the support staff led by Dr. SZ Qasim.
- The Antarctic Program of India has known to have built 3 permanent research base stations in the continent- Maitri, Dakshin Gangotri, and Bharati.
- India, as of today, has two operational stations in Antarctica names Bharati and Maitri.
- The National Centre for Polar and Ocean Research-NCPOR in Goa manages the entire Indian Antarctic Program.
- The 39th expedition to the continent was launched in 2019 and after completing its mission, it returned to India in May 2020.

Council of Managers of National Antarctic Programs(COMNAP):

- It is an international association formed in 1988, which brings together the National Antarctic Programs.
- **National Antarctic Programs** are those organizations that have responsibility for delivering and supporting scientific research in the Antarctic Treaty Area on behalf of their governments.
- **Primary Function:** To exchange practical, operational information to help all National Programs fulfil their various missions, together or independently.
- **Secretariat:** Christchurch, New Zealand.

National Centre for Polar and Ocean Research(NCPOR):

- **Former Name:** It was formerly known as the National Centre for Antarctic and Ocean Research(NCAOR).
- **Ministry:** It is an autonomous Institution of the Department of Ocean Development (DOD), Ministry of Earth Sciences.
- **Purpose:** It is responsible for administering the Indian Antarctic Programme and maintains the Indian government's Antarctic research stations, Bharati and Maitri.
- **Situated in:** Goa

Vanadium reserves in India

Science & Technology

Why in the news?

- Geological Survey of India (GSI) has placed Arunachal Pradesh on the vanadium map of the country

About vanadium

- Vanadium in its pure form is a **soft, grey and ductile element** primarily **derived from mined iron ore, carbonaceous shale or phyllites and steel slag**.
- It **rarely exists as a free element in nature** but can be **found in about 65 different minerals**, including magnetite, vanadinite, carnotite and patronite.
- It is recovered as a **by-product** from the slag collected from the **processing of vanadiferous magnetite ores** (iron ore).

Demand and Consumption:

- The **global demand for vanadium has been rising** but there was a **deficit of 17,300 metric tonnes** between demand and supply in **2017**.
- According to the 2018 database of the **Indian Bureau of Mines (IBM)**, the total estimated reserves or resources of vanadium ore is 24.63 million tonnes, with an estimated **vanadium pentoxide (V₂O₅)** content of 64,594 tonnes.
- Established in **1948**, IBM is a **multi-disciplinary government organisation under the Department of Mines**, Ministry of Mines, engaged in **promotion of conservation, scientific development of mineral resources and protection of environment** in mines other than coal, petroleum and natural gas, atomic minerals and minor minerals.

- **India is a significant consumer of vanadium but is not a primary producer.**
- India consumed 4% of about 84,000 metric tonnes of vanadium produced across the globe in 2017.
- The **largest deposits** are in **China**, followed by **Russia and South Africa**.
- **China**, which **produces 57%** of the world's vanadium, **consumed 44%** of the metal.

GSI Findings

- It has found promising concentrations of vanadium in the **palaeo-proterozoic carbonaceous phyllite rocks** in the **Depo and Tamang areas** of Arunachal Pradesh's Papum Pare district.
 - This was the **first report of a primary deposit of vanadium in India** with an average grade of 0.76% V₂O₅.
- Geologists discovered two bands of about 7-metre thick **carbonaceous phyllite** for a length of more than 6 km in the **Depo area**. This prompted the GSI to extend its search to other areas of the State.
- **Good prospects of vanadium** for a cumulative length of 15.5 km and an average thickness of 7m were found **in the Deed, Saiya and Phop areas of Lower Subansiri district**.

Significance of the Findings:

- Arunachal Pradesh is **considered a sleeping hydropower giant** and it **could be India's prime producer of vanadium** and could **help boost the local and national economy**.
- The expected grade of vanadium mineralisation in Arunachal Pradesh is **comparable to the important vanadium deposits of the world**.
- It is **geologically similar to the "stone coal" vanadium deposits of China** hosted in carbonaceous shale.
- This high vanadium content is **associated with graphite with a fixed carbon content of up to 16%**.

Status of Vanadium in India

- India is a significant consumer of vanadium but is not a primary producer of the strategic metal.
- It is recovered as a by-product from the slag collected from the processing of vanadiferous magnetite ores (iron ore)
- As per GSI data, India consumed 4% of about 84,000 metric tonnes of vanadium produced across the globe in 2017. China, which produces 57% of the world's vanadium, consumed 44% of the metal.
- According to the Indian Bureau of Mines (2018 database), the total estimated reserves or resources of vanadium ore is 24.63 million tonnes, with an estimated V₂O₅ content of 64,594 tonnes.

Usage of Vanadium

- It is mainly used to produce specialty steel alloys such as high-speed tool steels, and some aluminium alloys.
- The most important industrial vanadium compound, vanadium pentoxide, is used as a catalyst for the production of sulfuric acid.
- The vanadium redox battery for energy storage may be an important application in the future.
- Vanadium alloys are durable in extreme temperature and environments, and are corrosion-resistant. Its addition improves the tensile strength of steel and of reinforcing bars used for buildings, tunnels and bridges.
- Apart from increasing fuel-efficiency in automotive and aviation industries due to its high strength-to-weight ratio, the metal forms the integral part of vanadium redox batteries that have the least ecological impact in energy storage.

Indian SARS-CoV-2 Genomics Consortium (INSACOG)

Science & Technology

Why in the news?

- Indian SARS-CoV-2 Genomics Consortium (INSACOG) has been launched recently. It was launched in the backdrop of the emergence of a newly identified variant of the novel SARS-CoV-2 Virus in the UK, South Africa and some other parts of the world, the Government has taken action to accelerate Virus Surveillance, Genome Sequencing and Characterization.

