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DECEMBER 2020



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Remembering Jyotibaphule

History and Culture

Why in the news?

- The 130th death anniversary was observed.

About Jyotirao Govindrao Phule:

- Mahatma Jyotirao Govindrao Phule (1827 – 1890), also known as Jyotiba Phule, was an Indian social activist, thinker, anti-caste social reformer and writer from Maharashtra.
- He and his wife, Savitribai Phule, were pioneers of women education in India. Phule started his first school for girls in 1848 in Pune at Tatyasaheb Bhide's residence or Bhidewada.
- In 1873 he formed the Satyashodhak Samaj (Society of Seekers of Truth) to attain equal rights for people from lower castes. People from all religions and castes could become a part of this association which worked for the upliftment of the oppressed classes
- He is credited with introducing the Marathi word dalit (broken, crushed) as a descriptor for those people who were outside the traditional varna system. The terminology was later popularised in the 1970s by the Dalit Panthers.



Education and gender

- Another area in which Phule contributed immensely is India's gender question. He invariably linked the liberation of women with education. He himself taught his young wife Savitribai. Later, with her and some liberal associates, Phule opened a string of schools from 1848-1855, including a special school for all caste girls. He was a staunch advocate of widow remarriage and a front-runner for child adoption. The Phule couple themselves adopted the son of a Brahman widow.

Some of Mahatma Phule's published works

- Tritiya Ratna
- Brahmananche Kasab
- Powada : Chatrapati Shivajiraje Bhosle Yancha (Life of Shivaji)
- Manav Mahamand (Muhammad) (Abhang)
- Gulamgiri
- Satyashodhak Samajokt Mangalashtakasah Sarva Puja-vidhi
- Sarvajanic Satya Dharma pustak
- Shetkaryacha Asud

Satya Shodhak Samaj (Truth Seekers Society)

- It was founded by Jyotirao Phule in 1873 in Pune.
- Satyashodhak Samaj was founded with a purpose to give education to the lower castes, scheduled caste, scheduled tribes and made them aware of the exploiting tradition of society.

Deenbandhu:

- Deenbandhu was a weekly Marathi-language newspaper first published in Pune, British India in 1877.
- It was the first newspaper in India to cater explicitly to the labouring people.[2] The weekly articulated the grievances of the peasants and workers.
- Deenbandhu was founded by Krishnarao Pandurang Bhalekar (1850-1910) and served as an outlet for Jotirao Phule's Satyashodhak Samaj.

Contribution to dalit empowerment

- He was **worried about the condition of Shudras** who were deprived of their rights by the Brahmins who kept them ignorant.
- Phule thought that selfish Brahmins had prohibited women and dalits from taking to education in order to continue their domination.
- He **attacked the customs and practices** such as child marriage, polygamy, harassment of dalits and even varna system and Vedic culture.
- He **advised Shudra peasants not to have more than one wife** and not to marry their young children.
- He started **schools for untouchables** and promoted their social development.
- His writings reflected his **zeal to work for the emancipation of dalits**.

- As recognition of his **great work for the lower castes**, he was felicitated and a **title of 'Mahatma' was conferred** on him **by the people in Bombay in 1888**.

Traditional Toys

History and Culture

Why in the news?

- The COVID-19 pandemic has dealt a crippling blow to the traditional toys.

Details of Traditional Toys

- Channapatna Toy (Karnataka):** Mysore ruler Tipu Sultan, impressed by a lacquer-coated wooden artifact he received as a gift from Persia in the 18th century, invited Persian artisans to India to train the people in his realm.
- Kondapalli Toys (Andhra Pradesh):** Also Known as Bommala Koluvu (Dasara dolls) are made in Kondapalli of Krishna district, Andhra Pradesh. The style of these toys is a mix of Islamic and Rajasthani art, popular for their realistic expressions.
- Etikoppaka Toys (Andhra Pradesh):** Etikoppaka Toys are made of soft wood and lacquer color. Coloured with natural dyes derived from seeds, lacquer, roots and leaves. The way of toy making is also known as turned wood lacquer craft.
- Thanjavur Toys (Tamilnadu):** Thanjavur Dancing Dolls, traditionally known as Thanjavur Thalaiyatti Bommai, are a part of an eclectic heritage of beautiful handicrafts from Tanjore.



World Heritage City

History and Culture

Why in the news?

- Gwalior and Orchha of Madhya Pradesh have been included in the list of World Heritage City by UNESCO.

Orchha Architecture

- The word Orchha or Urchha means 'hidden'. The reason for this naming is because the Bundelkhand Kings wanted to retreat from the Tughlaqs who rose to power in the 15th century.
- Established in 1501 by Maharaja Rudra Pratap Singh, Orchha has witnessed tough times as well as friendly relations with the Mughal Dynasty.
- Orchha architecture has a blend of Bundelkhandi and Mughal influences. The structures are not only appreciated for their mesmerizing beauty but also for their intelligent engineering.
- The most fascinating of all the magnificent surroundings is the Orchha's Fort complex. It is known for its **chaturbhuj temple**.
- The grand Orchha Complex is divided into three mesmeric sections; Jahangir Mahal, Raj Mahal and Sheesh Mahal.
- The Raj Mahal was once the prime residence of Bundela kings and their queens.
- Secret alleys, steep stairs and exquisite murals depicting avatars of Lord Vishnu, whom the super religious king of Bundelkhand; Madhukar Shah worshipped, narrate the story of a powerful era gone by.



UNESCO's World Heritage Site List

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.
- This is embodied in an international treaty called the Convention concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972.
- A World Heritage Site is a place that is listed by UNESCO for its special cultural or physical significance. The list of World Heritage Sites is maintained by the international 'World Heritage Programme', administered by the UNESCO World Heritage Committee.

Idol of Devi Annapurna

History and Culture

Why in the news?

- An ancient idol of the goddess Annapurna, stolen from India about a century ago, is being brought back from Canada.

Annapurna Idol

- Annapurna, also spelt Annapoorna, is the goddess of food.
- This 18th-century idol, carved in the Benares was stolen from a temple of Varanasi and smuggled out around 100 years ago somewhere around 1913.
- Now is part of the University of Regina, Canada's collection at the Mac Kenzie Art Gallery.
- The idol holds a bowl of kheer in one hand and a spoon in the other.



Measures taken by the government to deal with idol theft

- India is a signatory to UNESCO Convention on prohibition of illegal trade of cultural artefacts.
- Some states like Tamil Nadu have specialised units set up for curbing this trade.
- The Antiquities and Art Treasures Act, 1972 have been enacted by the government to deal with such menace.
- The government is launching a National Mission on Monuments and Antiquities, tasked with documenting the antiquities and preparing a national database. The mission will also help establish provenance in the retrieval of smuggled antiquities, in addition to promoting public awareness and participation in the safeguarding of antiquarian wealth.
- A committee has also been set up to review museum security requirements for a comprehensive security policy.
- Government is also coordinating with various neighbouring countries for joint action to stop illegal trade of idols

Guru Nanak Jayanti

History and Culture

Why in news?

- Recently, the 551st birth anniversary of Guru Nanak was celebrated across India.

About the Jayanti

- Guru Nanak Jayanti, also **known as Gurmurab**, is the most important festival for the followers of the **religion of Sikhism**.
- It is celebrated to commemorate the birth anniversary of the first Sikh Guru, Guru Nanak Dev (1469-1539), who is first of the **10 Sikh Gurus and the founder of Sikhism**.
- The festival is celebrated on the day of **Kartik Poornima**, which is the **fifteenth lunar day** in the month of Kartik according to the Hindu calendar, and usually falls in the month of November by the **Gregorian calendar**.
- This year Guru Nanak birth anniversary was observed on November 30.

About Guru Nanak Dev

- He was born on April 15, 1469, at **Rai Bhoi Ki Talwandi**, near **Lahore**, which is in Sheikhpura district of modern-day Pakistan. He was born into a middle-class Hindu family and raised by his parents, Mehta Kalu and Mata Tripta.
- Founder of Sikhism**- He was the first of the 10 Sikh Gurus and the founder of Sikhism in the 15th century. He started writing the **Guru Granth Sahib** and **completed 974 hymns**.
- His Teachings**- He advocated the '**Nirguna**' (**devotion to and worship of formless divine**) form of bhakti.
- Advocated the existence of **one God and taught to reach out God** through meditation and other pious practices.
- He set up rules for **congregational worship (Sangat)** involving collective recitation.
- His verses also preach selfless service to humanity, prosperity and social justice for all, irrespective of differences.
- Guru Nanak travelled across **South Asia and the Middle East** to spread his teachings.
- A Gurdwara was built at his **birthplace** in the city now known as **Nankana Sahib** which is located in the Punjab province of Pakistan.



Teachings

- Accompanied by Bhai Mardana, Guru Nanak Devji undertook four major spiritual journeys, running across India, South Asia, Tibet and Arabia.
- In these journeys, he preached the new concept of God as "Supreme, All powerful and Truthful, Formless (Nirankar), Fearless (Nirbhau), Without hate (Nirvair), the Sole (Ik), the Self-Existent (Saibhang), the Incomprehensible and Everlasting creator of all things (Karta Purakh), and the Eternal and Absolute Truth (Satnam)".
- Nanak ji taught people that the 'One' God dwells in every one of his creations, and that all human beings can have direct access to God without the need of any rituals or priests.
- He attacked Hindu Caste system and condemned the theocracy of Mughal rulers.
- He rejected the path of renunciation (Tyaga), emphasizing a householder's (family) life based on honest conduct, selfless service (Sewa), and constant devotion and remembrance of God's name.
- In the later years of his life, Guru ji founded and settled down at the township of Kartarpur ("creator's town"), on the banks of river Ravi in Punjab
- Guru Nanak introduced the institution of Langar (free communal kitchen) at Kartarpur, establishing the basic equality of all people regardless of their social and economic status.
- In the year 1539, knowing that the end was drawing near, Guru Ji, after having tested his own two sons and some followers over the years, installed Bhai Lehna ji (Guru Angad Dev Ji) as the Second Nanak, and after a few days passed into Sachkhand.

Online Exhibition of Shanghai Cooperation Organisation on Shared Buddhist Heritage

History and Culture

Why in news?

- Recently, Vice President of India & Chair of the SCO Council of Heads of Government in 2020, launched the first ever SCO Online Exhibition on Shared Buddhist Heritage, during the 19th Meeting of the SCO Council of Heads of Government (SCO CHG), held in New Delhi

About the summit

- This SCO online International exhibition, first ever of its kind, is developed and curated by National Museum, New Delhi, in active collaboration with SCO member countries.
- The exhibition deploys state of the art technologies like 3D scanning, WebGL platform, virtual space utilization, innovative curation and narration methodology etc.
- Buddhist philosophy and art of Central Asia connects Shanghai Cooperation Organization (SCO) countries to each other.
- This online international exhibition presents an excellent opportunity for visitors to access, appreciate and compare Buddhist art antiquities from SCO countries on a single platform and from the comfort of their home.
- The International exhibition gives a glimpse of the artistic wealth displayed in various museums across Asia**, and represents the artistic excellence embedded within an eclectic historical timeline spanning across the development of different Schools of Buddhism.
- The participating institutions are** National Museum (New Delhi), Indian Museum (Kolkata), National Museum of Kazakhstan, Dun Huang Academy (China), National Historical Museum of the Kyrgyz Republic, Museums of Pakistan, State Museum of Oriental Art, Moscow (Russia), National Museum and National Museum of Antiquities, Tajikistan and renowned archaeological sites of Uzbekistan.
- The visitors can explore the Indian Buddhist treasures from the Gandhara and Mathura Schools, Nalanda, Amaravati, Sarnath etc in a 3D virtual format.
- The marvels of Buddhist art from Pakistan, China, Uzbekistan, Kazakhstan and Kyrgyzstan can be seen with this

Dr. Rajendra Prasad Birth Anniversary

History and Culture

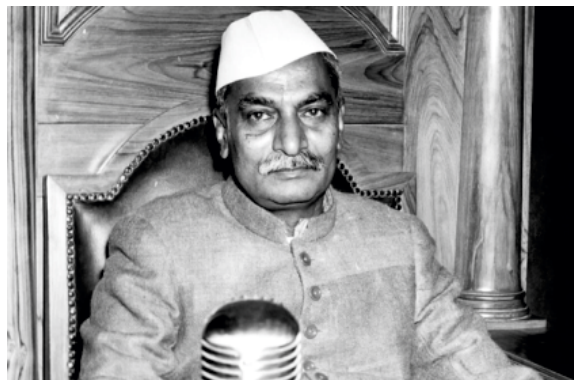
Why in news?

- The President of India paid homage to Dr. Rajendra Prasad, the first President of India, on his birth anniversary

About Rajendra Prasad

- He was born in 1884 in Bihar's Ziradei
- He was a Indian politician, lawyer, and journalist who was the first president of the Republic of India (1950–62).
- His father, Mahadev Sahai Srivastava, was a scholar of both Sanskrit and Persian languages. His mother, Kamleshwari Devi

- In June 1896, at an early age of 12, he was married to Rajavanshi Devi.
- Prasad joined the Presidency College, Calcutta in 1902, initially as a science student. He passed the F. A. under the University of Calcutta in March 1904 and then graduated with a first division from there in March 1905
- A devoted student as well as a public activist, he was an active member of the Dawn Society(under Satish Chandra Mukherjee)
- Prasad was instrumental in the formation of the Bihari Students Conference in 1906 in the hall of Patna College.



Role in independence movement

- His first association with Indian National Congress was during the 1906 annual session organised in Calcutta, where he participated as a volunteer, while studying in Calcutta.
- Formally, he joined the Indian National Congress in the year 1911, when the annual session was again held in Calcutta
- During the Lucknow Session of Indian National Congress held in 1916, he met Mahatma Gandhi.
- During the Satyagraha at Champaran in 1917, Mahatma Gandhi asked him to come with his volunteers
- He gave up his law practice in 1920 to join the non-cooperation movement.
- As a journalist in the nationalist interest, he wrote for **Searchlight in English**, founded and edited the Hindi weekly **Desh ("Country")**, and started his **lifelong campaign to establish Hindi as the national language**.
- He was deeply **influenced by Mahatma Gandhi and went to jail during the 'Salt Satyagraha' of 1931 and the 'Quit India Movement' of 1942.**
- He was a president of INC in 1934, 1939, and 1947
- In **1946 Prasad was sworn in as minister for food and agriculture in the interim government** preceding full independence.
- From **1946 to 1949 he presided over the Indian Constituent Assembly** and helped to shape the constitution.
- **Rajendra Prasad was unanimously elected president in 1950** and, after the first general election (1952), was chosen by an overwhelming majority of the new electoral college; **in 1957 he was elected to a third term.**
- Prasad retired from public life in 1962 because of his deteriorating health. That same year he was honoured with the Bharat Ratna, India's highest civilian award.

Literary works

- Satyagraha at Champaran (1922)
- Division of India (1946, online)
- Atmakatha (1946), his autobiography written during his 3-year prison term in Bankipur Jail
- Mahatma Gandhi and Bihar, Some Reminiscences(1949)
- Bapu Ke Kadmon Mein (1954)
- Since Independence (published in 1960)
- Bharatiya Shiksha
- At the feet of Mahatma Gandhi

Yogasana as Sport

History and Culture

Why in news?

- Recently, the Ministry of AYUSH (MoA) and Ministry of Youth Affairs and Sports have announced the formal recognition of **Yogasana as a competitive sport.**

About the decision ?

- The Government of India traced the **origins of Yogasana competitions to the Indian Yoga tradition**, where such competitions have been held for centuries.
- The Government decision to **recognise**



Yogasana as a competitive sport comes after 3-4 years of wide consultations with the stakeholders of the Yoga sector.

- The **National Board for Promotion and Development of Yoga and Naturopathy (NDPDYN)** of MoA, in its 5th meeting held in July 2019 recommended to recognise Yogasana as a competitive sport.

Significance of recognizing Yogasana as a Competitive Sport

- Yogasana is an **integral and important component of Yoga**, which is psycho-physical in nature and popular across the globe for its efficacy in fitness and general wellness.
- Yogasana becoming a sport will also **ensure new technologies and new strategies** being inducted into the disciplines, to benefit our athletes and officials towards building fruitful and fulfilling careers in this field.
- The competitions that will arise out of the recognition of Yogasana as a sport will **enhance interest in Yoga** among people around the globe.
- The government is planning to include **Yogasana as a Sport discipline in Khelo India** and in the University Games and we will also pitch it at the National Games.



Roadmap for implementing Yogasana as a Competitive Sport

- The proposed events for both men and women include **Traditional Yogasana, Artistic Yogasana (Single), Artistic Yogasana (Pair), Rhythmic Yogasana (Pair), Free Flow/Group Yogasana, Individual All Round.**
- The also informed the following steps or activities will form part of the **road map and the future development** of Yogasana Sport:
 - A pilot Yogasana Competition named as "**National Individual Yogasana Sports Championship**" (Virtual Mode) to be held in early 2021
 - Launching of an **Annual Calendar of competitions, events and programs** of Yogasana sport
 - Development of **Automated Scoring System** for the Yogasana Championship
 - Courses for Coaches, Referees, Judges and Directors** of competitions
 - Coaching camps for players**
 - Launch of a League of Yogasana, to **ensure a career and social status for performers, experts and practitioners**, to create Sports Stars among Yogasana athletes.
 - To introduce **Yogasana as a Sport discipline** in National Games, Khelo India and international sports events.
 - Steps to **create job opportunities** for Yogasana athletes.

Indigenous Games to be a part of Khelo India Youth Games

History and Culture

Why in news?

- Gatka, Kalaripayattu, Thang-Ta & Mallakhamba) to be a part of Khelo India Youth Games 2021.

About various indigenous games

Gatka

- Gatka **originates from Punjab and this traditional fighting style of the Nihang Sikh Warriors** is used both as self-defense as well as a sport
- The Punjabi name *gatka* properly refers to the wooden stick used. The word originates as a diminutive of Sanskrit *gada* "mace"
- There are many weapons used in Gatka like, Stick, Talwar, kirpan and kataar.
- The attacking and defense methods are based upon the positions of the hands feet and nature of weapons used.
- Gatka's theory and techniques were taught by the Sikh gurus
- After the Anglo-Sikh wars the art was banned by the new British administrators of India in the mid-19th century.
- It is also displayed during the different celebrations or at fairs in Punjab



• Kalaripayattu

- Kalaripayattu has its origin from Kerala and has practitioners all over the world
- Kalaripayattu is a martial art designed for the ancient battlefield (the word "Kalari" meaning "battlefield"), with weapons and combative techniques that are unique to India.
- Kalaripayattu is held in high regard by martial artists due to its long-standing history within Indian martial arts. It is believed to be the oldest surviving martial art in India.
- It is also considered to be among the oldest martial arts still in existence, with its origin in the martial arts timeline dating back to at least the 3rd century BCE
- Kalaripayattu is mentioned in the Vadakkan Pattukal (northern ballads) written about the Chekavar from the Malabar region of Kerala.



• Thang-Ta

- Thang-Ta, a Manipuri martial art has passed into oblivion in recent decades.
- It is one of the components of Huyenlanglon martial art
- Huyenlanglon consists of two main components: thang-ta (armed combat) and saritsarak (unarmed fighting).
- The primary weapons of huyenlanglon are the thang (sword) and ta (spear)
- The thang-ta aspect of huyenlanglon can be practiced in three ways: ritual, demonstration, and combat.
- The first way is related to tantric practices and is entirely ritualistic in nature.
- The second way consists of a spectacular performance involving sword and spear dances. These routines can be converted into actual fighting practices.
- The third way is the true combat application.
- Thang-ta shares a connection with certain war-dances, often blurring the line between dance and combat forms, such as thangkairol (sword dance) and khosarol (spear dance).



• Mallakhamba

- Mallakhamb is a traditional sport, originating from the Indian subcontinent, in which a gymnast performs aerial yoga or gymnastic postures and wrestling grips in concert with a vertical stationary or hanging wooden pole, cane, or rope.
- The word Mallakhamb also refers to the pole used in the sport. The pole is usually made from sheesham (Indian rosewood) polished with castor oil.
- The name Mallakhamb derives from the terms *malla*, meaning wrestler, and *khamb*, which means a pole. Literally meaning "wrestling pole", the term refers to a traditional training implement used by wrestlers.



- The origin of Mallakhamb can be traced to the 12th century, where it is mentioned in Manas-Olhas – a classic by Chalukya in 1135 A.D. For seven centuries, the art lay dormant, till it was revived by Balambhatta Dada Deodhar, the sports and fitness instructor to Peshwa Bajirao II
- Mallakhamba has been well-known across India and Madhya Pradesh and Maharashtra have been the hot spots of this sport
- In 2013 the Indian state of Madhya Pradesh declared Mallakhamba the state sport

Visva-Bharati University

History and Culture

Why in news?

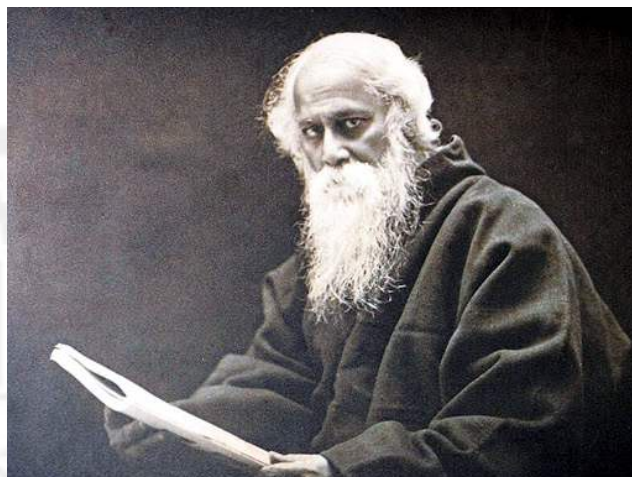
- Recently, the Prime Minister addressed the Visva-Bharati University's **centenary celebrations event**.

About the Visva-Bharati

- It was founded by **Nobel laureate Rabindranath Tagore** in 1921 at **Santiniketan, Bolpur in West Bengal's Birbhum district**.
- It is also the oldest Central University in the country and an **Institution of National Importance by an Act of Parliament in 1951**.
- It brings a **synergy between the country** and the rest of the world therefore it is called **Visva-Bharati**.
- It consists of two campuses one at **Shantiniketan** and the other at **Sriniketan**.
- Sriniketan focuses on agriculture, adult education, village, cottage industries and handicrafts**.

About Rabindranath Tagore :

- Also popularly **known as 'Gurudev'**.
- He was primarily known as a writer, poet, playwright, philosopher and aesthetician, music composer, choreographer, a painter.
- Early life** –He was born on **7 May 1861 to Debendranath Tagore and Sarada Devi** in the **Jorasanko mansion** which is the **ancestral home of the Tagore family in Kolkata (Calcutta)**.
- He was influenced by the **classical poetry of Kalidasa** and started writing his own classical poems.



Madan Mohan Malviya

History and Culture

Why in news?

- Prime Minister of India pays tribute to Madan Mohan Malviya on his birth anniversary.

About Madan Mohan Malviya (1861-1946)

- Known as 'Mahamana' (a luminous mind and magnanimous heart), a title was given by Rabindranath Tagore, he was born on 25th December 1861, in Allahabad
- Malviya was the son of Pandit Brij Nath, a noted Sanskrit scholar, and his early education took place at two Sanskrit pathshalas (traditional schools).
- After graduating from Muir Central College, Allahabad, in 1884, he took up teaching in a local school.
- He was a scholar, educational reformer, and a leader of the Indian nationalist movement
- Malviya made his political debut at the 1886 Calcutta (Kolkata) session of the Indian National Congress. And was elected president of Congress four times
- In protest against the Communal Award, Madan Mohan Malviya and MadhavAney split away from the Indian National Congress and started Congress Nationalist Party in 1934.
- He also served on the Imperial Legislative Council (1909-20)
- Pandit Madan Mohan Malviya was also one of the founders of Scout and Guide in India. Madan Mohan Malviya was conferred the Bharat Ratna posthumously in 2014.



Goa Liberation Day

History and Culture

Why in news?

- Every year 19th December is celebrated by India as on this day Operation Vijay was completed by the Indian Forces liberating Territories of Goa, Daman and Diu and the Anjadiv Island and from the Portuguese rule.

About Operation Vijay

- Prime Minister Jawaharlal Nehru ordered a military intervention for the liberation of Goa after all the diplomatic talks failed with the Portuguese, thereby launching the Operation Vijay on 17th December 1961.
- Portuguese army was not well prepared to handle the attack of Indian armed forces.
- The operation lasted for two days and was done with minimal bloodshed.
- The Portuguese Governor General Vassalo da Silva was coerced to give up control of Goa with which Goa finally became independent and a part of India.
- Major-General K. P. Candeth was appointed as the military governor of Goa and kept directly under the administration of the President of India.



Statehood of Goa:

- The territory of Goa was formally integrated into the Indian Union after the parliament passed 12th Amendment Act to the Constitution of India in 1963, giving the status of a Union Territory to Goa, Daman and Diu.
- There was a referendum held in 1967 in Goa to let people of Goa choose between continuing as a UT or to merge with Maharashtra.
- This referendum, which is the **only referendum to have been conducted in independent India**, is famously known as Goa Opinion Poll. People of Goa chose to continue as a UT.
- On 30th May **1987**, Goa was separated from Daman and Diu and became Indian Union's 25th state. Daman and Diu was kept as a union territory only in the Indian Union.



Great Conjunction

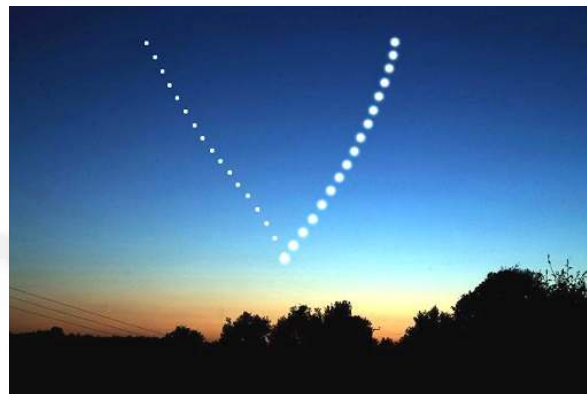
Geography & Environment

Why in the news?

- **After nearly 400 years, Saturn and Jupiter** – the two largest planets in our solar system – were brought closest in the night sky by an astronomical event called the "**great conjunction**" and popularly referred to as the "**Christmas Star**". On **21 December 2020**, almost all the viewers across the world **will be able to see the two gas giants very close to each other**, while they will still be hundreds of millions of miles apart in space. The **event will coincide with the winter solstice** (shortest day of the year in terms of hours of sunlight received) in the Northern Hemisphere and **summer solstice in the Southern Hemisphere**.

What is the "Great Conjunction"?

- A conjunction is not unique to Saturn and Jupiter however, it is the **name given to any event where planets or asteroids appear to be very close** together in the sky when viewed from the Earth.
- In June 2005 for instance, as a result of the "spectacular" conjunction, **Mercury, Venus and Saturn appeared so close together** in the sky that the patch of sky where the three planets were could be covered by a thumb.
- Astronomers use the word "great" for the conjunction of Jupiter and Saturn because of the planets' sizes.
- The "**Great Conjunction**" happens **once in about 20 years** because of the time each of the planets take to orbit around the Sun. **Jupiter takes roughly 12 years to complete one lap around the Sun** and **Saturn takes 30 years** (Saturn has a larger orbit and moves more slowly because it is not as strongly influenced by the Sun's gravitational force as planets that are closer to the Sun).
- As the two planets move along their orbits, every two decades, Jupiter catches up with Saturn resulting in what astronomers call the great conjunction.
- Every two decades Jupiter—which can be thought of as a fast runner on the inside track of a racecourse—will overtake Saturn.
- This overtaking is what viewers on **Earth will witness on the night of 21 December 2020**, when the planets will appear aligned in the sky, while they will still be millions of miles apart in space.



Duration of Great Conjunction this Year

- Jupiter has been catching up with Saturn since the beginning of December as the two planets move along their orbital paths around the Sun.
- The date the world celebrated, the night of December 21, was when Jupiter "overtook" Saturn (from Earth's perspective).
- But even after December 21, the planets will still appear very close together for the next few days.
- Between December 16 and 25, the distance between the two planets in the sky will appear to a viewer from Earth to be less than the diameter of a full moon.
- This does not mean, of course, they are really that close — they are currently over 700 million kilometers apart. Yet their separation during the current conjunction is smaller than they usually ever get during most other conjunctions.

Notable Great Conjunctions other than 2020

- **7 BC:** When studying the great conjunction of 1603, Johannes Kepler thought that the Star of Bethlehem might have been the occurrence of a great conjunction. He calculated that a triple conjunction of Jupiter and Saturn occurred in 7 BC (–6 using astronomical year numbering). A triple conjunction is a conjunction of Jupiter and Saturn at or near their opposition to the Sun. In this scenario, Jupiter and Saturn will occupy the same right ascension on three occasions or same ecliptic longitude on three occasions depending on which definition of "conjunction" one uses (this is due to apparent retrograde motion and happens within months). The most recent triple conjunction occurred in 1980 and 198 while the next will be in 2238 and 2239.
- **1563:** The astronomers from the Cracow Academy (Jan Muscenius, Stanisław Jakobejusz, Nicolaus Schadeck, Petrus Probosciewicz, and others) observed the great conjunction of 1563 to compare Alfonsine tables (based on a geocentric model) with the Prutenic Tables (based on Copernican heliocentrism). In the Prutenic Tables the astronomers found Jupiter and Saturn so close to each other that Jupiter covered Saturn (actual angular separation was 6.8 minutes on 25 August 1563). The Alfonsine tables suggested that the conjunction should be observed on another day but on the day indicated by the Alfonsine tables the angular separation was a full 141 minutes. The Cracow professors suggested following the more accurate Copernican predictions and between 1578 and 1580 Copernican heliocentrism was lectured on three times by Valentin Fontani.

- **7541:** As well as being a triple conjunction, the great conjunction of 7541 will feature one transit on 16 February, and one occultation on 17 June (although the accuracy of planetary positions this far into the future cannot be calculated, and so sources differ as to the exact nature of these occultations). This will be the first occultation between the two planets since 6857 BC; superimposition requires a separation of less than approximately 0.4 arc minutes.

Elephant Corridors In India

Geography & Environment

Why in the news?

- The National Green Tribunal (NGT) has directed the Odisha government to prepare an action plan on 14 identified elephant corridors for providing stress-free migration to jumbos from one habitation to another in the State.

Elephant Corridors in India

- Elephant corridors are essentially linear patches of natural vegetation that connect two habitats which is important for jumbo movement and to maintain a healthy population.
- However, sprouting of roads, railway lines, electricity towers, canals, and human settlements in these corridors are forcing elephants to stray from their natural paths, causing conflict situations with disastrous results for both man and animal.
- According to census of elephants (2017), there are 27,312 elephants in India.
- Karnataka (6,049) has the highest elephant population followed by Assam (5,719) and Kerala (3,054).
- Currently 110 elephant corridors are identified in the country.
- Wildlife Trust of India and MOEF's Project Elephant has identified 'of passage' in 101 elephant corridors and pressed for greater surveillance and protection of elephant corridors.



Threats to elephant corridors

- Primary threat – Habitat loss.
- Fragmentation and destruction of habitat due to developmental activities like construction of buildings, roads, railways, holiday resorts and the fixing solar energized electric fencing, etc.
- "Single biggest threats" in central India – Coal mining and iron ore mining



Project Elephant:

- It is a **centrally sponsored scheme**.
- Launched in 1992
- **Objectives:**
 - To protect elephants, their habitat & corridors
 - To address issues of man-animal conflict
 - Welfare of captive elephants
 - It provides financial and technical support to major elephant bearing states in the country for protection of elephants, their habitats and corridors. It also seeks to address the issues of human-elephant conflict and the welfare of domesticated elephants.
- **Main activities of the Project are as follows:**
 - Ecological restoration of existing natural habitats and migratory routes of elephants;
 - Development of scientific and planned management for conservation of elephant habitats and viable population of Wild Asiatic elephants in India;
 - Promotion of measures for mitigation of man-elephant conflict in crucial habitats and moderating pressures of human and domestic stock activities in crucial elephant habitats;
 - Strengthening of measures for protection of Wild elephants from poachers and unnatural causes of death;
 - Eco-development and Veterinary care.

- **Elephant census:**

- Elephant census is conducted once in 5 years under the aegis of Project elephant.
- A scientist associated with the census is of the view that discrepancy had resulted from Kerala's insistence in 2017 on using a technique called the 'direct count' method.

- **Elephant Counting Methods Employed in Census:**

- The direct counting method is based on sightings of elephants.
- The indirect counting method uses the elephant 'dung decay' formula, in which the analysis of dung is used to estimate the population of the elephant.

- Mineral-rich states Orissa, Jharkhand and Chhattisgarh also have the highest number of elephant corridors in the country, which makes them known for elephant-man conflicts.
- Poaching for extremely valuable elephant ivory.
- Non-accommodation of grazing grounds results in searching for food elsewhere which lead to them to crop fields and resulting in man-animal conflict.

Mitigation:

- Fusion of the corridors with nearby protected areas wherever feasible.
- In other cases, declaration as Ecologically Sensitive Areas or conservation reserves to grant protection.
- Securing a corridor and Habitat restoration if needed.
- Sensitizing local communities to the option of voluntarily relocation outside the conflict zones to safer areas.

Monitoring of Illegal Killing of Elephants (MIKE) Programme:

- Project Elephant has been formally implementing MIKE (Monitoring of Illegal Killing of Elephants) programme of CITES in 10 Elephant reserves since January 2004.
- It is mandated by **COP resolution of CITES**.
- It was started in South Asia in 2003 with the following purpose –
 - To measure levels and trends in illegal hunting of elephants.
 - To determine changes in these trends over time.
 - To determine the factors causing or associated with these changes and to try and assess in particular to what extent observed trends are a result of any decisions taken by the Conference of the Parties to CITES.
 - Data are collected from all sites on a monthly basis in specified MIKE patrol form and submitted to the Sub-Regional Support Office for South Asia Programme in Delhi who are assisting the Ministry in implementation of the programme.

Haathi mere Saathi:

- The campaign which was launched by the Ministry of environment and forests (MoEF) in partnership with the wildlife trust of India (WTI).
- **Why launched? –**
 - To improve conservation and welfare prospects of the elephant –India's National Heritage Animal.
 - Launched at – "Elephant- 8" Ministerial meeting, Delhi in 2011.
 - **E-8 countries** are India, Botswana, Republic of Congo, Indonesia, Kenya, Sri Lanka, Tanzania, and Thailand.
- **Aim –**
 - Increasing awareness among people and developing friendship, companionship between people and elephants.
- **The campaign Mascot "Gaju"**
 - Focuses on – target audience groups including locals near elephant habitats, youth, policymakers etc.
 - It envisions of setting up of Gajah (Elephant) centre to spread awareness on their plight and invoke people's participation in addressing the threats to them.
 - It also plans to build capacity of [protection and law enforcement agencies at the ground level, and advocate for policies favouring the elephants.
 - Elephant task force (ETF) campaign to "Take Gajah (elephant) to the Prajah (people)" aims to spread awareness and encourage people's participation in elephant conservation and welfare.
- **Elephant Task Force:**
 - The increased tension due to rampant retaliatory killing of elephants and human-elephant conflict prompted the government to set up the Elephant Task Force along the lines of the Tiger Task Force.
 - The focus of the Elephant Task Force was to bring pragmatic solutions for the conservation of elephants in the long-term.

Emissions Gap Report 2020

Geography & Environment

Why in news?

- The report assesses the gap between anticipated emissions and levels consistent with the Paris Agreement goals of limiting global warming this century to well below 2°C and pursuing 1.5°C.

About the report

- Temperature Rise:** World is still heading for a temperature rise in excess of 3°C this century – far beyond the Paris Agreement goals of limiting global warming to well below 2°C and pursuing 1.5°C.
- Record GHG Emissions:** In 2019, the total greenhouse gas emissions, including land-use change reached a new high of 59.1 giga tonnes of CO₂ equivalent (GtCO₂e).
- Record carbon emission:** Fossil carbon dioxide (CO₂) emissions (from fossil fuels and carbonates) dominate total GHG emissions.
- Forest fires increasing GHG emissions:** Global greenhouse gas emissions have grown 1.4% per year since 2010 on average, with a more rapid increase of 2.6% in 2019 due to a large increase in forest fires.
- G20 countries account for the bulk of emissions:** Over the last decade, the four emitters (China, the United States of America, EU27+UK and India) have contributed to 55% of the total GHG emissions.
- Did the COVID-19 pandemic impact the emission level?** Due to the pandemic, carbon dioxide emissions are predicted to fall up to 7% in 2020. However, this dip only translates to a 0.01°C reduction of global warming by 2050.
- Which sector reported the lowest dip in emission due to pandemic?** Studies indicate that the biggest changes have occurred in transport, as COVID-19 restrictions were targeted to limit mobility, though reductions have also occurred in other sectors.

Recommendations:

- Green Pandemic Recovery:** Governments can invest in climate action as part of pandemic recovery and solidify emerging net-zero commitments with strengthened pledges so that they can bring emissions to levels broadly consistent with the 2°C goal.
- Change in Consumption Behaviour:** The report finds that stronger climate action must include changes in consumption behaviour by the private sector and individuals. Around two-thirds of global emissions are linked to private households when using consumption-based accounting.
- Responsibility on Wealthy:** The wealthy bear the greatest responsibility as the emissions of the richest 1% of the global population account for more than twice the combined share of the poorest 50%. This group will need to reduce its footprint by a factor of 30 to stay in line with the Paris Agreement targets.
- Lower Carbon Consumption:** Possible actions to support and enable lower carbon consumption include replacing domestic short haul flights with rail, incentives and infrastructure to enable cycling and car-sharing, improving the energy efficiency of housing and policies to reduce food waste.

State of the Global Climate 2020 Report

Geography & Environment

Why in the news?

- The World Meteorological Organization(WMO) has released the annual State of Global Climate Report,2020 to keep a track of global warming.
- Hottest Year:** 2020 will be one of the three hottest years just behind 2016 and 2019.
- Rise in Global Temperature:** The global mean surface temperature for January-October 2020 was 1.2 degree Celsius higher than the pre-industrial baseline (1850-1900).For that period, 2020 is the second-warmest year on record.
- High Temperature over Ocean Surfaces:** 80% of ocean areas have experienced at least one marine heat wave (MHW) so far in 2020.
- Global sea-level rise** was also similar to 2019 value. This was mainly due to the increased melting of the ice sheets in Greenland and Antarctica.
- Consequences:** Extreme weather events such as tropical cyclones, floods, heavy rainfall and droughts were the consequence of global warming that impacted many parts of the world.



- It is an intergovernmental organisation.
- Established in **1950**, **191** members countries
- It originated from International Meteorological Organization (IMO), which was founded in 1873.
- WMO is the specialised agency of the UN for meteorology (weather and climate), operational hydrology and related geophysical sciences

- HQ : **Geneva, Switzerland**
- India is a member of WMO**
- Its mandate covers weather, climate and water resources.
- It is dedicated to international cooperation and coordination on state and behaviour of Earth's atmosphere, its interaction with land and oceans, the weather and climate and distribution of water resources

Scented products add to Air Pollution

Geography & Environment

Why in the news?

- Use of hair sprays, hand sanitisers etc emit the same amount of chemical vapours as petroleum from vehicles, even though 15 times more petroleum is burned as fuel.