About Indian SARS-CoV-2 Genomic Consortia (INSACOG)

- The Indian SARS-CoV-2 Genomic Consortia (INSACOG) has been launched.
- Coordinated by the Department of Biotechnology (DBT) along with MoH & FW, ICMR, and CSIR, the strategy and roadmap of the National SARS CoV2 Genome Sequencing Consortium (INSACOG) has been prepared.
- The overall aim of the proposed Indian SARS-CoV-2 Genomics Consortium is to monitor the genomic variations in the SARS-CoV-2 on a regular basis through a multi-laboratory network.
- This vital research consortium will also assist in developing potential vaccines in the future.
- The consortium will ascertain the status of new variant of SARS-CoV-2 (SARS-CoV-2 VUI 202012/01) in the country, establish sentinel surveillance for early detection of genomic variants with public health implication, and determine the genomic variants in the unusual events/trends (super-spreader events, high mortality/morbidity trend areas etc.).
- INSACOG is a consortium of 10 labs namely DBT-NIBMG Kalyani, DBT-ILS Bhubaneswar, ICMR-NIV Pune, DBT-NCCS Pune, CSIR-CCMB Hyderabad, DBT-CDFD Hyderabad, DBT-InSTEM/ NCBS Bengaluru, NIMHANS Bengaluru, CSIR-IGIB Delhi, and NCDC Delhi.
- INSACOG will have a high level Inter-Ministerial Steering Committee which will provide guidance and oversight to the consortium specially for policy matters and it will have a Scientific Advisory Group for scientific and technical guidance.
- The Indian SARS-CoV-2 Genomics Consortium (INSACOG) will monitor the genomic variations on a regular basis through the multi-laboratory network.
- Knowledge generated through this vital research consortium will also assist in developing diagnostics and potential therapeutics and vaccines in the future.

National Informatics Centre Services Incorporated (NICSI)

Science & Technology

Why in the news?

- Recently National Informatics Centre Services Incorporated celebrated 25 years of its establishment. During the event, Union Electronics Minister launched TEJAS, e-Auction India etc

About National Informatics Centre Services Incorporated

- National Informatics Centre Services Incorporated (NICSI), a Public Sector Enterprise under National Informatics Centre (NIC), Ministry of Electronics & Information Technology (MeitY)
- Providing end-to-end IT solutions for e-governance projects for Central and State Governments and other PSUs across India, NICSI extends its services to the International level too in certain projects.
- With a footprint in majority of eGov projects, NICSI is successfully sustaining and progressing forward in its vision and mission in suffice to the socio-economic development.
- Core services of NICSI include, IT Consultancy, Centre of Excellence for Data Analytics, Productization & International Promotion, Cloud Services, ICT product installations, Human Resource/Roll out/Training. Some of its key offerings extends to eOffice, eTransport, eHospital, ePrisons, eCourts
- During the event, Union Minister Shri Ravi Shankar Prasad launched: TEJAS – A Visual Intelligence Tool, e-Auction India, Work from Anywhere, NIC Products Portfolio and rolled out the Silver Jubilee e-Brochure of NICSI:

TEJAS – The visual intelligence tool, through the collaborative effort of NIC and NICSI (CEDA), is completely developed in-house using open source technologies and bringing together the best features comparable to market leading BI tools.

The tool would be primarily used by Government Departments at various levels in the centre and state.

It will provide State-of-the-art and powerful data analysis for officials to design analytical reports and turn data into accurate analysis and smart visualizations.

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- **e-Auction India** –It caters to the electronic forward and reverse auction requirements of the Government departments and organizations. It aims at transparency and non-discrimination amongst bidders, by allowing free access to auction documents, clarifications, online submission of quotes from any place on 24×7 basis, in a secured environment, adopting industry standard open technologies.
- **Work from AnyWhere Portal** – WAW (Work from AnyWhere) Portal will ease and enhance accessibility of key applications to the Government employees. WAW portal is built upon core workplace experience and creates a highly extensible environment for users to dynamically adapt to changing needs. The virtual work environment, provisioned by WAW portal, will empower employees with all the key resources enabling them to access organizations' applications and data and communicate with fellow officials. With the following objectives to achieve, WAW portal will facilitate quick transition to remote workplace environment, while maintaining secured access to departmental applications.
- **NIC Products Portfolio**- for International Offering to augment Digital India branding through promotion of productized software applications at global level. Product Offerings include:
 - i) eOffice – A Digital workplace solution; ii) GePNIC – Government eProcurement System; iii) Service Plus – An integrated eService Delivery Framework; iv) e-Hospital – Simplifying Healthcare Service Delivery; v) BhuNaksha – A Solution for Cadastral Mapping; vi) ePrisons – IT Solution for Prison Management; vii) eCourts –A Justice Delivery System; viii) Darpan –Government Dashboard Platform.

Immunization Agenda 2030

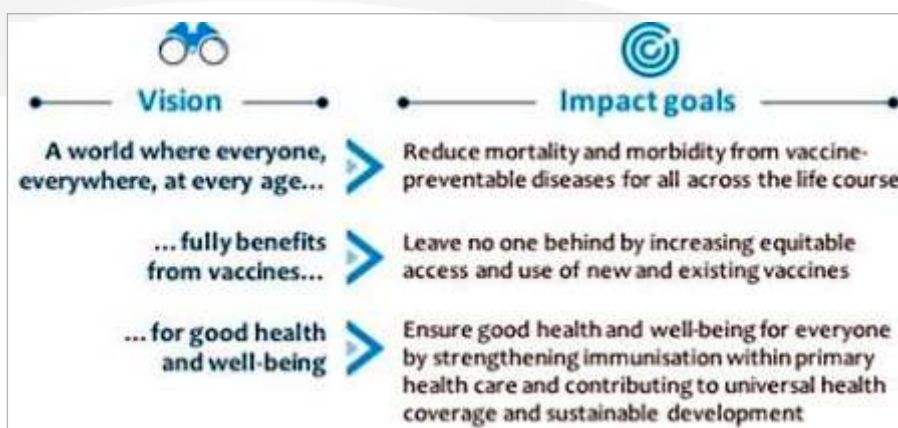
Science & Technology

Why in the news?

- While chairing the 148th session of WHO Executive Board Dr. Harsh Vardhan said that the Executive Board welcomed the Immunization Agenda 2030 and unanimously recognized the central role played by immunization programmes in safeguarding public health globally.