Issues with scented goods

- The use of scented goods (including things such as perfumes, hair sprays, air fresheners, and paints) emit the same amount of chemical vapours as petroleum from vehicles, even though 15 times more petroleum is burned as fuel.
- Each spritz of perfume contains volatile organic compounds (VOCs).
- Air pollution affects around the 90 per cent of the world, according to the World Health Organization.
- This burdens the consumer with a huge responsibility in choosing the best for themselves as well as the environment.
- Products emitting the least amount of VOCs are a need of the hour. Its effect could be severely reduced by using indoor and outdoor plants.



Volatile organic compounds

- Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids.
- VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects.
- Concentrations of many VOCs are consistently higher indoors (up to 10 times higher) than outdoors.
- VOCs are emitted by a wide array of products numbering in the thousands.
- These chemical vapours, known as volatile organic compounds, react with sunlight to form ozone pollution, and, react with other chemicals in the atmosphere to form fine particulates in the air.
- **Organic chemicals:** Organic chemicals are widely used as ingredients in household products. Paints, varnishes and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products.
- Fuels are made up of organic chemicals. All these products can release organic compounds while you are using them, and to some degree, when they are stored.

Worldwide Legal Wildlife Trade increased by 200%

Geography & Environment

Why in the news?

- According to recent report by Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), an intergovernmental organisation established to improve the interface between science and policy on issues of biodiversity and ecosystem services, the international legal wildlife trade has increased 500 per cent in value since 2005 and 2,000 per cent since the 1980s. On the other hand, the estimated value of the global illegal trade in wildlife is worth around \$7-23 billion per year, equivalent to nearly 25 per cent of the value of the legal market.

Findings of the report

- The report noted that CITES had been able to reduce wildlife trade, drive up value of sustainably traded species and products and promote captive-breeding, ranching or farming as alternatives to wild capture.
- However, it added that the international trade in a large number of wild species — principally fisheries and forestry resources — were not regulated under CITES, while the domestic use and trade of wildlife fell outside the purview of the Convention.
- The report focused on wildlife farming, the practice of captive breeding of usually undomesticated animals in an agricultural setting. This is done to generate profit by producing animals to be kept as pets, create commodities such as food and traditional medicine, leather, fur and fibre.
- While wildlife farming might offer an alternative source for wildlife products and reduce hunting pressure on free-living populations, the report found that it had its negative sides too.
- "In many regions, wildlife farms are stocked repeatedly with wild-caught individuals that are largely indistinguishable from those that are captive-bred, record keeping is often lax or non-existent and enforcement of laws often poor," the report said.
- It added that the increased availability of wild animals due to captive breeding might increase consumer demand and put pressure on free-living populations for founder stock. This was because breeding capacity was unable to meet demand and create opportunities for laundering illegally-caught animals, it said.

- For instance, a 2014 census in Vietnam documented over 4,000 wildlife farms producing nearly one million individuals of 182 wildlife species. Wildlife farming in China generated \$77 billion dollars and employed 14 million people in 2016.
- The unsustainable nature of both legal and illegal wildlife trade, made clear by the report would have multiple implications for human health, experts said.
- Suggestions such as sanitation measures in wildlife markets might help, but did not address the root cause of the problem, which was that the current levels of trade and consumption of wildlife were simply unsustainable.
- "Transformative change, which IPBES has called for, would involve bolder policy prescriptions than those contained in the report, according to report.

Narmada Landscape Restoration Project (NLRP)

Geography & Environment

Why in the news?

- Recently, National Thermal Power Corporation (NTPC) has signed a Memorandum of Understanding (MoU) with Indian Institute of Forest Management (IIFM), Bhopal, to implement the Narmada Landscape Restoration Project (NLRP).

What is Narmada Landscape Restoration Project (NLRP)?

- **Aim:** To establish an incentivisation mechanism to maintain sustainable landscape practices in Narmada basin.
- Landscape restoration is the concept of **sustainable development and building a public participation platform integrated with experts, designers, and user.**

Funding Mechanism

- **The project will be jointly implemented with**
 - IIFM, Bhopal, an Autonomous Institute under the **Ministry of Environment, Forest and Climate Change (MoEF&CC),**
 - **Government of India (GoI) with the grant-in-aid from NTPC Ltd.**
 - **Global Green Growth Institute (GGGI)**
 - an intergovernmental organization that **promotes sustainable and inclusive economic growth in emerging economies**
 - **United States Agency for International Development (USAID)**
 - The **international development arm of the US Government.**



- **Implementation**
 - **4-year project** will be implemented in Khargone District of Madhya Pradesh, in the **catchments of tributaries of the River Narmada between Omkareshwar and Maheshwar dams.**
 - **Mkareshwar Dam**
 - The Omkareshwar Dam is one of the major downstream dams of Indira Sagar Project.
 - lies along the bank for the Narmada and Kaveri.
 - **Maheshwar Dam**
 - Maheshwar is one of the **planned large dams on the Narmada Valley to provide 400 MW electricity.**
- **Implementing Agencies**
 - IIFM, Bhopal, an Autonomous Institute under the **Ministry of Environment, Forest and Climate Change (MoEF&CC) will be jointly implementing this project with Global Green Growth Institute (GGGI).**
- **Benefits of the Project**
 - **Demonstrate nature-based solutions** for enhancing ecosystem services.
 - Promote a **clean and sustainable environment** concerning land, water and air.
 - **Improvement** in water quality and quantity.
- **Narmada River**
 - Narmada is the **largest west flowing river of the peninsular region.**
 - It rises from Maikala range near Amarkantak in Madhya Pradesh.
 - It flows through a rift valley between the **Vindhya Range on the north and Satpura Range on the south.**

- It drains a large area in **Madhya Pradesh and some areas in Maharashtra and Gujarat.**
- It forms **Dhuan Dhar Falls near Jabalpur (Madhya Pradesh).**
- There are several islands in the estuary of the Narmada of which **Aliabet is the largest.**
- **Major Tributaries:** Hiran, Orsang, the Barna and the Kolar.
- **Major Hydro Power Projects:** Indira Sagar, Sardar Sarovar etc.

Malayan Giant Squirrel

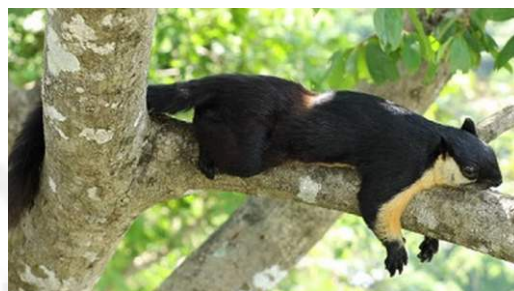
Geography & Environment

Why in the news?

- The Zoological Survey of India (ZSI) in a recent study has **projected that numbers of the Malayan Giant Squirrel could decline** by 90 per cent in India by 2050. It mentions that the species **could be extinct** in the country if urgent steps are not taken. India is home to three giant squirrel species. The other two are Indian Giant Squirrel and Grizzled Giant Squirrel which are found in peninsular India

About Malayan Giant Squirrel

- **Scientific Name:** *Ratufabicolor*
- It is one of the **world's largest squirrel species** that has a dark upper body, pale under parts, and a long, bushy tail.
- **Habitat:** Found generally in evergreen & semi-evergreen forests.
 - In India it is found in parts of West Bengal, Sikkim, Assam, Arunachal Pradesh, Meghalaya, and Nagaland.
 - It is also found in Southern China, Thailand, Laos, Vietnam, Burma, the Malayan Peninsula, Sumatra, and Java.
- **Significance:** Its population indicates the health of the forest, vegetation and plants in the forest on which the species feeds, as well as that of the other symbiotic species that inhabit the region.
- **Conservation Status:**
 - IUCN Red List: Near Threatened.
 - Wildlife Protection Act, 1972: Schedule I.
 - CITES: Appendix II.
- **Threats:**
 - Deforestation, fragmentation of forests, crop cultivation and over-harvesting of food, illegal trade in wildlife, and hunting for consumption.
 - The population of the squirrel in India has declined by 30 percent over the last two decades.



Indian Peacock Soft-shelled Turtle

Geography & Environment

Why in the news?

- Recently, a turtle of a **vulnerable species was rescued** from a fish market in Silchar Assam. The rescued species is Indian peacock softshell turtle.

About the species:

- **Scientific name:** *Nilssoniahurum*
- It is **confined to India, Bangladesh and Pakistan.**
- In India it is widespread in the **northern and central parts** of the **Indian subcontinent.**
- **Characteristics:**
 - It has a **large head, downturned snout** with low and oval carapace of dark olive green to nearly black, sometimes with a yellow rim.
 - The **head and limbs are olive green.**
 - The males possess relatively longer and thicker tails than females.
- **Habitat:**
 - Found in **rivers, streams, lakes and ponds** with **mud or sand bottoms.**
 - It is **omnivorous**, juveniles observed feeding on mosquito larvae and fish, while adults consume snails, earthworms and vegetation etc.
- **Conservation status:**
 - **IUCN: Vulnerable**
 - **IWPA: Schedule I**
 - **CITES: Appendix I**



Major Threats:

- It is heavily **exploited for its meat and calipee** (the outer cartilaginous rim of the shell).
- Threats in the River Ganga to the species are those generic for all large river turtles, including reduction of fish stock, as a result of overfishing, pollution, increase in river traffic, and sand-mining, among others.

TsoKar Wetland**Geography & Environment****Why in the news?**

- India has added TsoKar Wetland Complex in Ladakh as its 42nd Ramsar site, which is a second one in the Union Territory (UT) of Ladakh.
- The TsoKar Basin is a high-altitude wetland complex, consisting of two principal waterbodies, StartsapukTso, a freshwater lake of about 438 hectares to the south, and TsoKar itself, a hyper saline lake of 1800 hectares to the north, situated in the Changthang region of Ladakh, India.
- It is called TsoKar, meaning white lake, because of the white salt efflorescence found on the margins due to the evaporation of highly saline water.
- The TsoKar Basin is an A1 Category Important Bird Area (IBA) as per Bird Life International and a key staging site in the Central Asian Flyway.
- The site is also one of the most important breeding areas of the Black-necked Crane (*Grus nigricollis*) in India.
- This IBA is also the major breeding area for Great Crested Grebe (*Podiceps cristatus*), Bar-headed Geese (*Anser indicus*), Ruddy Shelduck (*Tadorna ferruginea*), Brown-headed Gull (*Larus brunnicephalus*), Lesser Sand-Plover (*Charadrius mongolus*) and many other species.

Significance

- The TSO Kar basin is categorised as A1 Category Important Bird Area (IBA) as per the Bird Life International and is also a key staging site in the Central Asian Flyway.
- The basin is one of the most important breeding areas of the Black-necked Crane (*Grus nigricollis*) in India.
- It is also a major breeding area for the Bar-headed Geese (*Anser indicus*), Great Crested Grebe (*Podiceps cristatus*), Ruddy Shelduck (*Tadorna ferruginea*), Lesser Sand-Plover (*Charadrius mongolus*) and Brown-headed Gull (*Larus brunnicephalus*) and many other species.

What are wetlands?

- **Defined by the Ramsar Convention):**
 - Areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water.
 - Their depth should not exceed six meters at low tide.
 - Example, mangroves, marshes, also known as "morass" and even, coral reefs and seagrass beds.
 - Every Year on February 2, World Wetland day is observed across the world.
 - Theme (2020): Wetlands and Biodiversity.

Why are wetlands important?

- The wetlands are home to key resources and ecosystem services including water, groundwater recharge, water purification, food, fibre, flood moderation, erosion control and climate regulation.
- The wetlands are a major source of water and the main supply of fresh water, as the wetlands soak in rainfall and recharge groundwater.
- Following the classification of the site as a Ramsar site, the Ministry of Environment, Forest & Climate Change would be working closely with the UT Wetland Authority to ensure wise use of this site.

Threat to Wetlands:

- The global assessment of IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) identified wetlands as the most threatened ecosystem.

Possible Impacts:

- **On Biodiversity and Climate Change:**
 - As per UNESCO, any threat to wetlands impacts 40% of the world's plant and animal species that are dependent on wetlands.
 - 30% of land-based carbon finds its storage in peat lands. So it poses a high degree of vulnerability.
- **On Livelihoods:**
 - Close to a billion people are dependent upon wetlands for their livelihoods purpose.
 - Wetlands provide \$47 trillion in essential services annually.

Ramsar Convention:

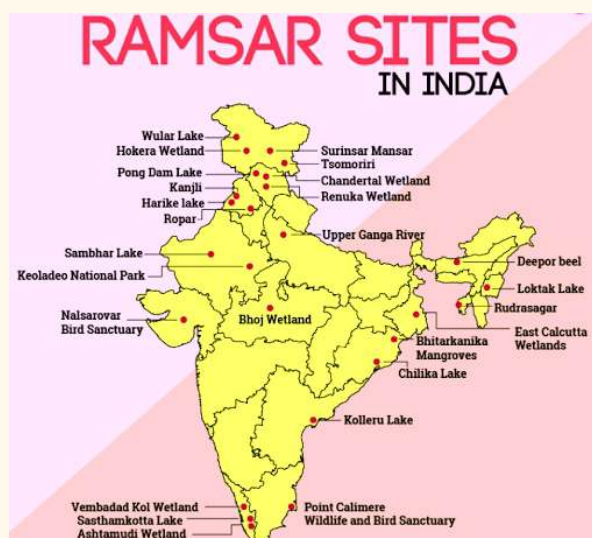
- It is an intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.
- It was signed in 1971 in Ramsar, Iran and came into force in 1975.
- In India, the convention entered into force on 1 February 1982.
- It has released its maiden global report named "Global Wetland Outlook".

Montreux Record:

- It is maintained as a part of the Ramsar List.
- It is a register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference.
- Two wetlands from India, namely Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur) feature in the Montreux record.

State of Wetlands in India:

- A petition filed in Supreme Court states reveals that India has over 7 lakh wetlands covering 1.6 crore hectares or 4.5% of India's area
- The Court extended protection to 2,01,503 of these under Rule 4 of the 2010 Rules, and ordered authorities to notify sites.
- But not a single wetland has been notified under domestic laws.
- The Supreme Court too expressed concern over the disappearance of wetlands, and observed, "If there are no wetlands left, it will affect agriculture and several other things. It is a very, very important issue."
- Wetlands are regulated under the Wetlands (Conservation and Management) Rules, 2017.

**Myristica Swamp Treefrog****Geography & Environment****Why in news?**

- Myristica Swamp Treefrog, a rare **arboreal species endemic to the Western Ghats** that bears the scientific name *Mercuranamyristicapalustris*, has been recorded for the first time north of the Shencottah gap in Vazhachal Reserve Forest in Thrissur.

About the frog

- Unlike the Myristica Swamp Tree frog found in the foothills of the Agasthyamalai, these frogs were found to be active throughout June and early July and has adapted to a non-Myristica swamp predominant with the plant *Polyalthiafragrans*.
- The frog was first described in 2013 from the lowland Myristica swamps of Aripa, near Kulathupuzha Reserve Forest, in the western foothills of Agasthyamalai.
- These frogs are **rare and elusive** for the reason that **they are arboreal and active only for a few weeks** during their breeding season.
- During this season, there is a large aggregation of males that descend from the high canopy of the trees. The males vocalise in groups from the low perches in the swamps.
- They **exhibit unique breeding behaviour**.
 - The female digs the mud and lays eggs in shallow burrows in mud.
 - After breeding and egg-laying, they retreat back to the high canopies of the tree and remain elusive till next breeding season.



Kolar Leaf-Nosed Bats

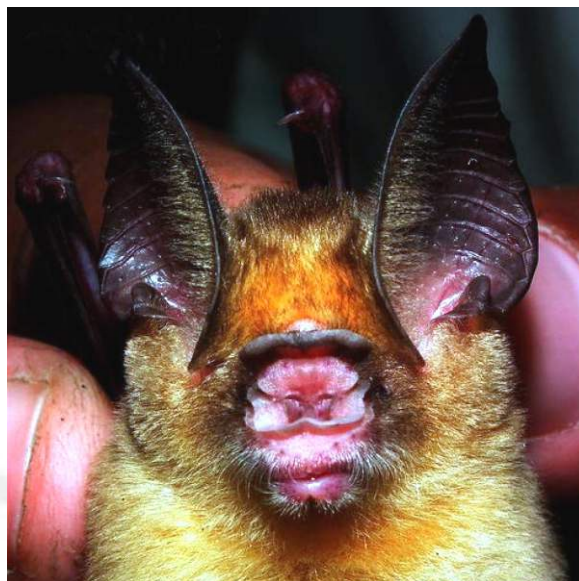
Geography & Environment

Why in the news?

- The Karnataka Forest Department is pushing for a conservation plan to save a bat species found only in the Kolar region of Karnataka from getting extinct.

About the species

- The Kolar Leaf-nosed bat is found only in two caves of the Hanumanahalli village in Kolar District of Karnataka.**
- For some unknown reasons, bats in one cave have gone locally extinct.
- Now, the Karnataka Forest Department and **Bat Conservation India Trust (BCIT)** are working on a conservation plan on a war footing to save the bat species from getting extinct.
- BCIT is drawing up the conservation plan and a grant has been awarded to conduct research on the bat species.
- The funding has been provided by the **Habitats Trust.**
- The State Government came to know about the extinction of the bats in one cave when a research was conducted by Osmania University in 2014.
- Then, the government had immediately notified the 30 acres around the caves as a protected area.
- Kolar Leaf-Nosed Bat is an endemic species.**
- Very little is known about the species – its diet, ecology, behaviour, and what would be the impact on the bats if the cropping pattern changes in the region.
- In India, there are 130 species of bats, yet we know little about these mammals.
- Bats are very adaptable creatures. Hence they are not shy of living close to human habitations with many are found even in urban settlements, which makes them vulnerable.
- Due to some recent incidents, bats have gained a bad reputation as carriers of diseases.
- But, bats are absolutely crucial for the ecology as they are pollinators, their main diet being nectar.**
- Plants that bloom at night are predominantly dependent on bats and moths for pollination.
- Bats also act as **protectors of crops as they help in insect control.**
- In the caves of Hanumanahalli, there are three to five species of bats of which leaf-nosed is one.
- As per current estimates, there are only 150 Kolar Leaf-Nosed Bats left in the caves.



India's highest Meteorological Centre in Leh

Geography & Environment

Why in the news?

- Indian Meteorological Department (IMD) launched country's highest Meteorological Centre in Leh, Ladakh

Key points about the centre

- The centre is located at 3,500 metres above sea level in Leh, it will be the highest Meteorological Centre (MC) in India.
- After Itanagar in Arunachal Pradesh, the Leh centre is the second MC located in the Himalayas. After Itanagar in Arunachal Pradesh, the Leh centre is the second MC located in the Himalayas.
- As per IMD, it will install ten Automatic Weather Stations (AWS) at key locations — Nubra and Zaskar valleys, PangongTso, Drass and Kargil.
- With this centre IMD will provide specialised weather forecasts for traffic movement on highways, agriculture, and defence personnel

Why is establishing a Meteorological Centre (MC) in Ladakh important?

- Because Ladakh remains vulnerable to erratic weather and changing climate that have adverse effects on the lives of the locals.
- In addition, the UT is a geo-strategic location from the security point of view.
- Ladakh has only two districts Kargil and Leh and it has varying micro-climatic zones ranging from plains, cold desert, hills and extreme dry places and all these micro-climatic regions require specific and localised weather monitoring and information

- The IMD plans to augment its existing operations in the region so as to provide timely weather updates and warnings ahead of disasters like cloud bursts in this geographically unique region

Benefits of the centre

- It will benefit locals, the forecasts will benefit tourists, the defence sector, disaster management and agriculture departments in the region
- Being a seismologically active region, the scientists will also gather seismological data here

A brief note on IMD

- In the year 1875, the Government of India established the India Meteorological Department, bringing all meteorological work in the country under a central authority.
- From a modest beginning in 1875, IMD has progressively expanded its infrastructure for meteorological observations, communications, forecasting and weather services and it has achieved a parallel scientific growth.
- India was the first developing country in the world to have its own geostationary satellite, INSAT, for continuous weather monitoring of this part of the globe and particularly for cyclone warning.
- IMD is under the Ministry of Earth Sciences.
- The Director General of Meteorology is the Head of the India Meteorological Department, with headquarters at New Delhi. For the convenience of administrative and technical control, there are 6 Regional Meteorological Centres, each under a Deputy Director General with headquarters at Mumbai, Chennai, New Delhi, Calcutta, Nagpur and Guwahati.
- In addition, there are separate Divisions to deal with specialised subjects. They are Agricultural, Meteorology, Civil Aviation, Climatology, Hydrometeorology, Instrumentation, Meteorological Telecommunication, Regional Specialised Meteorological Centre, Positional Astronomy, Satellite Meteorology, Seismology, Training

Mandate of IMD

- To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc.
- To warn against severe weather phenomena like tropical cyclones, norwesters, dust storms, heavy rains and snow, cold and heat waves, etc., which causes destruction of life and property.
- To provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities.
- To conduct and promote research in meteorology and allied disciplines

Giant Antarctic Iceberg A68a

Geography & Environment

- The **giant iceberg A68**, the biggest block of **free-floating ice from Antarctica** with an area of about **5,800 sq. km**, has been drifting in the **Atlantic Ocean since 2017**. This year, due to an **ocean current** the iceberg was propelled into the **South Atlantic Ocean** and since then it has been drifting towards the remote **sub-Antarctic island of South Georgia**, prompting fears about the impact the iceberg could have on the **island's abundant wildlife**. Icebergs travel with **ocean currents** and either get caught up in shallow waters or ground themselves.

About A68a

- **A68a, split off from Antarctica's Larsen C ice shelf in July 2017**. Since then it has been drifting towards the remote island of South Georgia, which is a **British Overseas Territory (BOT)**.
- On its journey, smaller icebergs have calved from the iceberg and right now, the **biggest section of the iceberg is called A68a** and spans an area of roughly 2,600 sq. km.
- The **US National Ice Center (USNIC)** (USNIC is responsible for naming icebergs, which are named according to the Antarctic quadrant in which they are spotted) confirmed that two new icebergs calved from **A68a** and were large enough to be named and tracked. **They are called A68E and A68F**.
- The fear is that if the **iceberg grounds itself near the island**, it could cause **disruption to the local wildlife** that forages in the ocean.
- On the other hand, **there are some positives of an iceberg being stuck in the open ocean**, since icebergs carry dust which fertilises ocean plankton, which **draws up carbon dioxide from the atmosphere**.



What is A68a and where is it headed?

- A68a, an iceberg roughly the size of the state of Delaware, split off from Antarctica's Larsen C ice shelf in July 2017. Since then it has been drifting towards the remote island of South Georgia, which is a British Overseas Territory (BOT).
- The smaller icebergs have calved from the iceberg on its journey and right now, the biggest section of the iceberg is called A68a and spans an area of roughly 2,600 sq. km
- Recently, the US National Ice Center (USNIC) confirmed that two new icebergs calved from A68a and were large enough to be named and tracked. They are called A68E and A68F.

Who names icebergs?

- US National Ice Center (**USNIC**) is responsible for naming icebergs, which are named according to the Antarctic quadrant in which they are spotted
- The U.S. National Ice Center (USNIC) is a fully integrated multi-agency organization composed of contributions from the U.S. Navy (USN), the National Oceanic and Atmospheric Administration (NOAA), and the U.S. Coast Guard (USCG). The USNIC monitors the global sea ice environment from its offices at the NOAA Satellite Operations Facility (NSOF) in Suitland, MD.

Winter Solstice

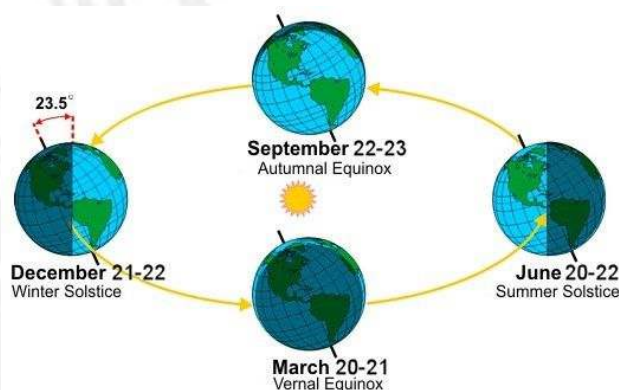
Geography & Environment

Why in news?

- December 21 marks **the Winter solstice in the Northern Hemisphere**. The same day marks the Summer Solstice in the Southern Hemisphere.

About Winter Solstice:

- It is the **shortest day** in the Northern Hemisphere.
- On December 22 the **day will be one second longer** and gradually the duration of day time will increase.
- This **situation will be reversed six months** from now, on June 21, 2021 when the Northern Hemisphere will see the Summer Solstice.
- The day will be the year's longest on the Summer Solstice.
- It occurs **when the sun is directly over the Tropic of Capricorn**, located at 23.5° latitude South .



Festivals associated with Winter Solstice

- For centuries, this day has had a **special place in several communities** due to its astronomical significance, and is celebrated in many ways across the world.
- Jewish people call it '**Tekufat Tevet**', which marks the start of winter.
- In Iran and neighbouring Afghanistan, Uzbekistan, Tajikistan, Turkmenistan, Azerbaijan, and Armenia, the Winter Solstice is celebrated as **Yalda or Shab-e-Yalda**.
- In **Vedic Tradition** it is the first day of Uttarayana.
- **Uttarayana**: It is the period between Makar Sankranti and Karka Sankranti
- In the **Southern Hemisphere**, where the Winter Solstice in June, Peru celebrates the day with a festival called **IntiRaymi**, meaning "**sun festival**".

What are Equinoxes?

- There are only **two times** of the year when the Earth's axis is tilted neither toward nor away from the sun, resulting in a "nearly" equal amount of daylight and darkness at all latitudes and these events are referred to as Equinoxes.
- There are **two equinoxes** namely Vernal and Autumnal.
- The days become a little longer at the higher latitudes (those at a distance from the equator) because it takes the sun longer to rise and set.

Mount Everest

Geography & Environment

Why in news?

- Recently, the Foreign Ministers of Nepal and China jointly certified the elevation of Mount Everest at 8,848.86 meters above sea level — 86 cm higher than what was recognized since 1954

Earlier measurement

- In 1954 the Survey of India determined its height using instruments like the odolites and chains, with GPS still decades away. The elevation of 8,848 m came to be accepted in all references worldwide — except by China
- In 1999, a US team put the elevation at 29,035 feet (nearly 8,850 m). This survey was sponsored by the National Geographic Society, US



The recent measurement of the mountain

- After the devastating earthquake of April 2015, the government of Nepal (with technical assistance from New Zealand) declared that it would measure the mountain on its own, instead of continuing to follow the Survey of India findings of 1954.
- Sir Edmund Hillary, the first climber on the peak along with Nepal's Tenzing Norgay in May 1953, worked as the mountain's undeclared brand ambassador to the world
- In May 2019, the New Zealand government provided Nepal's Survey Department (NapiBibhag) with a Global Navigation Satellite, and trained technicians.

China's measurement

- It conducted the measurement separately
- The team of 120 (field workers and data analysts) was processing the data and computing results
- Both China & Nepal had signed a memorandum of understanding to jointly make public their results.
- The Chinese side conducted its measurements early this year.
- The methodology used for the measurement**
 - Both countries, China and Nepal announced the new height, and appreciated the mutual cooperation
 - Nepal Joint secretary of Department of Survey said that they have used the previous methods applied in ascertaining the height as well as the latest data as well Global Navigational Satellite System (GNSS).

A brief note on Mount Everest

- Also called Sagarmatha, it is Earth's highest mountain above sea level, located in the Mahalangur Himal sub-range of the Himalayas.
- The China–Nepal border runs across its summit point.
- Its elevation (snow height) of 8,848.86 m (29,032 ft) was most recently established in 2020 by the Nepalese and Chinese authorities
- In 1865, Everest was given its official English name by the Royal Geographical Society, as recommended by Andrew Waugh, the British Surveyor General of India

Cyclone Burevi

Geography & Environment

Why in news ?

- Cyclone Burevi is heading towards the Tamil Nadu (TN) coast after crossing Sri Lanka.

About cyclone

- Cyclonic Burevi:** It is a tropical cyclone formed over southwest Bay of Bengal. It is expected to bring heavy rainfall over south Tamil Nadu and south Kerala.
- Named by:** The name "Burevi" was suggested by the Maldives.



About tropical cyclone

- **Tropical Cyclones:** These are storms that originate and intensify over warm tropical oceans. They are intense low pressure areas with very strong winds circulating around it in anti-clockwise direction in the Northern Hemisphere and in clockwise direction in the Southern Hemisphere.
- **Different Names:** Tropical Cyclones are known by different names in different regions:
 - Cyclones in Indian Ocean
 - Hurricanes in Atlantic
 - Typhoons in Western Pacific in South China Sea
 - Willy-Willies in Western Australia

Conditions for formation of cyclone

- The conditions favourable for the formation and intensification of tropical cyclones are:
 - Large sea surface with temperature higher than 27° C;
 - Presence of the Coriolis force enough to create a cyclonic vortex
 - Small variations in the vertical wind speed;
 - A pre-existing weak low-pressure area or low-level-cyclonic circulation is must for cyclone formation in tropics
 - Upper divergence above the sea level system

World Soils Day

Geography & Environment

Why in news?

- The World Soil Day (WSD) was observed across the world on December 5, 2020
- About soils day
- The day is observed annually to highlight the importance of healthy soil and advocate for the sustainable management of soil resources. The theme for WSD 2019 was '**Stop Soil Erosion, Save Our Future**'.
- **Historical background:**
- In 2002 **the International Union of Soil Science (IUSS)** voted for a resolution to dedicate 5th December every year as World Soil Day to promote the importance of Nature and human wellbeing.
- **Food and Agriculture organization (FAO) supported this initiative together with the Kingdom of Thailand leadership** as a part of "Global soil partnership".
- FAO took the initiative to establish Soil Day. Consequently, unanimously approved it in its FAO conference 2013.
- **Later in 2013, December with FAO's request, UN adopted World Soil Day in its 68th UN General Assembly.** Further, announced that the day would be observed on 5th December every year.
- Especially, this is a tribute to late **King Bhumibol Adulyadej of Thailand** for his contribution in improving quality and sustainable management of soil.
- Thereby, FAO has been celebrating world soil day since 2012.

The International Union of Soil Sciences (IUSS), founded in 1924 under the name International Society of Soil Science, is a scientific union and member of the International Council for Science (ICSU). The Union has 86 national and regional member societies with about 60,000 scientists in several countries and individual members in 57 countries. [citation needed] Every four years, the IUSS holds the World Congress of Soil Science.

Postal Ballot System for NRI

Polity & Governance

Why in the news?

- Recently, **the Election Commission (EC)** approached the Law Ministry to permit. NRIs cast their votes from overseas through postal ballots.

About the representation

- The EC told the government it had **received representations** from the Indian diaspora about facilitating voting through postal votes.
- The **EC** informed the government that it is **"technically and administratively ready"** to extend the Electronically Transmitted Postal Ballot System (ETPBS) to voters abroad.
- It will be implemented in the elections next year in Assam, West Bengal, Kerala, Tamil Nadu and Puducherry.

Current Scenario :

- At Present, **an NRI can vote in the constituency** in which her place of residence, as mentioned in the passport, is located.
- He/She can only vote in person and will have to produce her passport in original at the polling station for establishing identity.
- Voting rights for **NRIs were introduced only in 2011**, through an amendment to the Representation of the People Act 1950.

Procedure to be followed:

- According to the proposal, any **NRI interested** in voting through the postal ballot in an election will have to inform the Returning Officer (RO) not later than five days after the notification of the election.
- On receiving such information, the **RO will dispatch the ballot paper** electronically.
- The **NRI voters** will download the ballot paper, mark their preference on the printout and send it back along with a declaration attested by an officer appointed by the diplomatic or consular representative of India in the country where the NRI is resident.
- The **return procedure of the ballots are still to be decided.**

Concerns Associated With The Proposal

- A 12-member committee was set up after the 2014 Lok Sabha elections to study mainly three options — voting by post, voting at an Indian mission abroad, and online voting.
- The committee ruled out online polling as it felt this could compromise "secrecy of voting". It also shot down the proposal to vote at Indian missions abroad as they do not have adequate resources.
- However, in 2015, the panel finally recommended that NRIs should be given the "additional alternative options of e-postal ballot and proxy voting", apart from voting in person.

Waqf Boards

Polity & Governance

Why in the news?

- Union Minister for Minority Affairs has announced that Waqf Boards will be established in JammuKashmir and Leh-Kargil for the first time since independence and the process of establishing the Waqf Boards has been started.

What is a WAQF?

- Waqf is the **property** given in the name of God for **religious and charitable purposes**. The property is a permanent dedication by a person professing Islam, of any movable or immovable property for any purpose recognised by the Muslim law as pious, religious or charitable.
- A waqf can be formed through a deed or instrument, or a property can be deemed waqf if it has been used for religious or charitable purposes for a long period of time.
- The proceeds are typically used to finance educational institutions, graveyards, mosques and shelter homes.
- A person creating the waqf **cannot take back the property and the waqf would be a continuing entity**. A **non-Muslim can also create a waqf but the individual must profess Islam** and the objective of creating the waqf has to be Islamic.

HOW IS A WAQF GOVERNED?

- Waqfs in India are governed by the **Waqf Act, 1995**.
- A **survey commissioner** under the Act lists all properties declared as waqf by making local investigation,

summoning witnesses and requisitioning public documents.

- The waqf is managed by a **mutawali**, who acts as a supervisor.
- It is **similar to a trust** established under the Indian Trusts Act, 1882, but trusts can be set up for a broader purpose than religious and charitable uses.
- **Waqf cannot be dissolved like a trust.**

WHAT IS A WAQF BOARD?

- A Waqf Board is a **juristic person** with power to acquire and hold property and to transfer any such property. The board **can sue and be sued in a court** as it is recognised as a **legal entity or juristic person**.
- **Each state has a Waqf Board headed by a chairperson**, one or two nominees from the state government, **Muslim legislators and parliamentarians, Muslim members of the state Bar Council**, recognised scholars of Islamic theology and mutawalis of the waqfs with an **annual income of Rs 1 lakh and above**.

POWERS OF WAQF BOARD:

- To administer the property and take measures for the recovery of lost properties of any waqf
- To sanction any transfer of immovable property of a waqf by way of sale, gift, mortgage, exchange or lease. However, the sanction shall not be given unless at least two thirds of the members of the Waqf Board vote in favour of such transaction.

Declare Elections Void If NOTA Has Most Votes

Polity & Governance

Why in the news?

- A PIL has been filed in the Supreme Court seeking directions to the Election Commission of India to declare elections null and void in any given constituency if the maximum votes polled are in favour of NOTA and hold new elections. The PIL demanded restricting the candidates in the invalidated election from taking part in the fresh election.

NOTA in elections

- Universal adult suffrage conferred on the citizens of India by the Constitution has made it possible for these millions of individual voters to go to the polls and thus participate in the governance of our country
- For democracy to survive, it is essential that the best available men should be chosen as people's representatives for proper governance of the country. So the Supreme Court in Writ Petition directed to provide a NOTA option on the EVM and ballot papers so that the electors who do not want to vote for any of the candidates can exercise their option in secrecy. Thus by casting this protest vote people can show their dissent and disapproval to these candidates.
- The Supreme Court held that the **provisions of Rule 49-O under which an elector** not wishing to vote for any candidate had to inform the Presiding Officer about his decision, are ultra vires Article 19 of the Constitution and Section 128 of the Representation of the People Act, 1951.
- Rule 49-O was a rule in the Conduct of Elections Rules of India, which governs elections in the country. It described the procedure to be followed when a valid voter decides not to cast his vote, and decides to record this fact.
- 49-O states that if an elector, after his electoral roll number has been duly entered in the register of voters in Form 17A and has put his signature or thumb impression thereon as required under sub-rule (1) of rule 49L, decided not to record his vote, a remark to this effect shall be made against the said entry in Form 17A by the presiding officer and the signature or thumb impression of the elector shall be obtained against such remark.
- **The two main key components that came out of the Supreme Court judgment are:** Right to vote also includes a right not to vote i.e right to reject. Right to reject implies that a voter while voting has every right not to opt for any of the candidates during an election. Such a right implies a choice to remain neutral. This may happen when a voter feels that none of the candidate in a candidacy deserves to be elected. It happens by the way of his choice, belief, thinking and expression. Right to reject has its genus in freedom of speech and expression.
- Right to secrecy is an integral part of a free and fair election. It is a central right of an elector to cast his vote without fear of reprisal, duress or coercion as per Article 21 of the Indian Constitution. Protection of elector's identity and affording secrecy is therefore integral to free and fair elections and an arbitrary distinction between the voter who casts his vote and the voter who does not cast his vote is violative of Article 14, Article 19(1)(a) and Article 21 of the Indian Constitution. Secrecy of the voters is necessary in order to maintain the purity of the electoral system.
- Every voter has a right to vote in a free and fair manner and not disclose to any person how he has voted in



direct elections to Lok Sabha or State Legislatures, maintenance of secrecy is a must and is insisted upon all over the world in democracies where direct elections are involved to ensure that a voter casts his vote without any fear of being victimized if his vote is disclosed.

Positive features in NOTA:

- Voter's participation is an essence of democracy. Introducing a NOTA button can increase the public participation in an electoral process. The voters' participation in the election is indeed the participation in the democracy itself. Non-participation causes frustration and disinterest, which is not a healthy sign of a growing democracy like India.
- NOTA option gives the voter the right to express his disapproval with the kind of candidates that are being put up by the political parties. When the political parties will realize that a large number of people are expressing their disapproval with the candidates being put up by them, gradually there will be a systemic change and the political parties will be forced to accept the will of the people and field candidates who are known for their integrity
- For democracy to survive, it is essential that the best available men should be chosen as people's representatives for proper governance of the country. Thus in a vibrant democracy, the voter must be given an opportunity to choose 'None of the Above' (NOTA) button, which will indeed compel the political parties to nominate a sound candidate. This situation palpably tells us the dire need of negative voting.
- Furthermore, a provision of negative voting would be in the interest of promoting democracy as it would send clear signals to political parties and their candidates as to what the electorate thinks about them.

Negative features in NOTA:

- As per the provisions of clause (a) of Rule 64 of Conduct of Elections Rules, 1961, read with Section 65 of the Representation of the People Act, 1951, the candidate who has polled the largest number of valid votes is to be declared elected by the Returning Officer. NOTA do not mean rejection. That may sound self-defeating to the whole point of NOTA but according to Indian democracy the rule of first past the post is declared the winner. Thus, if out of total 10,000 votes, 9999 voters elect NOTA option and just one candidate gets even a single vote, then the latter wins from that constituency.
- There has been a debate for re-election to be held in case the total number of NOTA votes crosses a certain percentage. However, this has no legal standing currently and hence NOTA is merely cosmetic in nature. NOTA can only work only when it is paired with Right To Recall option where voters can recall candidates they have elected. This will instill fear in candidates to do well in office and also lead to giving NOTA importance because it acts as a pre-cursor to public displeasure. Currently, Right To Recall does not exist in the electoral process in the country, which only weakens NOTA.

Recommendations for improving NOTA

According to Association for Democratic Reforms (ADR) and National Election Watch (NEW) following provisions has been recommended with respect to the counting of votes as registered against the NOTA in a particular constituency:-

- a) Votes cast for the 'none-of-the-above' option should also be counted.
- b) In case the 'none-of-the-above' option gets more votes than any of the candidates, none of the candidates should be declared elected and a fresh election held in which none of the candidates in this election are allowed to contest.
- c) In the following elections, with fresh candidates and with a 'none-of-the above' option, only that candidate should be declared elected who gets at least 50 percent + one of the votes cast.
- d) If even in this round, the 'none-of-the above' option gets the highest number of votes cast or none of the candidate gets at least 50 percent + one of the votes cast, then the process should be repeated.