About the Immunization Agenda 2030

- The Immunization Agenda 2030 (IA2030) sets an ambitious, overarching global vision and strategy for vaccines and immunization for the decade 2021–2030.
- It draws on lessons learnt, acknowledges continuing and new challenges posed by infectious diseases and capitalizes on new opportunities to meet those challenges.
- IA2030 positions immunization as a key contributor to people's fundamental right to the enjoyment of the highest attainable physical and mental health and also as an investment in the future, creating a healthier, safer, more prosperous world for all.
- IA2030 aims to ensure that we maintain the hard-won gains and also that we achieve more – leaving no one behind, in any situation or at any stage of life.
- IA2030 is intended to inspire and align the activities of community, national, regional and global stakeholders – national governments, regional bodies, global agencies, development partners, health care professionals, academic and research institutions, vaccine developers and manufacturers, the private sector and civil society.
- Its impact will be maximized by more effective and efficient use of resources, innovation to improve performance and measures to attain financial and programmatic sustainability.
- Success will depend on building and strengthening partnerships within and outside the health sector as part of a coordinated effort to improve access to high quality, affordable primary health care, achieve universal health coverage and accelerate progress towards the 2030 Sustainable Development Goals (SDGs).



- IA2030 provides a long-term strategic framework to guide a dynamic operational phase, responding to changes in country needs and the global context over the next decade.
- The IA2030 global vision and strategy will be complemented by annexes providing detailed technical information on the strategic framework, together with new and existing strategies and immunization plans, including those for disease specific programmes to control, eliminate or eradicate disease.
- IA2030 will become operational through regional and national strategies, a mechanism to ensure ownership and accountability and a monitoring and evaluation framework to guide country implementation.

Strategic priorities

- IA2030 has been developed through a "bottom-up" co-creation process, with close engagement of countries to ensure that the vision, strategic priorities and goals are aligned with country needs.
- As an adaptive and flexible strategy, the IA2030 framework is designed to be tailored by countries to their local context, and to be revised throughout the decade as new needs and challenges emerge.
- IA2030 strategic priorities will be further refined in the monitoring and evaluation framework and will include indicators, targets and methods for tracking progress.
- IA2030 goals are designed to inspire action for implementation. For countries, this could mean setting country-specific targets and milestones for the decade toward those goals.
- For regions, this could mean contextualising global goals and setting specific targets and milestones in Regional Vaccination Action Plans.
- For partner organisations, this could mean aligning organisational strategies and indicators to support the attainment of IA2030 goals.



Core principles

- The IA 2030 strategy—to extend the benefits of vaccines to everyone, everywhere—is underpinned by four core principles: it puts people in the center, is led by countries, implemented through broad partnerships, and driven by data. The IA2030 strategy systematically applies the core principles across each of the strategic priorities.

Million Minds Augmenting National Aspirations and Knowledge (MANAK)

Science & Technology

Why in the news?

- **MANAK** is the award given under 'Innovation in Science Pursuit for Inspired Research' (INSPIRE) scheme which is one of the flagship programmes of Department of Science & Technology (DST), Government of India. The INSPIRE Awards – MANAK (Million Minds Augmenting National Aspirations and Knowledge), being executed by DST with National Innovation Foundation – India (NIF), an autonomous body of DST 2017. It emphasises on the power of ideas in young minds to create a pipeline of innovative students who can recognise problems and find solutions to them.

Aim and objectives

- It aims to motivate students in the age group of 10-15 years and studying in classes 6 to 10. The objective of the scheme is to target one million original ideas/innovations rooted in science and societal applications to foster a culture of creativity and innovative thinking among school children.

How does the scheme work?

- **This scheme is being operationalised as per the following steps:**
- Awareness and capacity building of District, State and School level functionaries across the country through regional workshops, audio-visual tools and literature.
- Organising internal idea competitions in schools and nominations of two to three best original ideas, in any Indian language, by the respective Principal/Headmaster online through E-MIAS (E-Management of INSPIRE Awards MANAK Scheme) portal. The schools should register themselves on E-MIAS portal. Shortlisting of top 1,00,000 (one lakh) ideas, with potential to address societal needs through Science & Technology by NIF.
- Disbursement of INSPIRE Award of INR 10,000 into the bank accounts of short-listed students through Direct Benefit Transfer (DBT) scheme.
- Organisation of District Level Exhibition and Project Competition (DLEPC) by District/State authorities and shortlisting of 10,000 best ideas/innovations for State Level Exhibition and Project Competitions (SLEPC).
- Organisation of State Level Exhibition & Project Competition (SLEPC) for further shortlisting of top 1,000 ideas/innovations for the National Level Exhibition and Project Competition (NLEPC). At this stage, NIF will provide mentoring support to students for development of prototypes, in coordination with reputed academic and technology institutions of the country.
- Selection of ideas/innovations will be based on novelty, social applicability, environment friendliness, user friendliness and comparative advantage over the existing similar technologies.
- Showcasing 1,000 best ideas/innovations at the National Level Exhibition & Project Competition (NLEPC) and shortlisting of top 60 innovations for national awards and future direction.
- Consideration of top 60 ideas/innovations by NIF for product/process development and their linkage with other schemes of NIF/DST and their display at the Annual Festival of Innovation & Entrepreneurship (FINE).

About the Innovation of Science Pursuit for Inspire Research (INSPIRE) scheme

- INSPIRE is one such innovative scheme proposed by the Department of Science & Technology for attraction of talent to science.
- The basic objective of INSPIRE would be to communicate to the youth population of the country the excitements of creative pursuit of science and attract talent to the study of science at an early stage and build the required critical human resource pool for strengthening and expanding the Science & Technology system and R&D base.

INSPIRE Scheme has included three programs and five components. They are

- Scheme for Early Attraction of Talents for Science (SEATS)
- Scholarship for Higher Education (SHE) and
- Assured Opportunity for Research Careers (AORC).
- The schematic diagram of the programme is shown below
- Government of India approved this Scheme in November 2008 at a total cost of Rs 1979.25 crores in the 11th Plan Period and Hon'ble Prime Minister launched the Program on 13th December 2008

The National Innovation Foundation (NIF) – India

- The National Innovation Foundation (NIF) – India was set up in March 2000 with the assistance of Department of Science and Technology, Government of India.
- It is an autonomous body of the Department of Science and Technology (DST),
- It is India's national initiative to strengthen the grassroots technological innovations and outstanding traditional knowledge with a mission to help India become a creative and knowledge-based society by expanding policy and institutional space for grassroots technological innovators
- Its mission is to help India become a creative and knowledge-based society by expanding policy and institutional space for grassroots technological innovators.

- NIF scouts, supports and spawns' grassroots innovations developed by individuals and local communities in any technological field, helping in human survival without any help from formal sector.
- It also tries to ensure that such innovations diffuse widely through commercial and/or non-commercial channels, generating material or non-material incentives for them and others involved in the value chain.
- The common people from all parts of the country are regularly sharing their ideas, innovations and traditional knowledge with NIF.

NIXI-The National Internet Exchange of India

Science & Technology

Why in news?

- Recently, the **National Internet Exchange of India (NIXI)** announced that it will offer a **free IDN (Internationalized Domain Name)** in any of their preferred 22 official Indian language.

About National Internet Exchange of India (NIXI)

- It is a **not for profit Organization** under section 8 of the Companies Act 2013.
- It was set up for **peering of ISPs among themselves** for the purpose of **routing the domestic traffic** within the country.
- It is working since 2003 for **spreading the internet technology** to the citizens of India through the following activities:
 - **Internet Exchanges** through which the internet data is exchanged amongst ISPs and between ISPs and CDNs.
 - **IN Registry**, managing and operation of IN country code domain and □□□□ IDN domain for India.
 - **IRINN**, managing and operating Internet protocol (IPv4/IPv6).
- The **Main Objects to be pursued** by the Company on its incorporation are:
 - To Promote Internet.
 - To set up, when needed, in select location(s)/parts/regions of India Internet Exchanges/Peering Points.
 - To enable effective and efficient routing, peering, transit and exchange of the Internet traffic within India.
 - To continuously work for enhancing and improving the quality of Internet and Broadband services.
 - Set up Internet Domain Name Operations and related activities.

Nanobodies

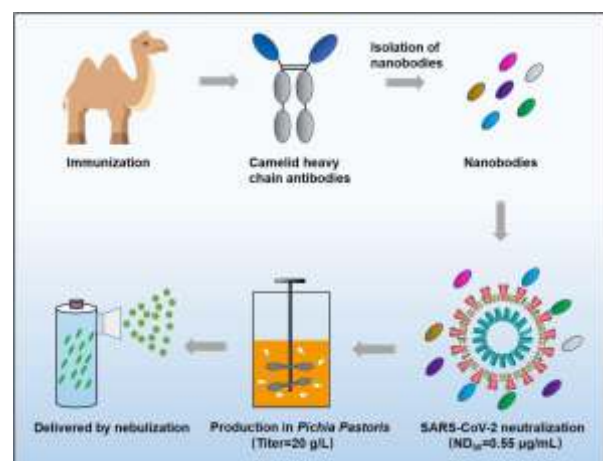
Science & Technology

- Recently, an **international research team led by the University of Bonn** (Germany) has identified and further developed **nanobodies** (novel antibody fragments) **against SARS-CoV-2**.

Main Points

• About the Research:

- Researchers injected a **surface protein of the coronavirus into an alpaca and a llama** and their **immune system produced mainly antibodies** directed against this virus.
- In addition to complex normal antibodies, they **also produce a simpler antibody variant that can serve as the basis for nanobodies**.
- After a few weeks, scientists **extracted the genetic information** of produced antibodies, which contained **millions of different construction plans**.
- Ultimately, they **extracted the nanobodies which recognise the spike protein**, an important structure on the surface of the coronavirus.



- **Antibodies:**

- These are an **important weapon in the immune system's defence against infections.**
- They **bind to the surface structures of bacteria or viruses** and **prevent their replication.**

- **Usage:**

- In order to fight a disease, **effective antibodies are produced in large quantities** and **injected into patients.**
- However, producing antibodies is **difficult and time-consuming**, hence they are probably **not suitable for widespread use.**

- **Nanobodies:**

- Nanobodies are **antibody fragments that are so simple** that they can be **produced by bacteria or yeast**, which is **less expensive.**
- These are **much smaller than classic antibodies** and therefore, **penetrate the tissue better** and can be **produced more easily in larger quantities.**
- The researchers have also **combined them into potentially particularly effective molecules**, which **attack different parts of the virus simultaneously.**
- Nanobodies also appear to **trigger this structural change before the virus encounters its target cell**, which is an **unexpected and novel mode of action.**
- The change is **likely to be irreversible** and the **virus is therefore no longer able to bind to host cells and infect them.**
- The new approach could **prevent the pathogen from evading the active agent through mutations**

National Science Technology and Innovation Policy (STIP 2020)

Science & Technology

Why in news?

- The **Office of the Principal Scientific Adviser** to the Government of India (Office of PSA) and the **Department of Science and Technology (DST)** have jointly initiated a decentralized, bottom-up, and inclusive process for the formulation of a new '**national Science Technology and Innovation Policy (STIP 2020)**'.

About S&T Policy

- The fifth S&T policy of India is being formulated at a crucial juncture when India and the world are tackling the COVID-19 pandemic.
- This is only the latest among the many important changes in the past decade that have necessitated formulation of a new outlook and strategy for Science, Technology, and Innovation (STI).
- As the crisis changes the world, the new policy with its decentralized manner of formation will reorient STI in terms of priorities, sectoral focus, the way research is done, and technologies are developed and deployed for larger socio-economic welfare.
- The STI Policy for the new India will also integrate the lessons of COVID-19 including building of an Atmanirbhar Bharat (self-reliance) through ST&I by leveraging our strengths in R&D, Design, S&T workforce and institutions, huge markets, demographic dividend, diversity and data.

The formulation process

- The STIP 2020 formulation process will be six-months long.
- It is organised into 4 highly interlinked tracks, which will reach out to around 15000 stakeholders for consultation in the policy formulation.
- **Track I** involves an extensive public and expert consultation process through Science Policy Forum- a dedicated platform for soliciting inputs from larger public and expert pool during and after the policy drafting process.
- **Track II** comprises experts-driven thematic consultations to feed evidence-informed recommendations into the policy drafting process. Twenty-one (21) focused thematic groups have been constituted for this purpose.
- **Track III** involves consultations with Ministries and States
- **Track IV** constitutes apex level multi-stakeholder consultation

Office of the Principal Scientific Adviser

- India has had a Principal Scientific Adviser (PSA) since 1999.
- A. P. J. Abdul Kalam was the first PSA from 1999–2001
- R. Chidambaram succeeded Dr. Kalam and was the PSA from 2001-2018.
- Professor K. Vijay Raghavan succeeded Dr. Chidambaram on April 3, 2018 and is the current PSA.
- The Office aims to help enable and empower all spheres of science and technology so that the execution of programmes is effective for society and the economy.