Review Petition

Polity & Governance

Why in the news?

- Activist-lawyer Prashant Bhushan has moved the Supreme Court seeking a direction for his two pleas, in which he has sought review of the orders conviction and sentencing him for contempt of court for his tweets against the judiciary.

What Is A Review Petition And When Can It Be Filed?

- Review means when the court re-examines the decisions made by itself, the examination of any legislation made by the government or any act of the administrative organizations; it rectifies the error in an act, judgment, or legislation.
- A judgment of the Supreme Court becomes the law of the land, according to the Constitution. It is final because it provides certainty for deciding future cases. However, under Article 137, the Supreme Court has the power to review any of its judgments or orders. This departure from the Supreme Court's final authority is entertained under specific, narrow grounds.

- When a review takes place, the law is that it is allowed not to take fresh stock of the case but to correct grave errors that have resulted in the miscarriage of justice. The court has the power to review its rulings to correct a "patent error" and not "minor mistakes of inconsequential import". It is rare for the Supreme Court to admit reviews.
- In a 1975 ruling, Justice Krishna Iyer said a review can be accepted "only where a glaring omission or patent mistake or like grave error has crept in earlier by judicial fallibility".

Grounds Under Which A Petitioner Can Seek Review Of An SC Verdict

- In a 2013 ruling, the Supreme Court itself laid down three grounds for seeking a review of a verdict it has delivered —
 - i) The discovery of new and important matter or evidence which, after the exercise of due diligence, was not within the knowledge of the petitioner or could not be produced by him;
 - ii) Mistake or error apparent on the face of the record;
 - iii) Any other sufficient reason. In the landmark case of *Chajju Ram v. Neki*, the court specified that "any sufficient reason" means a reason that is analogous to the other two grounds. In another 2013 ruling (*Union of India v. Sandur Manganese & Iron Ores Ltd*), the court laid down nine principles on when a review is maintainable. A review is by no means an appeal in disguise whereby an erroneous decision is reheard and corrected but lies only for patent error. It added that the mere possibility of two views on the subject cannot be a ground for review.

Cases Where Review Lies

- Non-appealable cases– Non-appealable cases are cases where no right is given to the suffered party or when an appeal is rejected on the grounds of incompetence or being time-barred. The party who has suffered can hence file for review.
- Where appeal lies but is not preferred- In cases where the benefit of an appeal lies but is not preferred by the party, the party can file for a review but the review must not be against the order because that would be going into the facts which are not entertained by the courts.
- When the party has already filed for an appeal before the court which is pending, in such cases the petition for review will not be entertained by the court. However, if the review petition is filed first and the appeal is filed subsequently then the court's jurisdiction to review can't be questioned under law. Who Can File A Review Petition?
- It is not necessary that only parties to a case can seek a review of the judgment on it. As per the Civil Procedure Code and the Supreme Court Rules, any person aggrieved by a ruling can seek a review.
- However, the court does not entertain every review petition filed. It exercises its discretion to allow a review petition only when it shows the grounds for seeking the review. Court's Procedure to Consider a Review Petition As per 1996 rules framed by the Supreme Court, a review petition must be filed within 30 days of the date of judgment or order. While a judgment is the final decision in a case, an order is an interim ruling that is subject to its final verdict. In certain circumstances, the court can condone a delay in filing the review petition if the petitioner can establish strong reasons that justify the delay.
- The rules state that review petitions would ordinarily be entertained without oral arguments by lawyers. It is heard "through circulation" by the judges in their chambers. In exceptional cases, the court allows an oral hearing. In a 2014 case, the Supreme Court held that review petitions in all death penalty cases will be heard in open court by a Bench of three judges.
- Review petitions are also heard, as far as practicable, by the same combination of judges who delivered the order or judgment that is sought to be reviewed. If a judge has retired or is unavailable, a replacement is made keeping in mind the seniority of judges.

What If A Review Petition Fails?

- As the court of last resort, the Supreme Court's verdict should not result in a miscarriage of justice. **In Roopa Hurra v Ashok Hurra (2002)**, the court itself evolved the concept of a curative petition, which can be heard after a review is dismissed to prevent abuse of its process.
- A curative petition is also entertained on very narrow grounds like a review petition, and is generally not granted an oral hearing.

Karnataka's Anti-Cow Slaughter Bill

Polity & Governance

Why in the news?

- Karnataka government has passed the Karnataka Prevention of Slaughter and Preservation of Cattle Bill (2020) in the Assembly. The Bill envisages a ban on all forms of cattle slaughter and stringent punishment for offenders.
- Anti-Cow Slaughter Bill – Definition And Punishment

About:

- The Bill envisages a ban on all forms of cattle slaughter and stringent punishment for offenders.

- While 'beef' is defined as the flesh of cattle in any form, the word 'cattle' is defined as "cow, calf of a cow and bull, bullock, and he or she buffalo below the age of thirteen years".
- The Bill also terms shelters established for the protection and preservation of cattle registered with the Department of Animal Husbandry and Fisheries as 'gaushalas'.
- Police officers ranked sub-inspector and above or a competent authority will have the **power to search premises** and seize cattle and materials used or intended to use to commit the offence.
- **Terming cow slaughter as a cognizable offence**, violators can attract three to seven years of imprisonment. While a penalty between Rs 50,000 and Rs 5 lakh can be levied for the first offence, second and subsequent offences can attract penalties ranging between Rs 1 lakh and Rs 10 lakh.

Other states with such laws:

- Prior to Karnataka, **Maharashtra** had enacted the most rigorous anti-slaughter legislation. The Maharashtra Animal Preservation (Amendment) Act of 2015 made slaughter of bulls and bullocks a crime, punishable with a jail term of up to five years.
- Similar laws are in place in **Gujarat** and Uttar Pradesh as well.
- **Uttar Pradesh and Madhya Pradesh** have also made buffalo slaughter illegal.

Constitutional Provisions which allows for such bill:

- **Article 48** of the Constitution of India is one of the Directive Principles which **directs the state to make efforts for banning the beef consumption, animal slaughtering, smuggling, and their trading with neighboring borders.**
- All the states administered by the Government of India shall take measures for preserving and improving the breed.
- The state administration shall make necessary arrangements in organizing agriculture and animal husbandry on modern and scientific lines.
- The state shall endeavour to prohibit slaughtering and smuggling of Cattle, Calves and other Milch and draught cattle.
- The state shall take necessary actions to ban trade of cattle in Livestock market for purposes of slaughter.
- The **state governments shall be primarily responsible** for prevention, detection, registration and investigation of crime intendeding cow slaughter.
- The states shall prevent slaughtering of animals except in a recognized and licensed slaughter house.
- States shall prohibit slaughtering of pregnant animals or have an offspring less than three months old.

Composite Floor Test' In Bodoland Council

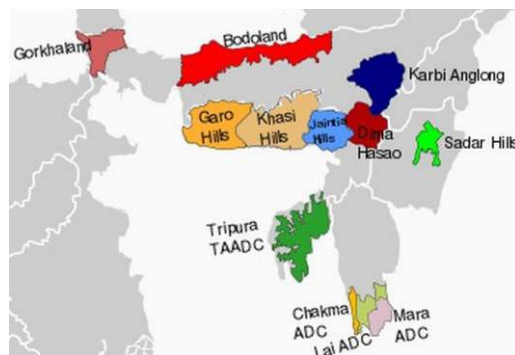
Polity & Governance

Why in the news?

- The Gauhati High Court ordered a "composite floor test" in Assam's Bodoland Territorial Council (BTC) on or before December 26, 2020.

About Bodoland Council

- The Bodoland Territorial Council was constituted under the **Sixth Schedule to the Constitution of India** in 2003 after the signing of Memorandum of Settlement on 10th February 2003 between the Government of India, the Government of Assam and Bodo Liberation Tigers, to fulfill economic, educational and linguistic aspiration and the preservation of land-rights, socio-cultural and ethnic identity of the Bodos; and to speed up the infrastructure in BTC area.
- The Council aims at bringing about accelerated progress to one of the most backward region of the state of Assam with special focus on the development of the Bodo people in the field of education, preservation of land rights, linguistic aspiration, culture and its ethnic identity.
- **Area:** The BTC's jurisdiction is over four districts of Assam — Kokrajhar, Baksa, Chirang and Udalguri — and they are collectively known as Bodoland Territorial Administrative Districts.
- **Communities:** Major communities residing in BTC include Bodos, Assamese, Bengalis, Koch-Rajbongshis, Rabhas, Garos, Adivasis, Muslims and Nepales, etc.



Constitutional provisions:

- According to Article 243M (1) of the constitution, nothing in the part IX of the constitutions (provisions for creating Panchayat) shall apply to the Scheduled Areas referred to in clause (1), and the tribal areas referred to in clause (2), of the Article 244.
- The Sixth Schedule makes provision that these tribal areas will be autonomous districts and be governed by Autonomous District Councils.
- **Tenure:** Term of the District Councils is for five years from the date of their constitution.
- **Governance:** The autonomous district council is governed by an Executive Committee.
- **Functions:** The functions of ADCs as defined in schedule 6 of the constitution included –
 - making laws on land,
 - management of forests, except reserved forests,
 - appointment of traditional chiefs and headmen,
 - making rules regulating the inheritance of property, marriage, divorce, constitution of village courts,
 - to undertake development works like constructions of roads, waterways etc.
- **Revenue source:** The main Revenue Sources of ADCs as specified in the Sixth Schedule were:
 - taxes on professions, trades, callings and employment;
 - taxes on animal, vehicles and boats;
 - taxes on the entry of goods into a market and sale therein, and tolls on passenger and goods carried on ferries; and
 - taxes for the maintenance of school, dispensaries or roads.

Manipur becomes 4th state in Northeast to have ILP regime**Polity & Governance****What is Inner Line Permit?**

- ILP is an official travel document issued to allow inward travel of an Indian citizen into a protected area for a limited period.
- It is obligatory for Indian citizens from outside those states to obtain a permit for entering into the protected state.
- ILP allows Indian citizens to go and live in any State protected under ILP for a specific period of time.
- Any person is entitled to renew his permit every six months if he is not a native in these states despite the fact that he/she is a long-term resident.
- It also regulates the movement to certain areas located near the international borders of India.
- It is issued by the concerned states coming under the protection of ILP.

History of ILP

- A concept drawn by colonial rulers, the Inner Line separated the tribal-populated hill areas in the Northeast from the plains.
- To enter and stay for any period in these areas, Indian citizens from other areas need an Inner Line Permit (ILP).
- Arunachal Pradesh, Nagaland and Mizoram are protected by the Inner Line, and lately, Manipur was added (in December last year).
- The concept originates from the Bengal Eastern Frontier Regulation Act (BEFR), 1873.

Its' Inception

- The policy of exclusion first came about as a response to the reckless expansion of British entrepreneurs into new lands which threatened British political relations with the hill tribes.
- The BEFR prohibits an outsider's — "British subject or foreign citizen" — entry into the area beyond the Inner Line without a pass and his purchase of land there.
- On the other hand, the Inner Line also protects the commercial interests of the British from the tribal communities.
- After Independence, the Indian government replaced "British subjects" with "Citizen of India".
- Today, the main aim of the ILP system is to prevent settlement of other Indian nationals in the States where the ILP regime is prevalent, in order to protect the indigenous/tribal population.

Which are the other three states with ILP?

- Nagaland, Mizoram and Arunachal Pradesh are the three other states that have the ILP system.

Rules for foreigners:

- An ILP is **only valid for domestic tourists**. For foreign tourists in:
 - **Manipur**- No permit is required but they need registration

- **Mizoram**- No permit is required but they need registration
- **Nagaland**-No permit is required but they need registration
- **Arunachal Pradesh**- Tourists need a Protected Area Permit (PAP) or Restricted Area Permit (RAP) from the Ministry of Home Affairs, Government of India.

R P Tiwari, Committee

Polity & Governance

Why in news?

- The UGC set up a seven-member committee, headed by Vice-Chancellor of Central University of Punjab R P Tiwari, "to consider the issue (of) holding common entrance test at undergraduate level only from the next academic year."

About the committee

- The new National Education Policy (NEP), released in July this year, advocates reducing the number of entrance tests to "eliminate the need for taking coaching for these exams".
- There are 40-odd central universities run by the Ministry of Education (MoE) and, collectively, all of them have about 1 to 1.25 lakh seats across different disciplines at the undergraduate level.
- Of these, currently about 16 central universities, all set up under the UPA-II government, have a common entrance test for Bachelor's study.
- If the NEP suggestion is implemented, the National Testing Agency will be tasked to conduct a common aptitude test as well as specialised common exams for different disciplines at least twice a year, for admission to bachelor's in central universities.

Why the common entrance test?

- The new NEP, released in July this year, advocates reducing the number of entrance tests to "eliminate the need for taking coaching for these exams"

Who will conduct it?

- If the NEP suggestion is implemented, the National Testing Agency will be tasked to conduct a common aptitude test as well as specialised common exams for different disciplines at least twice a year, for admission to bachelor's in central universities.

National Testing Agency (NTA)

NTA has been established as a premier, specialist, autonomous and self-sustained testing organization to conduct entrance examinations for admission/ fellowship in higher educational institutions.

Functions of National Testing Agency

- To identify partner institutions with adequate infrastructure from the existing schools and higher education institutions which would facilitate conduct of online examinations without adversely impacting their academic routine
- To create a question bank for all subjects using the modern techniques
- To establish a strong R&D culture as well as a pool of experts in different aspects of testing
- To help individual colleges and universities in the field of testing and to provide training and advisory services to the institutions in India.
- To provide quality testing services to the academic institutions in India.
- To develop a state of the art culture of testing in India by using domestic and international expertise. To collaborate with international organizations like ETS to achieve the same.
- To undertake any other examination that is entrusted to it by the Ministries.
- To undertake the reforms and training of school boards as well as other bodies where the testing standards should be comparable with the entrance examinations.

University Grants Commission (UGC)

Established in 1953, the University Grants Commission (UGC) of India comes under the Ministry of Human Resource Development (HRD) with its head office located in New Delhi.

- The UGC was established in 1953 and made into a statutory organisation with the UGC Act in 1956.
- UGC is responsible for coordinating, determining and maintaining standards of higher education.
- The University Grants Commission provides recognition to universities in India and disburses funds to such recognised universities and colleges.
- The UGC has its Head Office in New Delhi and six regional offices:
 - Bengaluru
 - Bhopal

- Guwahati
- Hyderabad
- Kolkata
- Pune
- In 2018, the Ministry of Human Resource Development announced its plans to repeal the UGC Act, 1956.
- The bill also stipulates the formation of a new body, the Higher Education Commission of India (HECI).
- The attempts to formalise a national educational system in India started during the British Raj. The University Grants Committee was formed in 1945 to oversee the functioning of the three central universities of the time – Aligarh, Delhi and Banaras. Its responsibility was extended in 1947 to cover all Indian universities.
- The National Assessment and Accreditation Council (NAAC) is an organisation that assesses and accredits higher education Institutions (HEIs) in India.
- It is an autonomous body funded by the University Grants Commission and headquartered in Bangalore.

Objective of UGC

The UGC has the unique distinction of being the only grant-giving agency in the country which has been vested with two responsibilities: that of providing funds and that of coordination, determination and maintenance of standards in institutions of higher education. The UGC's mandate includes:

- Promoting and coordinating university education.
- Determining and maintaining standards of teaching, examination and research in universities.
- Framing regulations on minimum standards of education.
- Monitoring developments in the field of collegiate and university education; disbursing grants to the universities and colleges.
- Serving as a vital link between the Union and State governments and institutions of higher learning.
- Advising the Central and State governments on the measures necessary for the improvement of university education.

Electoral bonds and RTI

Polity & Governance

Why in news?

- The Central Information Commission (CIC) ruled that revealing the details of Electoral bond donors would violate the provisions of the **Right to Information Act**.
- This decision comes as a response to an appeal by a Maharashtra-based activist.
- The issuing order mentions that "there appears to be no larger public interest overriding the right of privacy of the donors and donees concerned."

About the verdict

- The "disclosure of names of donors and the donees may be in contravention of provisions contained in **section 8 (1) (e) (j) of the RTI Act itself**,
 - Section 8 of the RTI Act prohibits sharing of third-party information without the written consent of the third party.
 - However, the section also says that the information can be shared if the information officer is convinced that it would serve "larger public interest".
- **About Electoral Bonds:**
- The electoral bond scheme was notified by the Centre in 2018 and it allows citizens and corporates to buy **monetary instruments from the SBI** and donate them to a political party, which is then free to redeem it for money.
- It is **like a promissory note** that can be bought by any Indian citizen or company incorporated in India and the citizen or corporate can then donate the same to any eligible political party of his/her choice.
 - These bonds are issued in multiples of Rs. 1,000, Rs. 10,000, Rs. 1 lakh, Rs. 10 lakh and Rs. 1 crore without any maximum limit.

About the RTI Act, 2005:

- It sets out the rules and procedures regarding citizens' right to information.
- It replaced the former **Freedom of Information Act, 2002**.
- This act was enacted in order to consolidate the fundamental right in the Indian constitution 'freedom of speech'.
 - Since RTI is implicit in the Right to Freedom of Speech and Expression under Article 19 of the Indian Constitution, it is an implied fundamental right.
- Key Provisions- **Section 4 of the RTI Act** requires *suomotu* disclosure of information by each public authority.

- **Section 8 (1)** mentions exemptions against furnishing information under the RTI Act.
- **Section 8 (2)** provides for disclosure of information exempted under the Official Secrets Act, 1923 if the larger public interest is served.

Deadline for States to implement Citizen Centric Reforms Extended

Polity & Governance

In news

- Deadline for States to implement citizen-centric reforms extended till 15th February 2021
- Key highlights
- The Department of Expenditure, Ministry of Finance, has extended the deadline for the States to complete citizen centric reforms in various sectors.
- Now, if the recommendation from the nodal Ministry concerned regarding **implementation of the reform is received by 15th February, 2021, the State will be eligible for reform linked benefits.**
- **The Government of India has identified four critical areas for reforms by the States:**
 1. Implementation of **One Nation One Ration Card System**
 2. Ease of doing business reform
 3. Urban Local body/ utility reforms and
 4. Power Sector reforms.

Centre's incentives to states

- States successfully completing the reforms are eligible to get the following two benefits:
- **Such States get the facility of additional borrowing equivalent to 0.25 percent of their Gross States Domestic Product (GSDP) for completing each reform.**
 - Under this facility, **additional borrowings of up to Rs.2.14 lakh crore** is available to the States on completion of all the four reforms.
 - In view of the resource requirement to meet the challenges posed by the COVID-19 pandemic, the Government of India had decided in May, 2020 to raise the borrowing limit of the States by 2 percent of their GSDP.
 - This was aimed at enabling the States to mobilise additional financial resources of up to Rs.4.27 lakh crore.
 - Half of this special dispensation was linked to reforms.
 - **The purpose was to motivate the States to carry out reforms in various citizen centric areas.**
 - **The second benefit available to the States completing three out of the four reforms is additional funds assistance under the "Scheme for Financial Assistance to States for Capital Expenditure".**
 - Under the scheme, an amount of **Rs.2,000 crore is earmarked for the States** that will complete at least three out of the four stipulated reforms
 - The scheme was announced by the Finance Minister on 12th October, 2020 as part of AtmaNirbhar Bharat Package 2.0.
 - It is aimed at boosting capital expenditure by State Governments who are facing difficult financial environment this year due to the shortfall in tax revenue arising from the COVID-19 pandemic.
 - A total amount of Rs.12,000 crore has been earmarked by the Government of India under this scheme.
 - Capital Expenditure has a higher multiplier effect, enhancing the future productive capacity of the economy, and results in a higher rate of economy growth.

Significance of the extension

- Extension of the date for completion of reforms is likely to motivate other States also to complete the reform process expeditiously and avail the linked financial benefits.

V Ramgopal Rao Committee

Polity & Governance

- Recently, the eight-member panel committee report was made available through an RTI application

Background

- An eight-member committee was appointed by the government for suggesting measures for effective implementation of reservation in students admissions and faculty recruitment in IITs
- Composition of the committee
- The committee was chaired by IIT Delhi director V Ramgopal Rao and had IIT Kanpur director Abhay Karandikar, representatives of secretaries of the departments of Social Justice and Empowerment, Tribal Affairs, Department of Personnel and Training, Persons with Disabilities and registrars of IIT Bombay and IIT Madras as its other members.

Background:

- The Ministry of Education in April 2020 had appointed a committee for suggesting measures for effective implementation of reservation in student admissions and faculty recruitment in IITs.
- This committee, headed by IIT-Delhi V Ramgopal Rao, submitted its report in June 2020, the contents of which were recently reported in the media.

Recommendations:

- Instead of implementing quotas in faculty positions, the 23 IITs should be exempted from reservations altogether under the CEI Act, 2019.
- Rather than specific quotas, diversity issues should be addressed through outreach campaigns and targeted faculty recruitment.
- IITs should be added to the list of "Institutions of Excellence" mentioned in the Schedule to the Central Educational Institutions (Reservation in Teachers' Cadre) Act 2019.
- Section 4 of the Act exempts "institutions of excellence, research institutions, institutions of national and strategic importance" mentioned in the Schedule and minority institutions from providing reservation.

Anand Sharma-led Parliamentary Standing Committee on Home Affairs submitted report

Polity & Governance

Why in news?

- Parliamentary Committee on Home Affairs on the management of the Covid-19 pandemic in the country has submitted its report to Rajya Sabha Chairman

About the committee

- The Parliamentary Committee on Home Affairs on the management of the Covid-19 pandemic in the country is headed by Rajya Sabha MP Anand Sharma
- The Committee has made a detailed assessment of **four aspects**:
- The country's preparedness
- Augmentation of health infrastructure
- Social impact, and
- Economic impact

Key findings & recommendations

- Following are the recommendation of the panel
 - Insurance cover not given to many; need regulatory oversight on hospitals to prevent refusal to accept insurance claims.
 - Reports of hospital beds being sold; need law to keep check and control over private hospitals.
 - Migrant workers worst affected; govt should start national database on migrant workers to identify and deliver benefits. Students deprived of Mid-Day Meals; should be continued until schools reopen.

Himachal Pradesh's Law against Religious Conversion

Polity & Governance

- The Himachal Pradesh Freedom of Religion Act, 2019 comes into effect in Himachal Pradesh

What is the Himachal Pradesh anti-conversion law?

- The state had enacted a law in 2007 which prohibited conversion from one religion to another by force or fraud.
- **Argument given:** The society has undergone many transition changes. It has been observed that there is a rise in conversions by fraudulent means and unless checked well in time, this practice may erode the **confidence and mutual trust between the different ethnic and religious groups** in the state,"

What does the law say?

- According to the Act, "no person shall convert or attempt to convert, either directly or otherwise, any other person from one religion to another by use of misrepresentation, force, undue influence, coercion, inducement or by any fraudulent means or by marriage; nor shall any person abet or conspire such conversion".
- The Act does not cover a person re-converting to his "parent religion".
- Any marriage done for the sole purpose of religion conversion may be declared null and void by a court on a petition by either party.

What happens if anyone wants to convert to any other religion?

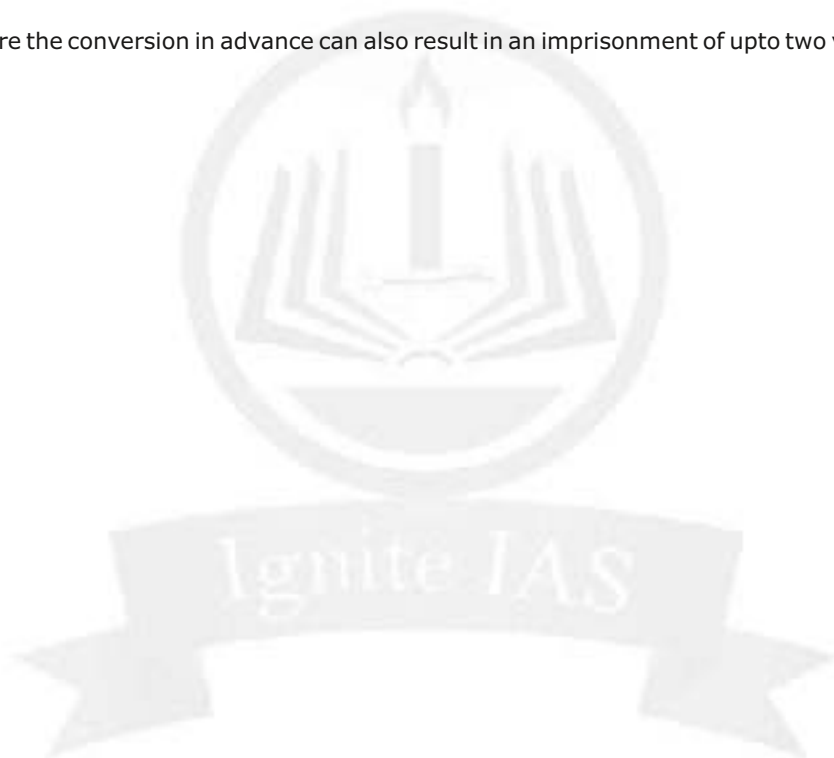
- As per the Act, anyone who wishes to convert to any other religion will give a declaration to the district authorities at least one month in advance, specifying that one is doing so as per his/her "own volition or free consent".
- Even the religious priest who performs the conversion ceremony has to inform the authorities at least one month in advance.
- The district magistrate will then conduct an inquiry regarding the "intention, purpose and cause of proposed conversion".
- The conversion will be rendered illegal if the authorities are not informed in advance.

The burden of proof

- The burden of proof as to whether a religious conversion was not effected through force or fraud lies on the person so converted, or the person who has facilitated the conversion.

What is the punishment?

- All offences under the Act are **cognizable and non-bailable**.
- The violator can be punished with a prison term ranging from one to five years, along with a fine. In case the victim is a minor, woman or member of a Scheduled Caste or Tribe, the imprisonment may extend upto seven years.
- Failure to declare the conversion in advance can also result in an imprisonment of upto two years.
-



State of the Education Report for India - 2020

Social Issues and Welfare

Why in the news?

- The 'State of the Education Report for India 2020: Technical and Vocational Education and Training (TVET)', was launched virtually recently by UNESCO.

About the report

- The second edition of the State of Education Report focuses on technical and vocational education and training (TVET).
- India has made considerable progress towards its goal of creating a skilled workforce of 110 million people by 2022, as stated in the National Policy of Skill Development and Entrepreneurship (NPSDE), released in 2015.
- It is presently training 10 million youth annually.
- The Report outlines a set of ten recommendations that should be adopted to help achieve the stated vision for TVET in the country.

Recommendations:

- Place learners and their aspirations at the centre of vocational education and training programmes
- Create an appropriate ecosystem for teachers, trainers and assessors
- Focus on upskilling, re-skilling and lifelong learning
- Ensure inclusive access to TVET for women, differently abled and disadvantaged learners
- Massively expand the digitalization of vocational education and training
- Support local communities to generate livelihoods by engaging in the preservation of tangible and intangible cultural heritage
- Align better with the 2030 Agenda for Sustainable Development
- Deploy innovative models of financing TVET
- Expand evidence-based research for better planning and monitoring
- Establish a robust coordinating mechanism for inter-ministerial cooperation

Human Development Index: UNDP

Social Issues and Welfare

Why in the news?

- India ranked 131 among 189 countries on the Human Development Index (HDI) for 2019, slipping two places from the previous year, according to the Human Development Report (HDR) 2020 released by the United Nations Development Program (UNDP).

Details of the report

- The 2020 Report has introduced planetary pressures-adjusted Human Development Index, which adjusts the standard Human Development Index (HDI) by a country's per capita carbon dioxide emissions and material footprint.
- The other indices that form the part of the Report are:
 - Inequality-adjusted Human Development Index (IHDI),
 - Gender Development Index (GDI),
 - Gender Inequality Index (GII) and
 - Multidimensional Poverty Index (MPI).

India's performance:

- India dropped two ranks, standing at 131 out of 189 countries.
- If the Index were adjusted to assess the planetary pressures caused by each nation's development, India would move up eight places in the ranking, according to the report.



Performance of other countries:

- Norway tops the HDI. It, however, falls 15 places if the new metric (The Planetary Pressures-adjusted HDI, or PHDI) is used, leaving Ireland at the top of the table.
- In fact, 50 countries would drop entirely out of the "very high human development group" category, using this new metric.
- Australia falls 72 places in the ranking, while the United States and Canada would fall 45 and 40 places respectively, reflecting their disproportionate impact on natural resources.
- China would drop 16 places from its current ranking of 85.

Health of India

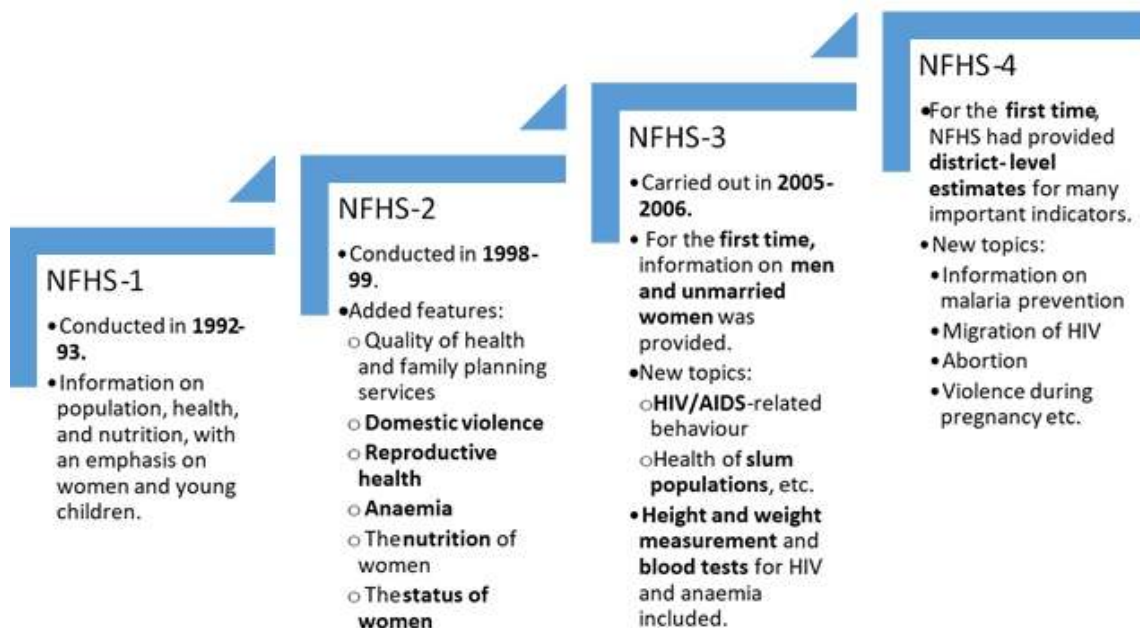
Social Issues and Welfare

Why in news?

- The National Family Health Survey is a survey carried out on a massive scale across the country to collect information on many parameters which would ultimately help the Ministry of Health and Family Welfare (MOHFW) to frame policies and programs to help in the upliftment of the vulnerable groups in India. **The first round of the National Family Health Survey was conducted in 1992-92.**

National Family Health Survey

- The NFHS is a large-scale, multi-round survey conducted in a representative sample of households throughout India.
- Three rounds of the survey have been conducted since the first survey in 1992-93.
- The survey provides state and national information for India on fertility, infant and child mortality, the practice of family planning, maternal and child health, reproductive health, nutrition, etc.
- The Ministry of Health has designated the International Institute for Population Sciences (IIPS) Mumbai, as the nodal agency, responsible for providing coordination and technical guidance for the survey.



Significance of NFHS

- The survey provides **state and national information** for India on **fertility, infant and child mortality, the practice of family planning, maternal and child health, reproductive health, nutrition, anaemia, utilization and quality of health and family planning services.**
- **Each successive round of the NFHS has two specific goals-**
 - To provide **essential data on health and family welfare** needed by the **MoHFW** and **other agencies** for policy and programme purposes.
 - To provide information on important **emerging health and family welfare issues.**
- **The main objectives-**
 - To strengthen India's **demographic and health database** by providing information that is both reliable and relied upon.
 - To strengthen the **survey research capabilities of Indian institutions** to provide, analyse, and disseminate high-quality data.
 - To **anticipate and meet the country's needs** for data on emerging health and family welfare issues.

- **NFHS data are also useful in-**
 - **Setting benchmarks.**
 - **Examining the progress** of ongoing programmes.
 - In **identifying the need for new programmes** with an area-specific focus.

About National Family Health Survey 2019-20 (NFHS-5)

- The contents of NFHS-5 are **similar to NFHS-4** to allow comparisons over time.
 - **New topics:**
 - **Child immunization.**
 - Components of **micro-nutrients to children.**
 - Menstrual hygiene.
 - Frequency of **alcohol and tobacco use.**
 - **Additional components of non-communicable diseases (NCDs)**

Highlights of the NFHS-5 Report

- **Phase-1 results** include data from **17 states and 5 Union Territories** (including J&K) and capture the **state of health** in these states before the COVID-19 pandemic.

Population and Household profile

- **The sex ratio** of the total population (females per 1,000 males) **increased** in 17 states and UTs.

Children

- Several states across the country have **reversed course and recorded worsening levels of child malnutrition** despite dramatic improvements in sanitation and better access to fuel and drinking water.
- Child (under 5 years of age) malnutrition **parameters include-**
 - **Child stunting**
 - **Chronic** undernutrition- where the percentage of children who have **low height for their age.**
 - Several big states have seen an **increase** in stunting.
 - **Child wasting**
 - **Acute** undernutrition- where children having **low weight for their height.**
 - India has always had a **high level of child wasting** which further **increased** in
 - **Child mortality rate**
 - The **neonatal mortality rate (NMR)** – Number of deaths during the **first 28 days of life (0-27 days)**, **dropped** in 15 states and UTs.
 - The **infant mortality rate (IMR)** - Number of deaths **per 1000 live births** for children **under the age of 1**, **fell** in 18 states and UTs.
 - **Under-five mortality rate (UMR)** - **fell** in 18 states and UTs.
- **Breastfeeding** practices **weren't improving**

Child Vaccinations

- The survey found **considerable improvement** in vaccination coverage **among children** aged **12-23 months** across all States/UTs.

Fertility Rate

- The fertility rate has **further declined**, and **contraceptive use has increased** in most **Phase I States.**

Women

- Women who had experienced **spousal violence increased** from 20.6% to **44.4%.**

E-Sampada Web Portal

Social Issues and Welfare

Why in news?

- Recently, the Union Minister of Housing & Urban Affairs has launched the '**E-Sampada web portal**'.

About E-Sampada web portal

- The new Web Portal and Mobile App have been developed by **National Informatics Centre (NIC)**.
- The new application **provides a single-window** for all these services including an allotment for over one lakh government residential accommodations, office space allotment to government organisations in 45 office complexes in 28 cities etc.
- E-Sampada equips users with much specialised features like the **personalised dashboard, service usage archive** and **real-time status on licence fees/dues**.
- The portal provides online facility to users across India to **lodge complaints, submit documents and appear for the virtual hearing**.
- It will **reduce administrative cost** and will save time and resources by reducing visits to Directorate of Estate.



Significance of E-Sampada Portal

- It is a significant step towards **promotion of e-governance to boost transparency and accountability** in providing various Estate Services like allotment, retention, regularisation, no dues certificate etc.
- The E-Sampada is developed to **simplify processes and bring uniformity** in the system across India.
- It will **promote ease of living** for Government of India officers / Departments as all services can be availed online on a single window with live tracking of applications.
- The automated processes will **minimize human intervention** and will lead to greater transparency.

Swachhata Abhiyan Mobile APP

Social Issues and Welfare

Why in news?

- A mobile application to identify and geotag insanitary latrines and manual scavengers was launched.

SwachhataAbhiyan app

- It will provide the authorities concerned **details of any insanitary latrine or manual scavenger they notice**.
- This would help in **rehabilitating all manual scavengers** and replace insanitary latrines with sanitary ones.
- Census 2011 reported that there were over 26 lakh insanitary latrines in the country.
- Existence of insanitary latrines is the main reason for manual scavenging.



Government measures:

- Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, **mandates survey of insanitary latrines**, their demolition and construction of sanitary ones in their place.
- The government has been implementing Swachh Bharat Mission for the same purpose. Under it, more than nine crores sanitary latrines have been constructed.
- India has been declared as **open-defecation-free**.
- More than 66,000 manual scavengers have been identified since 2013-14 through surveys by states and also through a national survey in 194 districts.
- The manual scavengers and their dependents are also provided skill training with monthly stipend of Rs 3,000 and subsidy up to Rs 3,25,000 on loans taken by them for self-employment projects.
- Reports from social organisations points towards prevalence of insanitary latrines and manual scavenging in some isolated parts of the country.

Dedicated Freight Corridor

Economy

Why in the news?

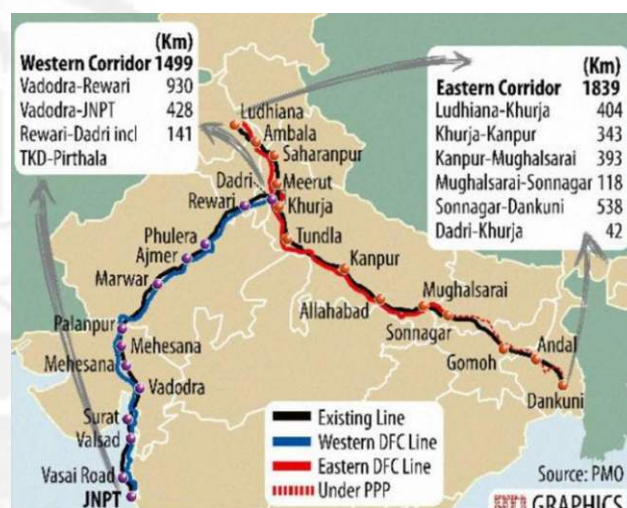
- Prime Minister Narendra Modi inaugurated the New Rewari-New Madar section of the Western Dedicated Freight Corridor and flagged off the world's first 1.5-km-long electrified double stack long haul container train.

Significance

- The corridor would lead to the development of growth centres and points in several cities, creation of job opportunities and conditions attracting more investments.
- It would give a new fillip to the local industries and manufacturing units by providing them faster and cheaper access to the national and international markets.
- They would get easy access to the ports in Gujarat and Maharashtra.
- In all, 133 railway stations in nine States would be impacted by the Dedicated Freight Corridor.
- New multi-modal logistic parks, freight terminals, container depots/terminals and parcel hubs would be developed at these places.
- It would not only benefit villages, farmers, the poor and the small businesses, but also attract big manufacturers.
- With the launch of the double stack long haul container train between New Ateli in Haryana and New Kishanganj in Rajasthan, India had also entered the club of nations with such high capabilities.

Northeast link

- Given the rapid infrastructural expansion, all the Northeast State capitals would soon be linked to the national rail network. The work of indigenously developing high-speed tracks was also under way.
- Earlier, Mr. Modi listed several initiatives, including a digital payment of Rs.18,000 crore to farmers under the direct benefit transfer scheme, taken by the government in the past couple of weeks, to highlight the speed with which important projects were being implemented despite the COVID-19 induced crisis.



About the dedicated freight corridor

DFC consists of two arms:

- Eastern Dedicated Freight Corridor (EDFC):**
 - It connects **Sahnewal (Ludhiana) in Punjab to Dankuni in West Bengal.**
 - It **covers the states** of Punjab, Haryana, Uttar Pradesh, Bihar, Jharkhand and West Bengal.
 - The World Bank is investing in its development.
- Western Dedicated Freight Corridor (WDFC):**
 - It connects **Dadri in Uttar Pradesh to Jawaharlal Nehru Port Trust in Mumbai.**
 - It **covers the states** of Haryana, Rajasthan, Gujarat, Maharashtra and Uttar Pradesh.
 - It is being funded by the Japan International Cooperation Agency.
 - The connecting link between the Eastern and Western corridors is under construction between Dadri and Khurja.