Department of Science and Technology (DST)

- Department of Science & Technology (DST) was established in May 1971.
- The organisation aims to promote new areas of Science & Technology and to play the role of a nodal department for organising, coordinating and promoting S&T activities in the country.

National Mission on Quantum Technology and Applications**Science & Technology****Why in news?**

- A Detailed Project Report on National Mission on Quantum Technology and Applications (NMQTA) was made by a team put together by Technology Information, Forecasting and Assessment Council (TIFAC), an autonomous body under Department of Science and Technology (DST), GoI.

What is Quantum Mechanics?

- It is a fundamental theory in physics which describes nature at the smallest – including atomic and subatomic – scales.
- At the scale of atoms and electrons, many of the equations of classical mechanics, which describe how things move at everyday sizes and speeds, cease to be useful.
- In classical mechanics, objects exist in a specific place at a specific time.
- However, in quantum mechanics, objects instead exist in a haze of probability; they have a certain chance of being at point A, another chance of being at point B and so on.

National Mission for Quantum Technologies and Applications:

- **Part of PM-STIAC:** It is one of the nine missions of national importance, driven by the Prime Minister's Science and Technology Innovation Advisory Council (PM-STIAC) through the (Principal Scientific Advisor) PSA's office to leverage cutting edge scientific research for India's sustainable development.
- **Aim:** To harness the potential of QTA and keep India in the league with the nation's leading in the domain and have a detailed work-plan that comprehensively addresses all sectors and involves all stakeholders.
- **Focus areas:** Apart from fundamental science, technology platforms will be developed in
 - Quantum Computing & Simulations
 - Quantum Materials & Devices
 - Quantum Communications
 - Quantum Sensor & Metrology
- **Funding:** Union Budget 2020-21 set aside Rs. 8000 Cr for the Mission for a period of 5 years.
- **Why is it needed?** Emerging and disruptive quantum technologies will change entire paradigm of computation, communication and encryption. Government and the industry must invest in these technologies to secure communications, financial transactions, remain competitive, drive societal

Recent applications

- Recently, DRDO has successfully demonstrated communication between its two labs using Quantum Key Distribution (QKD) technology.
- In June 2020, China demonstrated quantum communication technology using the satellite Micius, by conducting a secret conference between two ground stations about 1,120 km apart.
- They used the satellite not to transmit the entire communication, but to simultaneously send a pair of secret keys to the two ground stations.
- Other potential applications include secure communication, fast computers that established quantum supremacy, sensors and quantum-inspired devices.

- **PM-STIAC** It is an overarching council that facilitates the Principal Scientific Advisor's Office to assess the status in specific science and technology domains, comprehend challenges, formulate interventions, develop a futuristic roadmap and advise the Prime Minister accordingly.
- There are nine missions under PM-STIAC which are following

Mission1: Natural Language Translation Mission3: Artificial Intelligence Mission5: Electric Vehicles Mission 7: Waste To Wealth Mission9: AGNIi	Mission2: Quantum Frontier Mission4: National Biodiversity Mission Mission6: Bioscience for Human Health Mission8: Deep Ocean Exploration
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Ultra-high Mobility Electron Gas

Science & Technology

Why in news?

- Scientists have produced **electron gas with ultra-high mobility**, which can **speed up transfer of quantum information and signal from one part of a device to another and increase data storage and memory**.

About the electron gas

- Ultra-high mobility electron gas can **increase information transfer speed & data storage density in quantum devices**.
- The need for attaining new functionalities in modern electronic devices has led to the manipulation of property of an electron called spin degree of freedom along with its charge.
- This has given rise to an altogether new field of spin-electronics or '**spintronics**'.
- It has been realized that a phenomenon called the '**Rashba effect**', which consists of splitting of spin-bands in an electronic system, might play a key role in spintronic devices.
- The Rashba effect, also called Bychkov–Rashba effect, is a **momentum-dependent splitting of spin bands in bulk crystals and low-dimensional condensed matter systems** (such as heterostructures and surface states) similar to the splitting of particles and anti-particles in the Dirac Hamiltonian.
- In the ultra-high mobility 2d-electron gas (2DEG) due to the high mobility of the electron gas, **electrons do not collide inside the medium** for a long distance and hence **do not lose the memory and information**.
- Hence, such a system can easily remember and transfer its memory for a long time and distance.
- In addition, since they collide less during their flow, **their resistance is very low**, and hence they don't dissipate energy as heat.
- So, such **devices do not heat up easily and need less input energy to operate**.

BIRD FLU outbreak

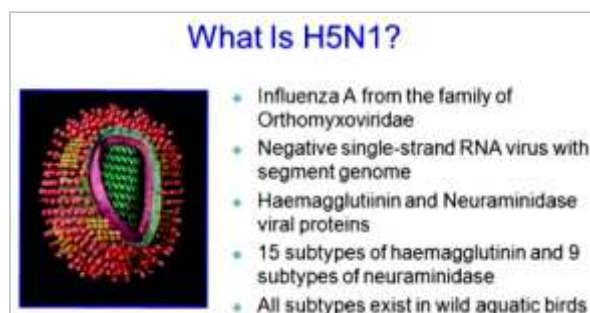
Science & Technology

Why in News?

- The suspected cases of avian influenza (bird flu) are being reported from various parts of the Kerala.

About Bird Flu or Avian Influenza:

- Avian influenza (AI), commonly called bird flu, is an infectious viral disease of birds.
- These viruses occur naturally among wild aquatic birds worldwide and can infect domestic poultry and other bird and animal species.
- People catch bird flu by close contact with birds or bird droppings or undercooked poultry.
- Outbreaks of AI in poultry may raise global public health concerns due to their effect on poultry populations, their potential to cause serious disease in people, and their pandemic potential.
- Reports of highly pathogenic AI epidemics in poultry, such as A (H5N1), can seriously impact local and global economies and International Trade.



H5N1:

- Most avian influenza viruses do not infect humans. However, some, such as A (H5N1) and A (H7N9), have caused serious infections in people.
- H5N1 is a type of influenza virus that causes a highly infectious, severe respiratory disease in birds called avian influenza.
- Human cases of H5N1 avian influenza occur occasionally, but it is difficult to transmit the infection from person to person.
- When people do become infected, the mortality rate is about 60%.

How does H5N1 influenza spread to people?