Dedicated Freight Corridor Corporation of India Ltd.

- It is a Public Sector Undertaking (PSU) corporation run by the Ministry of Railways to undertake planning, development, and mobilisation of financial resources and construction, maintenance and operation of the Dedicated Freight Corridors (DFC).

Municipal Bonds

Economy

Why in the news?

- Bonds issued by the Lucknow Municipal Corporation (LMC) were listed on the BSE, raising Rs 200 crore for Uttar Pradesh's capital. It is the first municipal bond from North India to be listed on BSE.

About the LMC bonds

- The **value** of the bonds is **200 crores** with **10-year tenure** and will offer an 8.5 per cent interest per annum.
- Significance:** It will help the municipal corporation **fund water supply and housing projects.**

- According to experts the issuance of this bond is a good step for encouraging the bond market and other corporations can follow the same for raising funds.

Municipal Bonds

- They are also known as "muni bonds" or "muni."
- It is a debt security issued by the local bodies to finance its capital expenditures for construction works, maintenance etc. of highways, bridges or schools.
- They are generally exempt from taxes.
- These bonds are not backed by a sovereign guarantee, unlike the state development bonds.
- **Significance of Municipal Bonds Market**
- Municipal Bonds can help the Urban Local Bodies (ULBs) to garner revenue to complete budgetary projects as property tax is the only major source of municipal revenue.
- Growth of the municipal bond market is critical for India's large cities and towns to upgrade their creaking infrastructure.
- The ability of municipal bodies to be self-sustaining is also critical to the success of the Centre's pet projects such as Smart Cities and Amrut.



Advantages of Municipal Bond

- **Transparency:** Municipal bonds that are issued to the public are rated by renowned agencies such as CRISIL, which allows investors transparency regarding the credibility of the investment option.
- **Minimal risk:** Municipal bonds are issued by municipal authorities, implying involvement of minimal risk with these securities.
- **Disadvantages of Municipal Bonds**
- **Long maturity period:** Municipal bonds come with a lock-in period of three years, imposing a burden on the liquidity requirements of investors.
- **Low-interest rates:** Even though interest rates on municipal bonds, in some cases, are higher than other debt instruments, these rates are considerably low when compared to returns from market-linked financial instruments such as equity shares.

Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

Economy

AMRUT

- Atal Mission for Rejuvenation and Urban Transformation (AMRUT), which 'replaces' the Jawaharlal Nehru National Urban Renewal Mission, will give the States and the Union Territories the liberty and flexibility in formulation, approval and execution of projects.
- AMRUT adopts a project approach to ensure basic infrastructure services relating to water supply, sewerage, storm water drains, transport and development of green spaces and parks with special provision for meeting the needs of children.
- Implementation of this mission will be linked to promotion of urban reforms such as e-governance, constitution of professional municipal cadre, devolving funds and functions to urban local bodies, review of building bye-laws, improvement in assessment and collection of municipal taxes, credit rating of urban local bodies, energy and water audit and citizen-centric urban planning in cities other than the 100 smart cities.
- Under this project, 10% of the budget allocation will be given to states/union territories as incentive based on achievement of reforms during the previous year.
- **The purpose of Atal Mission for Rejuvenation and Urban Transformation (AMRUT) is to**
- Ensure that every household has access to a tap with the assured supply of water and a sewerage connection.
- Increase the amenity value of cities by developing greenery and well maintained open spaces (e.g. parks) and
- Reduce pollution by switching to public transport or constructing facilities for non-motorized transport (e.g. walking and cycling). All these outcomes are valued by citizens, particularly women, and indicators and standards have been prescribed by the Ministry of Housing and Urban Affairs (MoHUA) in the form of Service Level Benchmarks (SLBs).

Human Development Index

Economy

Why in news?

- India dropped two ranks in the United Nations' Human Development Index this year, standing at 131 out of 189 countries.

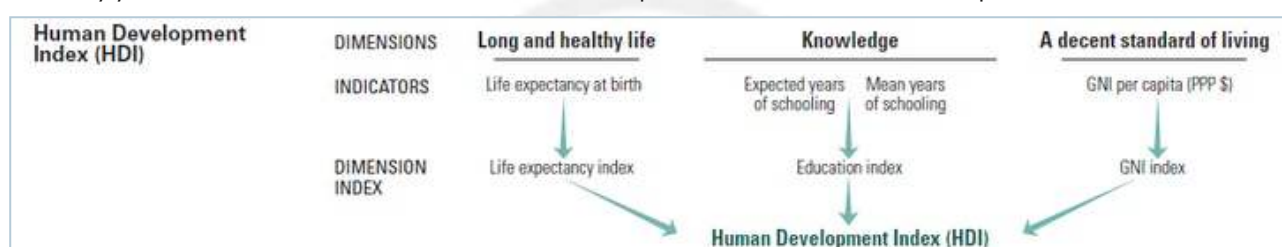
About Human Development Index (HDI)

- HDI is a statistical tool used to measure a country's overall achievement in its social and economic dimensions.
- It is one of the best tools to keep track of the level of development of a country, as it combines all major social and economic indicators that are responsible for economic development.
- Pakistani economist Mahbub-ul-Haq created HDI in 1990 which was further used to measure the country's development by the United Nations Development Program (UNDP).
- Every year UNDP ranks countries based on the HDI report released in their annual report.

Miles to go

Though India improved its absolute value of the Human Development Index (0.645 in 2019 from 0.642 the previous year), it dropped a place in the overall ranking

| Country | HDI rank (2019) | Change from 2018 |
|--------------|-----------------|------------------|
| Russia | 52 | -3 |
| Sri Lanka | 72 | 1 |
| Brazil | 84 | 0 |
| China | 85 | 2 |
| South Africa | 114 | 1 |
| India | 131 | -2 |
| Bangladesh | 133 | 1 |
| Nepal | 142 | 1 |
| Pakistan | 154 | 0 |



Indicators

- Human Development is ranked on a scale from 0 to 1.0:
- 0.8 to 1.0 – Very High Human Development
- 0.7 to 0.79 – High Human Development
- 0.55 to 0.70 – Medium Human Development
- Less than 0.55 – Low Human Development

Very High Human Development Countries:

- Have stable governments
- Better health & education
- High life expectancies
- High economic growth

Low Human Development countries:

- Have unstable government
- Has poverty
- Poor education, & healthcare facilities
- Lower economic growth & low income
- Why does the HDI not include dimensions of participation, gender and Equality?

- As a **simple summary index**, the HDI is designed to reflect average achievements in three basic aspects of human development.
- Instead of bringing additional dimensions and indicators into the HDI, other composite indices were introduced –
 - 1. Inequality-adjusted HDI
 - 2. Gender Inequality Index
 - 3. Gender Development Index.

Status of Countries around the world

- Although this year's report covers 2019 only, and does not account for the impact of COVID, it projected that in 2020, global HDI would fall below for the first time in the three decades since the Index was introduced.
- Norway, which tops the HDI, falls 15 places if this new metric is used, leaving Ireland at the top of the table.

| Dimension | Indicator | Deprived if..... | Weight |
|-----------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Education | Years of Schools | No household member aged 10 years or older has completed five years of schooling. | 1/6 |
| | Child School Attendance | Any school - age child is not attending school up to the age at which he/she would complete class 8. | 1/6 |
| Health | Child Mortality | Any child has died in the family in the five-year period preceding the survey. | 1/6 |
| | Nutrition | Any adult under 70 years of age or any child for whom there is nutritional information is undernourished in terms of weight for age. | 1/6 |
| Living Standard | Electricity | The household has no electricity. | 1/18 |
| | Improved Sanitation | The household's sanitation facility is not improved is improved but shared with other households. | 1/18 |
| | Improved Drinking Water | The household does not have access to improved drinking water (according to MDG guidelines) or safe drinking water is at least a 30-minute walk from home, round trip. | 1/18 |
| | Flooring | The household has a dirt, sand, dung, or "other" (unspecified) type of floor. | 1/18 |
| | Cooking Fuel | The household cooks with dung, wood, or charcoal. | 1/18 |
| | Assets Ownership | The household does not own more than one of these assets: radio, TV, telephone, bicycle, motorbike, or refrigerator, and does not own a car or truck. | 1/18 |

- In fact, 50 countries would drop entirely out of the "very high human development group" category, using this new metric, called the Planetary Pressures-adjusted HDI, or PHDI.
- Australia falls 72 places in the ranking, while the United States and Canada would fall 45 and 40 places respectively, reflecting their disproportionate impact on natural resources.
- The oil and gas-rich Gulf States also fell steeply.
- China would drop 16 places from its current ranking of 85.
- China's net emissions (8 giga tonnes) are 34% below its territorial emissions (12.5 gigatonnes) compared with 19% in India and 15% in Sub-Saharan Africa.

India's status

- It praised India's record in achieving its carbon emissions goals so far, and urged Indian policy makers to take the path of sustainable development.
- According to the UNDP's report India's gross national income per capita fell to \$6,681 in 2019 from \$6,829 in 2018 on purchasing power parity (PPP) basis.
- The report said evidence from Colombia to India indicates that financial security and ownership of land improve women's security and reduce the risk of gender-based violence, clearly indicating that owning land can empower women.
- It further said indigenous children in Cambodia, India and Thailand show more malnutrition-related issues such as stunting and wasting.
- As per the UNDP report, In India different responses in parent behaviour, as well as some disinvestment in girls' health and education, have led to higher malnutrition among girls than among boys as a consequence of shocks likely linked to climate change
- The report said that under the Paris Agreement, India pledged to reduce the emission intensity of its GDP from the 2005 level by 33-35% by 2030 and to obtain 40% of electric power capacity from non-fossil fuel sources by 2030.
- The report also lauded that Solar capacity in India increased from 2.6 gigawatts in March 2014 to 30 gigawatts in July 2019, achieving its target of 20 gigawatts four years ahead of schedule

Planetary pressures-adjusted Human Development Index (PHDI)

- PHDI is an experimental index that adjusts the Human Development Index (HDI) for planetary pressures in the Anthropocene.
- The PHDI discounts the HDI for pressures on the planet to reflect a concern for intergenerational inequality, similar to the Inequality-adjusted HDI adjustment which is motivated by a concern for intragenerational inequality.
- It is computed as the product of the HDI and (1 – index of planetary pressures) where (1 – index of planetary pressures) can be seen as an adjustment factor.
- **The PHDI is the level of human development adjusted by carbon dioxide emissions per person (production-based) and material footprint per capita to account for the excessive human pressure on the planet.**
- It should be seen as an incentive for transformation. In an ideal scenario where there are no pressures on the planet, the PHDI equals the HDI.
- However, as pressures increase, the PHDI falls below the HDI. In this sense, the PHDI measures the level of human development when planetary pressures are considered.

International Association for Insurance Supervisors

Economy

Why in the news?

- Recently, the International Financial Services Centres Authority (IFSCA) was granted the membership of the International Association of Insurance Supervisors (IAIS). IFSCA is the regulator of Gujarat International Finance Tec (GIFT) City.

About International Association of Insurance Supervisors (IAIS)

- It is a **voluntary membership organization of insurance supervisors and regulators** from more than 200 jurisdictions, constituting 97% of the world's insurance premiums.
- It is established in **1994** with its headquarter in **Switzerland**.
- It is the **international standard-setting body responsible for developing and assisting in**



IAIS

INTERNATIONAL ASSOCIATION OF
INSURANCE SUPERVISORS

the implementation of principles, standards and other supporting material for the supervision of the insurance sector.

- It provides a forum for Members to share their experiences and understanding of **insurance supervision and insurance markets**.
- The **leading members** of IAIS are:
 - **United Kingdom**-Financial Conduct Authority (FCA),
 - **USA**-National Association of Insurance Commissioners (NAIC) and Federal Insurance Office of the Insurance of the United States Department of Treasury (FIO),
 - **Singapore**-Monetary Authority of Singapore (MAS),
 - **India**-Insurance Regulatory and Development Authority of India (IRDAI)

Significance of IAIS Membership

- The IFSCA would have **access to IAIS's global network** and would be able to exchange ideas and information with other global regulators.
- It would help in **developing a vibrant global Insurance hub** in IFSC at GIFT City.
- The membership would go a long way in **connecting IFSC with global insurance institutions** and would facilitate IFSCA in joint development of global insurance business with other global centres.

PM-WANI

Economy

Why in the news?

- The Union Cabinet recently gave its approval for the proposal of DoT for setting up of Public Wi-Fi Networks by Public Data Office Aggregators (PDOAs).

PM-WANI project

- PM-WANI - Prime Minister's Wi-Fi Access Network Interface
- It aims at setting up of Public Wi-Fi Networks by Public Data Office Aggregators (PDOAs).
- The objective is to provide public Wi-Fi service through Public Data Offices (PDOs) spread across the length and breadth of the country.
- The project will accelerate proliferation of Broadband Internet services through Public Wi-Fi network in the country.
- There shall be no license fee for providing Broadband Internet through these public Wi-Fi networks.

Key players in the project

- Public Data Office (PDO) - The PDO can be anyone.
- So, along with Internet infrastructure, this is also a way to generate revenue for individuals and small shopkeepers.
- It is important to note that PDOs will not require registration of any kind, thus easing the regulatory burden on them.
- Public Data Office Aggregators (PDOAs) - The PDOA is basically the aggregator who will buy bandwidth from Internet service providers (ISPs) and telecom companies and sell it to PDOs.
- They will also account for data used by all PDOs.
- App provider - The app provider will create an app through which users can access and discover the Wi-Fi access points.

Operating mechanism

- The requirement of authentication through a one-time password for each instance of access may be cumbersome.
- So, automatic authentication through stored e-know your customer (KYC) is encouraged.
- This inevitably means a linking with Aadhaar.
- The second is multiple payment options, allowing the user to pay both online and offline.
- The TRAI report on the details of the project show how products should start from low denominations, starting with Rs. 2.

How is internet penetration in India?

- As per the latest Telecom Regulatory Authority of India (TRAI) data, about 54% of India's population has access to the Internet.
- The 75th round of the National Statistical Organisation survey shows that only 20% of the population has the ability to use the Internet.

- The India Internet 2019 report shows that rural India has half the Internet penetration as urban, and twice as many users who access the Internet less than once a week.
- So, with each move towards digitisation, the country is threatening to leave behind a large part of the population to suffer in digital poverty.
- E.g. the Umang App (Unified Mobile Application for New-age Governance) allows access to 2,084 services, across 194 government departments
- The ability to access and utilise the app enhances an individual's capabilities to benefit from services that they are entitled to. Those who cannot access are left behind.

Importance of PM WANI

- India can create \$1 trillion of economic value using digital technology by 2025.
- With PM-WANI, anyone living in their house, a paan shop owner or a tea seller can all provide public Wi-Fi hot posts, and anyone within range can access it.
- Certainly, the project's focus is on last mile delivery.
- So, essentially, the project would mean the ability to connect to a Wi-Fi broadband connection almost anywhere.
- This can help to bridge the increasing digital divide in India.
- It will also help to reduce the pressure on mobile Internet in India.
- The India Internet report shows that 99% of all users in India access the Internet on mobile, and about 88% are connected on the 4G network.
- This leads to a situation where everyone is connected to a limited network, which is getting overloaded.
- This, in turn, results in bad speed and quality of Internet access.

How could it aid rural connectivity?

- The PM-WANI has the potential to change the fortunes of Bharat Net as well.
- Bharat Net envisions broadband connectivity in all villages in India.
- The project has missed multiple deadlines.
- Even where the infrastructure has been created, usage data is not enough to incentivise ISPs to use Bharat Net infra to provide services.
- One of the reasons is simply the lack of last mile availability of the Internet.
- Another key reason for the lack of demand is the deficit in digital literacy in India.
- In terms of digital literacy, it is not enough to look at digital literacy as a set of specific skills.
- This is because the skills required to navigate technology keep changing.
- A more appropriate framework is to see it as an evolving decentralised concept.
- This depends on how people interact with technology in other aspects of their life, and is influenced by local social and cultural factors.
- The PM-WANI seems to fit within this framework.
- It seeks to make accessing the Internet as easy as having tea at a shop.
- This is not a substitute for the abysmal digital literacy efforts of the government, but will definitely help.

What about security and privacy issues?

- A study conducted at public Wi-Fi spots in 15 airports across the U.S., Germany, Australia, and India discovered that two thirds of users leak private information whilst accessing the Internet.
- Further, the TRAI report recommends that 'community interest' data be stored locally.
- This raises questions about data protection in a scenario where the country currently does not have a data protection law in place.
- These are however, problems of regulation, state capacity and awareness.
- They do not directly affect the framework for this scheme.
- Certainly, with the PM-WANI, the state is expanding the reach of digital transformation to those who have been excluded till now.

Why in news?

- Quality Council of India launched a scheme for Hygiene-rating audit agencies.

Hygiene-rating audit agencies

- In order to increase the number of recognised hygiene-rating audit agencies in the country, the Food Safety and Standards Authority of India (FSSAI) said that the Quality Council of India, at its behest, has come out with a scheme for the approval of hygiene-rating audit agencies.

- QCI initiated this scheme after the FSSAI launched a certification system for restaurants, hotels and cafeterias among others under its 'Food Hygiene Rating Scheme'
- Under this initiative, these food establishments will be rated based on food hygiene and safety parameters by recognised hygiene-rating audit agencies.
- As per the scheme, the hygiene rating will be in the form of a smiley (1 to 5) and the certificate should be displayed prominently in the consumer-facing area.
- The recognized hygiene-rating audit agencies will be responsible for verifying compliance with food hygiene and safety procedures laid by the FSSAI and get hygiene ratings
- Currently, the scheme is applicable for food service establishments such as hotels, restaurants, cafeterias, dhabhas, sweet shops, bakeries and meat retail stores.



**QUALITY COUNCIL
OF INDIA**

Creating an Ecosystem for Quality

- A committee which included various interested ministries and stakeholders including industries were constituted to make suitable recommendations. The work of the committee was coordinated by the then Department of Industries (Department of Industrial Policy and Promotion) and the recommendations were submitted to the Cabinet in 1996.

Key recommendations:

- Need for establishing an organization jointly by the Government and the industry and
- the need for the organization to be self sustaining and be away from the government.
- Accepting the recommendations, the government **set up Quality Council of India(QCI)** in 1997 as a non-profit autonomous society registered under Societies Registration Act XXI of 1860.
- **Nodal Ministry:** Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry is the nodal department for QCI.
- **Chairman:** The Chairman of QCI is appointed by the Prime Minister on the recommendation of the industry to the government.
- Quality Council of India publishes a quarterly magazine known as "**Quality India**"
- Quality Council of India aims to establish an accreditation structure in the country and to spread quality movement in India by undertaking a National Quality Campaign.
- Quality Council of India is governed by a Council comprising of 38 members including the Chairman and Secretary General.
- The Council has an equal representation of Government, Industry and other Stakeholders.

Skill Strengthening for Industrial Value Enhancement (STRIVE)

Economy

Why in news?

- Apparel Export Promotion Council (AEPC) has tied up with 77 apparel manufacturing units for world bank funded STRIVE programme. It is launched by Ministry of Skill Development and Entrepreneurship

About STRIVE

- Skills Strengthening for Industrial Value Enhancement (STRIVE) is a new World Bank funded project that has been approved by the Expenditure Finance Committee (EFC) in November 2016 for a total cost of Rs. 2200 crore (US \$ 318 million).
- The financial agreement was signed between Government of India and International Bank for Reconstruction and Development (IBRD) on 19th December, 2017 and the **closing date of the project is November, 2022**
- The project falls **under the Programme for Results (P4R) based category of World Bank** that ensures outcome based funding.
- The project aims at creating awareness through industry clusters/ geographical chambers that would address the challenge of involvement of micro, Small and Medium-sized Enterprises (MSMEs).
- It is aimed at institutional reforms and improving quality & market relevance of skill development training programs in long term vocational education training.
- The Project would also **aim at integrating and enhancing delivery quality of ITIs**. In order to ensure achievement of outcome these ITI would be competitively selected for upgradation under the scheme.
- **It shall incentivize ITIs to improve overall performance including apprenticeship by involving SMEs**, business association and industry clusters.
- The project aims to develop a robust mechanism for delivering quality skill development training by strengthening institutions such as State Directorate of training & Employment, The Central Staff Training and Research Institute (CSTARI), National Instructional Media Institute(NIMI), National Skill Training Institutes (NSTIs), ITIs etc.