- It is **carried by** and **infects birds** including farmed poultry such as chicken, ducks, turkey, etc.
- Mostly via bodily secretions, faeces, same feed or water bowl of birds.
- Human cases of Avian influenza occur occasionally with close contact with infected live or dead birds, or H5N1-contaminated environments.
- According to the **World Health Organisation (WHO)**, it can **occasionally infect humans** as well, **although human-to-human transmission is unusual**.
- The virus **does not infect humans easily** and it is difficult to transmit the infection from person to person.

Symptoms in Humans:

- **Fever and influenza-like illness** (cough, sore throat, etc.), diarrhoea, other gastrointestinal symptoms, multi-organ failure, sepsis-like syndromes, etc.
- The disease progresses within days and many patients develop clinically apparent **pneumonia with radiographic infiltrates** of varying patterns.
- The **fatality rate** among hospitalized patients with confirmed H5N1 infection has been **high (about 60%)**, most commonly as a result of **respiratory failure**.

Prevention and Care:

- **Neuraminidase inhibitors** (oseltamivir, zanamivir) are inhibitory for the virus and have proven efficacy in vitro and in animal studies for preventive healthcare and treatment of H5N1 infection.
- **Inactivated H5N1 vaccines** for human use have been developed and licensed in several countries but are not yet **generally available**. Although the vaccines are **immunogenic**, their **effectiveness** in preventing the H5N1 infection or reducing disease severity **is unknown**.

Precautions:

- **Avoid contact with high-risk environments** such as live animal markets and poultry farms, any free-ranging or caged poultry, or surfaces that might be contaminated by poultry droppings.
- **Avoid contact with dead migratory birds or wild birds showing signs of disease**, and should avoid consumption of undercooked eggs, poultry or poultry products.
- **Hand hygiene** with frequent washing or use of alcohol rubs is recommended.
- **Urgently consult health professionals** for supplementary information if exposure occurs.

High Concerns:

- H5N1 infection in humans can cause severe disease and has a high mortality rate.
- If the H5N1 virus were to change and become easily transmissible from person to person while retaining its capacity to cause severe disease, the consequences for public health could be very serious.

Government measures

- Under the **Disaster Management Act 2005**, the **Pong reservoir and 1-km area** of its periphery have been declared an **alert zone**, in which **no human and domestic livestock activities** are allowed.
- The **movement of tourists**, as well as **local residents**, has been **banned** and the **next 9 km** after the alert zone comprise a **surveillance zone**, in which all tourism activity has been suspended too.
- The administration has **prohibited slaughtering, sale, purchase and export of any poultry, birds, fish of any breed and their related products** including eggs, meat, chicken, etc.
- Apart from these, **wildlife, veterinary and animal husbandry staff** across the state have been put on alert and asked to immediately report the death of any bird or animal.

ABHYAS High Speed Expendable Aerial Target (HEAT)**Defence & Security****Why in news?**

- Successful flight test of ABHYAS – High-speed Expendable Aerial Target (HEAT) was conducted by Defence Research and Development Organisation (DRDO).

Background

- ABHYAS-HEAT was developed by adopting DRDO's Lakshya. Lakshya is a high-speed target drone system developed by DRDO. First launch of ABHYAS was held in Chitradurga Aeronautical Testing Range in 2012.

ABHYAS – High-speed Expendable Aerial Target (HEAT)

- The vehicle can be used as a target for evaluation of various missile systems.
- Abhyas is designed & developed by Aeronautical Development Establishment (ADE), DRDO.
- The air vehicle is launched using twin underslung boosters.
- It is powered by a small gas turbine engine and has MEMS based Inertial Navigation System (INS) for navigation along with the Flight Control Computer (FCC) for guidance and control.
- The vehicle is programmed for fully autonomous flight.
- Abhyas is designed for autonomous flying with the help of an autopilot.
- The check out of the air vehicle is done using a laptop based Ground Control Station (GCS).
- Abhyas has RCS, Visual and IR augmentation systems required for weapon practice.
- The fuselage consists of five sections, namely the nose cone, equipment bay, fuel tank bay, air intake bay and tail cone.
- **Achievements during the test**
 - The user requirement of 5 km flying altitude
 - Vehicle speed of 0.5 mach
 - Endurance of 30 minutes and 2g turn capability
 - At the end of its launch phase the burnout booster rockets are ejected and the main gas-turbine engine powers the vehicle during cruise phase.
- **Lakshya Mean target in Sanskrit**
 - Is an Indian remotely piloted high speed target drone system developed by the Aeronautical Development Establishment (ADE) of DRDO.
 - A variant Lakshya-1 is used to perform discreet aerial reconnaissance of battlefield and target acquisition.
- **Aeronautical Development Establishment**
 - Aeronautical Development Establishment is a laboratory of India's Defence Research and Development Organisation.
 - Located in Bangalore, its primary function is research and development in the field of military aviation.
 - Successful projects include
 - Lakshya (an aerial target),
 - Nishant (a reconnaissance unmanned aerial vehicle),
 - Nirbhay (a subsonic cruise missile),
 - Flight simulators for (LCA, Ajit, Kiran, Mig-21) and
 - Avionics packages for Tejas-LCA (display and FCC).
 - It earlier worked on Sparrow (mini-uav) and Ulka (aerial target)



LRSAM QRSAM and MRSAM

Defence & Security

Why in news?

Long Range Surface-to-Air Missile (LRSAM)

- India has successfully flight tested Long Range Surface-to-Air Missile (LRSAM) from a warship off Odisha coast.
- The LRSAM has been developed through a joint venture between DRDO India and IAI of Israel.
- The LRSAM successfully destroyed a low flying aerial target.
- This paves way for its deployment in the armed forces.

Medium Range Surface to Air Missile (MRSAM)

- The Army version of MRSAM is a Surface to Air Missile.
- It is developed by India's Defence Research & Development Organisation (DRDO) in collaboration with Israel Aerospace Industries (IAI) for use by the Indian Army.
- The MRSAM Army weapon system comprises Command post, Multi-Function Radar and Mobile Launcher system.
- It is a 4.5m long nuclear-capable ballistic missile which weighs around 2.7 tonne & can carry a payload of 60 kg.
- The launching platform includes a Multi-Functional Surveillance and Threat Alert Radar (MFSTAR) for detection, tracking, and guidance of the missile.
- The new generation MRSAM has been developed to neutralise airborne threats like jets, missiles and rockets, including projectiles launched simultaneously.
- MRSAM is a land-based configuration of the long-range surface-to-air missile (LRSAM) or Barak-8 naval air defence system, which is designed to operate from naval vessels.

Quick Reaction Surface-to-Air Missile (QRSAM)

- India successfully test-fired on 13 November 2020 the Quick Reaction Surface-to-Air Missile (QRSAM) system at an integrated test range in Chandipur off the Odisha coast. The successful test-firing of the QRSAM, having a range of around 30 km, paves the way for its commercial production.
- The missile is propelled by a single-stage solid propellant rocket motor and uses all indigenous subsystems.
- The system is capable of detecting and tracking targets on the move and engaging targets with short halts.
- The system is designed to give air defence coverage against strike columns of Indian Army.
- The missile is canisterised for transportation and launch using a mobile launcher capable of carrying 6 canisterised missiles.
- All QRSAM weapon system elements like Battery Multifunction Radar, Battery Surveillance Radar, Battery Command Post Vehicle and Mobile Launcher were deployed in the flight test.
- The radar tracked the Banshee target from the farthest range and the missile was launched when the target was within the kill zone and achieved the direct hit with terminal active homing by RF Seeker guidance. Various DRDO labs DRDL, RCI, LRDE, R&DE(E), IRDE, ITR have participated in the test.
- The weapon system elements have been realized through Defence PSUs BEL, BDL and private industry L&T.
- The missile system is fully indigenous with active RF Seekers, Electro-Mechanical Actuation (EMA) systems sourced from various industries.
- The Radar is a four-walled Active Phased Array Radar. All range Tracking stations, Radar, EOTs and Telemetry Stations monitored the flight parameters.
- In the last two months, India has test-fired a number of missiles including a new version of the surface-to-surface supersonic cruise missile BrahMos and an anti-radiation missile named Rudram-1.

Barak 8 Missile

- Barak 8, also known as LR-SAM or as MR-SAM, is an Indo-Israeli surface-to-air missile (SAM).
- It is designed to defend against any type of airborne threat including aircraft, helicopters, anti-ship missiles, and unmanned aircraft as well as ballistic missiles, cruise missiles and combat jets.
- Both maritime and land-based variants of the system exist.

- It was jointly developed by Israel Aerospace Industries (IAI), Defence Research & Development Organisation (DRDO), Israel's Administration for the Development of Weapons and Technological Infrastructure, Elta Systems, Rafael and other companies.
- India's Bharat Dynamics Limited (BDL) produces the missiles.

Integrated Missile Development Program (IGMDP)

- What is the Integrated Missile Development Program (IGMDP)?
- The Integrated Guided Missile Development Programme (IGMDP) was an Indian Ministry of Defence programme for the research and development of the comprehensive range of missiles.
- The programme was managed by the Defence Research and Development Organisation (DRDO) and Ordnance Factories Board in partnership with other Indian government political organisations

More about IGMDP

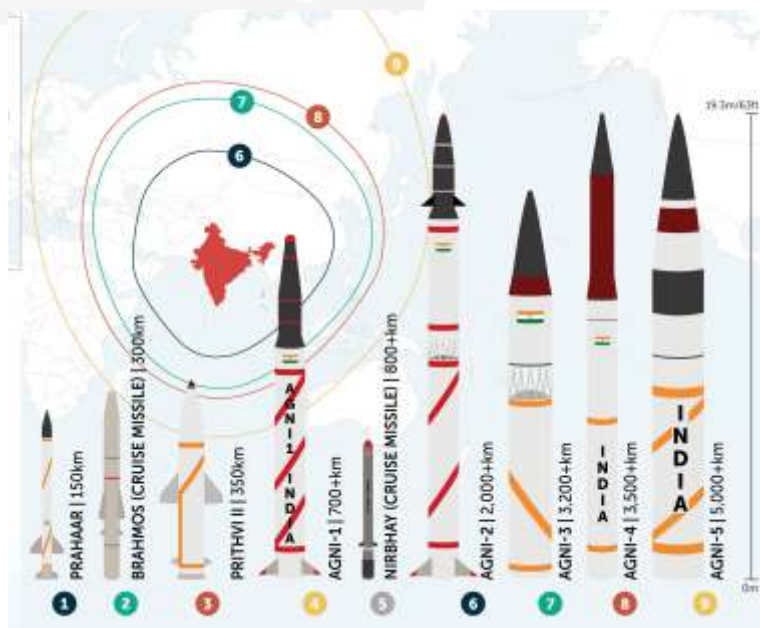
- IGMDP was conceived by renowned scientist Dr. A P J Abdul Kalam to enable India attain self-sufficiency in the field of missile technology. Dr. Kalam, the then Director of Defence Research & Development Laboratory (DRDL), headed a Missile Study Team to weigh the feasibility of the programme.
- The team included members from the Defence Research and Development Organisation (DRDO), the Army, Navy and Air Force, and Defence Production
- Keeping in mind the requirements of various types of missiles by the defence forces, the team recommended development of five missile systems
- The IGMDP finally got the approval from the Government of India on July 26, 1983.
- The ambitious, time-bound project brought together the country's scientific community, academic institutions, R&D laboratories, industries and the three Services in giving shape to the strategic, indigenous missile systems.
- After achieving the goal of making India self-reliant in missile technology, DRDO on January 8, 2008, formally announced successful completion of IGMDP.
- **The missiles developed under the programme were:**
 - Short-range surface-to-surface ballistic missile Prithvi
 - Intermediate-range surface-to-surface ballistic missile Agni
 - Short-range low-level surface-to-air missile Trishul
 - Medium-range surface-to-air missile Akash
 - Third generation anti-tank missile Nag

Prithvi Missile

- The Prithvi missile is a family of tactical surface-to-surface short-range ballistic missiles (SRBM) and is India's first indigenously developed ballistic missile. Development of the Prithvi began in 1983, and it was first test-fired on 25 February 1988 from Sriharikota, SHAR Centre, Potti sreeramulu Nellore district, Andhra Pradesh. It has a range of up to 150 to 300 km. The land variant is called Prithvi while the naval operational variant of Prithvi I and Prithvi III class missiles are code named Dhanush (meaning Bow). Both variants are used for surface targets.

Agni missile

- A technology demonstrator for re-entry technology called Agni was added to IGMDP as Prithvi was unable to be converted to a longer ranged missile. The first flight of Agni with re-entry technology took place in 1989.



- The Agni, which was initially conceived as a technology demonstrator project in the form of a re-entry vehicle, was later upgraded to a ballistic missile with different ranges.
- Dr. Kalam played a major role in the development and operationalisation of Agni and Prithvi missiles.

Trishul missile

- It is the name of a short range surface-to-air missile developed by India as a part of the Integrated Guided Missile Development Program. It has a range of 12 km and is fitted with a 5.5 kg warhead. Designed to be used against low-level (sea skimming) targets at short range, the system has been developed to defend naval vessels against missiles and also as a short-range surface-to-air missile on land.

Akash missile

- It is a medium-range surface-to-air missile developed as part of India's Integrated Guided Missile Development Programme to achieve self-sufficiency in the area of surface-to-air missiles. It is the most expensive missile project ever undertaken by the Union government in the 20th century.
- Akash is a medium-range surface-to-air missile with an intercept range of 30 km. It has a launch weight of 720 kg, a diameter of 35 cm and a length of 5.8 metres. Akash flies at supersonic speed, reaching around Mach 2.5. It can reach an altitude of 18 km.

Nag missile

- Nag is India's third generation "Fire-and-forget" anti-tank missile. It is an all weather, top attack missile with a range of 3 to 7 km.
- The missile uses an 8 kg high-explosive anti-tank (HEAT) tandem warhead capable of defeating modern armour including Explosive Reactive Armour (ERA) and composite armour. Nag uses Imaging Infra-Red (IIR) guidance with day and night capability.

Smart Anti-Airfield Weapon (SAAW)

Defence & Security

Why in the news?

- THE DEFENCE Research and Development Organisation (DRDO) Thursday conducted a successful trial of the indigenously developed Smart Anti-Airfield Weapon (SAAW) off the Odisha coast from the Hawk-I jet of Hindustan Aeronautics Limited (HAL).

About SAAW

- SAAW is the first smart weapon fired from an Indian Hawk.
- SAAW is a long-range precision guided anti-airfield weapon. The weapon is capable of engaging ground targets with precision up to a range of hundred kilometres.
- Basically, SAAW is a bomb. It is designed to destroy targets such as bunkers, runways, reinforced structures and aircraft hangers.
- The SAAW project was approved by the Government of India in 2013.
- So far, eight successful tests of SAAW have been conducted.
- In 2020, the Government of India approved the SAAW project for Indian Navy and Indian Air Force.



Hawk aircraft

- It is a tandem seat aircraft developed by HAL.
- The aircraft has an integrated attack system and radio and inertial navigation system.
- It is spin resistant.

Indian Defence System

- The Government of India is currently planning to increase indigenous defence production of the country.
- Eventually the plan is to reduce the imports and increase the exports.
- The GoI has set a target of defence exports of Rs 35,000 crores. This is to be achieved by 2025. In order to achieve the target, the Union cabinet recently approved the exports of Akash missile system.
- The Akash surface to air missile has a range of twenty-five kilometres.
- It was inducted in the Indian Air Force in 2014. Besides Akash, the GoI is also planning to export radars, coastal surveillance systems and air platforms.
- In 2018-19, the defence exports of India was Rs 10,745 crores.
- India's share in global arms exports is only 0.17%.

Current Scenario

- According to a SIPRI report published in 2020, India ranked 23rd in the list of major arms exporters. India ranked fourth in Defence Firepower Index, 2021.

DRDO

- DRDO works under the administrative control of the Ministry of Defence, Government of India.
- It is working to establish a world class science and technology base for India and provides our Defence Services decisive edge by equipping them with internationally competitive systems and solutions.

Mission

- Design, develop and lead to production state-of-the-art sensors, weapon systems, platforms and allied equipment for our Defence Services.
- Provide technological solutions to the Services to optimise combat effectiveness and to promote well-being of the troops.
- Develop infrastructure and committed quality manpower and build strong indigenous technology base.

Integrated Guided Missile Development Programme (IGMDP)

- IGMDP was the brainchild of renowned scientist Dr. APJ Abdul Kalam.
- It was intended to attain self-sufficiency in the field of missile technology.
- After keeping in mind the requirements of various types of missiles by the defense forces, the program recognized the need to develop five missile systems.
- The IGMDP formally got the approval of Indian government on July 26, 1983.
- It brought together the country's scientific community, academic institutions, R&D laboratories, industries and the three defence services in giving shape to the strategic, indigenous missile systems.
- **The missiles developed under IGMDP are:**
 - Short-range surface-to-surface ballistic missile – Prithvi
 - Intermediate-range surface-to-surface ballistic missile – Agni
 - Short-range low-level surface-to-air missile – Trishul
 - Medium-range surface-to-air missile – Akash
 - Third generation anti-tank missile – Nag.

IGNITE IAS FOUNDATION COURSE

IGNITE IAS foundation course is exclusively designed for comprehensive coverage of both Preliminary and Mains syllabus of UPSC Civil Services Examination. The course is conducted by senior and experienced faculties having vast experience in guiding the students. This programme includes all segments of the syllabus i.e. General Studies, CSAT, Essay, and interview guidance.

OUR METHODOLOGY

We have a 3 tiered approach study plan - **PRIMER, AUGMENTATION & CONSOLIDATION (PAC)**

Primer: To improve the foundation in the static subjects, the subject content will be exclusively focused on NCERT's. A Comprehensive Test based on NCERT's shall conclude this phase.

Augmentation: This phase has a meticulous focus on the relevant syllabus with periodic topical exams. An additional feature of this phase is thorough answer writing and intricate evaluation of answer copies.

Consolidation: This phase aids in revising the entire syllabus and makes the student exam ready. It includes comprehensive tests of both Prelims and Mains. Moreover a recurrent interview guidance is an novel feature of this phase.

COURSE FEATURES

PEDAGOGUE METHOD	COURSE MATERIAL
<ul style="list-style-type: none">• Teachers with expert domain knowledge• Systematic and well-framed subject sequence• Focus on conceptual clarity and with keen eye on recent exam pattern	<ul style="list-style-type: none">• Daily Newspaper Analysis and a monthly Current Affairs Astra Magazine• Primer NCERT series• Prelims and Mains exhaustive standard material

NOVEL FEATURES

- Daily answer writing practice
- Topic-wise consolidation tests
- Essay writing sessions
- Exam centric approach