Chennai- Bengaluru Industrial Corridor (CBIC)

Economy

Why in news?

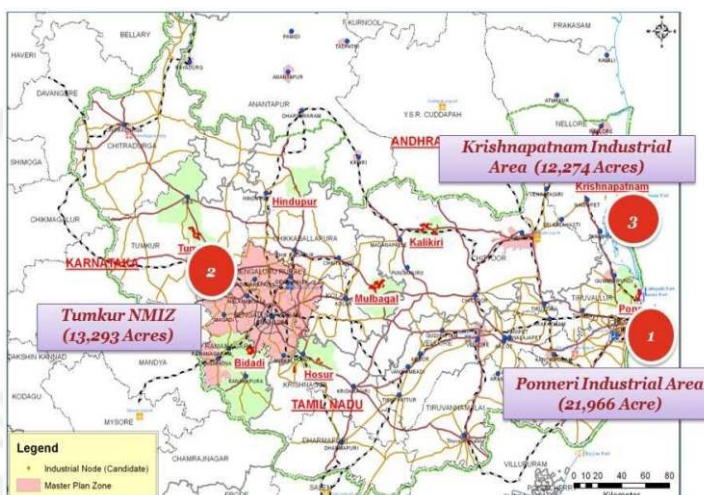
- The Union cabinet approved Industrial Corridor nodes at Krishnapatnam and Tumakuru under CBIC recently

About the new development

- The Cabinet Committee on Economic Affairs chaired by Prime Minister has approved proposals of Department of Promotion of Industry & Internal Trade (DPIIT) for construction of various trunk infrastructure components for:
 - Krishnapatnam Industrial Area in Andhra Pradesh with an estimated cost of the project of Rs. 2,139.44 crore;
 - Tumakuru Industrial Area in Karnataka with an estimated cost of Rs. 1,701.81 crore;
 - Multi Modal Logistics Hub (MMLH) and Multi Modal Transport Hub (MMTH) at Greater Noida in Uttar Pradesh with an estimated cost of Rs. 3,883.80 crore.

Chennai Bengaluru Industrial Corridor (CBIC)

- It is one of the five industrial corridors coming up in India under the aegis of National Industrial Corridor Development and Implementation Trust (NICDIT)
- These projects have been planned on the backbone of multi modal connectivity infrastructure. **Krishnapatnam Industrial Area in Andhra Pradesh and Tumakuru Industrial Area in Karnataka under Chennai Bengaluru Industrial Corridor (CBIC) have been approved to kick start the development in Chennai Bengaluru Industrial Corridor Project. These greenfield industrial cities will be self-sustained** with world-class infrastructure, road and rail connectivity for freight movement to and from ports and logistic hubs along with reliable power and quality social infrastructure.



Features of CBIC

- The strategy to develop CBIC is part of the plan to achieve accelerated development, regional industry agglomeration in the states of Tamil Nadu, Karnataka and Andhra Pradesh** and to facilitate development of a well-planned and efficient industrial base by providing smooth access to the industrial production units, decreased transportation logistics costs along with an improved delivery time and reduction in inventory cost and ensure increased private investments in manufacturing and industrial activity in the three states.
- Japan International Cooperation Agency (JICA) Study Team undertook the Preliminary Study for Comprehensive Integrated Master Plan for Chennai- Bengaluru Industrial Corridor (CBIC)** and a total 25 priority projects across various sectors aimed at removing infrastructural bottlenecks were identified in their report. **Following three nodes were taken up for Master Planning under JICA assistance:**
 - Tumkur (Karnataka)
 - Ponneri (Tamil Nadu)
 - Krishnapatnam (Andhra Pradesh)
- The report of master planning of above 3 industrial nodes submitted by JICA has been accepted as final and State Governments have been directed to initiate the process of notification of master plan of these nodes.

Multi Modal Logistics Hub (MMLH) & Multi Modal Transport Hub (MMTH) Projects

- MMLH & MMTH at Greater Noida, U.P. are in close proximity to Eastern peripheral expressway, NH91, Noida-Greater Noida Expressway, Yamuna Expressway, Eastern & Western Dedicated Freight Corridors.
- Logistics Hub project will be developed as a world-class facility that will provide efficient storage/transitioning of goods to/from the Dedicated Freight Corridors (DFC) and offer a one-stop destination to freight companies and customers.
- The facility will not only provide standard container handling activities but also provide various value-added services to reduce logistics cost with improved efficiency of operations.
- The MMTH project will provide world-class passenger movement facilities for the growing population of the catchment zone catering to upcoming developments in U.P. sub-region of the NCR and thus, decongest Delhi.

National Industrial Corridor Development Programme(NICDC)

- It is **India's most ambitious infrastructure programme** aiming to develop new industrial cities as "Smart Cities" and converging next generation technologies across infrastructure sectors.
- It **includes** the following **Industrial Corridors**:
 - Delhi Mumbai Industrial Corridor (DMIC)
 - Amritsar Kolkata Industrial Corridor (AKIC)
 - Chennai Bengaluru Industrial Corridor (CBIC) with extension to Kochi via Coimbatore
 - East Coast Economic Corridor (ECEC) with Vizag Chennai Industrial Corridor (VCIC) as Phase 1
 - Bengaluru Mumbai Industrial Corridor (BMIC)

Meeting of Financial Stability and Development Council(FSDC)**Economy****Why in news?**

- Finance minister chaired the 23rd meeting of the Financial Stability and Development Council (FSDC).

Key highlights of the meeting

- The Union Finance minister met the Financial Stability and Development Council (FSDC) to discuss the state of economy, budget proposals and to prepare a roadmap for India's recovery for the next financial year amid the ongoing corona virus pandemic.
- During the meeting, the council stressed on the need for the government and all regulators to maintain continuous vigil on the financial conditions that could expose the country to financial vulnerabilities in the medium and long term.
- It reviewed the major macroeconomic developments and Financial Stability issues (global and domestic) with special reference to vulnerability related issues
- It also discussed measures which may be required to be taken to ensure consistent support of the financial sector for achieving faster real economic growth and achieving the overall macroeconomic targets, while continuing to maintain financial stability.
- Discussion were also held on the challenges involved in the smooth transition of London Interbank Offer Rate (LIBOR) based contracts and FSDC noted that a multipronged strategy involving relevant stakeholder institutions and departments is required in this regard

About Financial Stability and Development Council (FSDC):

- FSDC is an apex-level body constituted by the Government of India to create a super regulatory body as mooted by the Raghuram Rajan Committee in 2008.
- Finally in 2010, the then Finance Minister of India, Pranab Mukherjee, decided to set up such an autonomous body dealing with macro prudential and financial regularities in the entire financial sector of India.
- An apex-level FSDC is not a statutory body. No funds are separately allocated to the council for undertaking its activities.

Composition

- **Chairperson:** The Union Finance Minister of India
- **Members:**
 - Governor Reserve Bank of India (RBI),
 - Finance Secretary and/ or Secretary, Department of Economic Affairs (DEA),
 - Secretary, Department of Financial Services (DFS),
 - Secretary, Ministry of Corporate Affairs,
 - Chief Economic Advisor, Ministry of Finance.
 - Other members include chairman of SEBI, IRDA, PFRDA and IBBI

Responsibilities of FSDC

- Bringing about stability in the financial sector
- Development of Financial Sector
- Inter-regulatory coordination
- Promoting financial literacy
- Ensuring financial inclusion
- Macroprudential supervision of the economy including the functioning of large financial conglomerates.
- Coordinating India's international interface with financial sector bodies like the Financial Action Task Force (FATF), Financial Stability Board (FSB) and any such body as may be decided by the Finance Minister from time to time.

Google Pays India Equalisation Levy

Economy

Why in news?

- Google India paid more than six hundred crore equalization levy in FY20

What is Equalisation levy and its impositions?

Equalisation Levy was introduced in India in 2016, with the intention of taxing the digital transactions i.e. the income accruing to foreign e-commerce companies from India. It is aimed at taxing business to business transactions.:

- Equalisation Levy was first **introduced by Finance Act, 2016**, at the rate of **6 per cent** on payments for digital advertising services received by non-resident companies without a permanent establishment (PE) in India, if these exceeded Rs 1 lakh a year.
- It is a **direct tax**, which is withheld at the time of payment by the service recipient.
- The Budget 2020-21 has expanded its scope to include consideration received by **non-resident e-commerce operators for e-commerce supply and services**. The rate applicable has been set at 2 per cent effective from April 1, 2020.
- Digital offerings of non-residents such as online books/online games/online gaming services (under specified circumstances) seem to come under the purview of the expanded equalisation levy.
- Equalization Levy (Amendment) Rules, 2020
- Central Board of Direct Taxes (CBDT) notified the Equalisation levy (Amendment) Rules, 2020 to further amend the Equalisation levy Rules, 2016.
- The following amendments have been made in the Equalisation Levy Rules, 2016:
 - Definition of "electronic verification code" is added to definition Rules 2
 - It amended Rule 3 to exclude the words "for specified services" and add the new heading as "Rounding off of consideration, equalisation levy, etc."
 - The amendment also inserted the new word "electronic verification code" which means a code generated for the purpose of electronic verification of the person
 - It amended rule 4 related to payment of equalisation levy to include an e-commerce operator in addition to the assessee.
 - The amendment allows an e-commerce operator to file an appeal before the CIT(A) and ITAT.

Draft Indian Ports Bill

Economy

Why in news?

- Ministry of Ports, Shipping and Waterways has circulated draft of Indian Ports Bill 2020 for public consultation which will repeal and replace the Indian Ports Act, 1908.

Key Provisions of the draft Bill

- The Bill seeks to create an enabling environment for the growth and sustained development of the ports sector in India **through the following broad methods**:
 - Constitution of Maritime Port Regulatory Authority**
 - Formulation of the National Port policy and National Port plan**
 - Formulation of specialized Adjudicatory Tribunals to curb any anti-competitive practices in the port sector and provide a speedy and affordable grievance redressal mechanism.**
 - Maritime Ports Tribunal**

Maritime Ports Appellate Tribunal

- It seeks for **optimum utilization of the Indian Coastline** by effective administration and management of ports.
- The bill will provide measures to facilitate conservation of ports, **taking into account the prevalent situation with respect to the high number of non-operational ports.**
- The Bill is aimed at reorienting the governance model in central ports to the **landlord port model in line with the successful global practice.**
- Provisions of CSR (Corporate Social Responsibility)** and development of infrastructure by Port Authority have been introduced.
- The bill will ensure greater investment in the **Indian maritime and ports sector through the creation of improved, comprehensive regulatory frameworks for the creation of new ports and management of existing ports.**
- The Bill ensures that all **up-to-date conventions/protocols** to which India is a party, are also suitably incorporated.

- Enhancing "Ease of Doing Business", **it will provide greater impetus to a self-reliant domestic investment climate in the maritime sector, towards Aatmanirbhar Bharat initiatives of the Government.**

Significance:

- The up-to-date provisions of the proposed Bill would ensure safety, security, pollution control, performance standards and sustainability of Ports
- The Bill ensures that all up-to-date conventions /protocols to which India is a party, are also suitably incorporated.
- This will promote marine safety and security in the true sense.
- The Bill will fill up the gaps for achieving scientific development of Ports and Port Network.
- The Bill will bolster structured growth and sustained development of Ports and ensure achieving this objective on fast track basis.
- Consequently, it will result into revolutionary maritime reforms transmuting the Indian maritime set-up entirely in the times to come

AYUSH Export Promotion Council - AEPC

Economy

Why in news?

Ministry of Finance, Commerce, Industry and AYUSH ministries have decided to work together to set up an Export Promotion Council to boost AYUSH exports.

- In order to boost up export after the Covid pandemic and Trade and commerce in the AYUSH sector is needed to upscale quickly to meet the growing demands from India and abroad, and to serve the larger number of people who are now looking up to these systems for maintaining their health.

Government will work for

- Standardization of HS Code for AYUSH will be expedited and the Ministry of AYUSH will work in collaboration with Bureau of Indian Standards to develop international standards for AYUSH products as well as services.
- The AYUSH industry will work on ensuring quality and standards of AYUSH products as well as to become price competitive and AYUSH will figure out brand India activities.
- AYUSH based solutions for disease resistance and treatment during the difficult times of the CoVID-19 pandemic and called for upscaling trade and commerce in AYUSH sector in order to meet the growing demands from India and abroad
- AYUSH immunity protocols and the National Clinical Management Protocol for CoVID-19 for Ayurveda and Yoga were timely interventions which provided relief to large sections of the population.

United Nations Investment Promotion Award

Economy

Why in news?

- Recently, **Invest India** has won the **2020 United Nations Investment Promotion Award**.

About Invest India

- It is the National Investment Promotion and Facilitation Agency of India.
- It acts as the first point of reference for investors in India.
- It is a non-profit venture set up in 2009 under the Department for Promotion of Industry and Internal Trade.
- Invest India focuses on sector-specific investor targeting and development of new partnerships to enable sustainable investments in India.
- It actively works with several Indian states to build capacity as well as bring in global best practices in investment targeting, promotion and facilitation areas



About United Nations Investment Promotion Award

- It is the most coveted award for **Investment Promotion Agencies** given by **United Nations Conference on Trade and Development (UNCTAD)**.

- It recognizes **outstanding achievements and best practices** of Investment Promotion Agencies (IPAs) across the globe.
- It is **presented annually** to make the investment community and general public aware of exceptional contributions by investment promotion agencies to the realization and advancement of national development strategies.

- UNCTAD is a permanent intergovernmental body established by the United Nations General Assembly in 1964.
- It is headquartered in Geneva, Switzerland
- UNCTAD is part of the UN Secretariat
- The organization's goals are to: "maximize the trade, investment and development opportunities of developing countries and assist them in their efforts to integrate into the world economy on an equitable basis".

Lottery, Gambling, Betting Taxable under GST Act: SC

Economy

Why in news?

- **The Supreme Court held that lottery, gambling and betting are taxable under the Goods and Services Tax (GST) Act.**

Supreme Court Observations

- They are "actionable claims" and come within the definition of 'goods' under Section 2(52) of the Central Goods and Services Tax Act, 2017.
- The court said Lottery, betting and gambling are well known concepts and have been in practice in this country since before Independence and were regulated and taxed by different legislations.
- It also said the **Parliament had an absolute power** to go for an "inclusive definition" of the term 'goods' to include actionable claims like lottery, gambling and betting.
- The power to make laws as conferred by **Article 246A fully empowers the Parliament to make laws with respect to goods and services tax and expansive definition of goods** given in Section 2(52) cannot be said to be not in accord with the constitutional provisions.
 - Article 246A is a special provision with regard to goods and services tax w.e.f. 16.09.2016, which special power has to be liberally construed empowering the Parliament to make laws with respect to goods and services tax.
- The court also rejected a suggestion to exclude the prize money from GST while determining the face value of the lottery tickets.

Section 2(52) of the Central Goods and Services Tax (CGST) Act, 2017 states that "goods" means every kind of movable property other than money and securities but includes actionable claim, growing crops, grass and things attached to or forming part of the land which are agreed to be severed before supply or under a contract of supply

What is GST?

GST (Goods and Services Tax) amalgamates Central & State Taxes. It mitigates double taxation and makes Indian products more competitive.



What are the benefits of GST?

- Final price of goods to be lower
- Relatively large segment of small retailers will either be exempted from tax or will suffer very low tax rates
- Will boost foreign investment
- Generate more employment
- Average Tax burden on firms to come down

GST

GOODS AND SERVICES TAX

State Taxes to be subsumed within GST

- State Tax
- Central Sales Tax
- Purchase Tax
- Luxury Tax
- Entry Tax
- Entertainment Tax
- Taxes on Advertisements
- Taxes on Lotteries, Betting and Gambling

India falls in United States list of Currency Manipulator

Economy

Why in news?

The United States has once again included India in its monitoring list of countries with potentially "questionable foreign exchange policies" and "currency manipulation". This comes a year after India was removed from the watchlist in the US Treasury Department's semi-annual foreign-exchange report to the US Congress.

Currency Manipulation

It labelled by the US government to countries it feels are engaging in "unfair currency practices" by deliberately devaluing their currency against the dollar. The practice would mean that the country in question is artificially lowering the value of its currency to gain an unfair advantage over others.

This is because the devaluation would reduce the cost of exports from that country and artificially show a reduction in trade deficits as a result.

Main Parameters

An economy meeting two of the three criteria in the Trade Facilitation and Trade Enforcement Act of 2015 is placed on the Monitoring List. This includes:

1. A significant bilateral trade surplus with the US, one that is at least \$20 billion over a 12 month period.
2. A material current account surplus equivalent to at least 2 percent of gross domestic product over a 12 month period.
3. Persistent, one-sided intervention — when net purchases of foreign currency totalling at least 2 percent of the country's GDP over a 12 month period are conducted repeatedly, in at least six out of 12 months.

Why is India back in the Monitoring List again?

India, which has for several years maintained a "significant" bilateral goods trade surplus with the US, crossed the \$20 billion mark, according to the latest report. Bilateral goods trade surplus totalled \$22 billion in the first four quarters through June 2020.

Based on the central bank's intervention data, India's net purchases of foreign exchange accelerated notably in the second half of 2019. Following sales during the initial onset of the pandemic, India sustained net purchases for much of the first half of 2020, which pushed net purchases of foreign exchange to \$64 billion—or 2.4% of GDP—over the four quarters through June 2020.

Implications for India

- India has traditionally tried to balance between preventing excess currency appreciation on the one hand and protecting domestic financial stability on the other.
- India being on the watch list could restrict the RBI in the foreign exchange operations it needs to pursue to protect financial stability.
- This comes when global capital flows threaten to overwhelm domestic monetary policy.
- The two most obvious consequences could be an appreciating rupee as well as excess liquidity that messes with the interest rate policy of the RBI.
- Indian policymakers have to be sensitive for the unpredictable nature of policy-making in the US under Trump, especially concerning global trade.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 3.0 & UMANG Portal

Economy

Why in news?

- PMKVY 3.0 to be launched soon will be placed on UMANG platform.

About PMKVY 3.0

- PMKVY 3.0 envisages training of eight lakh candidates over the scheme period of 2020-2021.
- **The scheme would be implemented through the National Skill Development Corporation (NSDC).**
- This phase three will focus on new-age and COVID-related skills.
- The 729 PM Kaushal Kendras (PMKKs), empanelled non-PMKK training centres and more than 200 industrial training institutes under Skill India will be rolling out under it.
- On the basis of the learning gained from PMKVY 1.0 and PMKVY 2.0, the MSDE has improved the newer version of the scheme to match the current policy doctrine and energize the skilling ecosystem.

Components of PMKVY

- **Short Term Training:** The Short Term Training imparted at PMKVY Training Centres (TCs) is expected to benefit candidates of Indian nationality who are either school/college dropouts or unemployed. Apart from providing training according to the National Skills Qualification Framework (NSQF), TCs shall also impart training in Soft Skills, Entrepreneurship, Financial and Digital Literacy.
- **Recognition of Prior Learning:** Individuals with prior learning experience or skills shall be assessed and certified under the Recognition of Prior Learning (RPL) component of the Scheme. RPL aims to align the competencies of the unregulated workforce of the country to the NSQF.
- **Special Projects:** The Special Projects component of PMKVY envisages the creation of a platform that will facilitate trainings in special areas and/or premises of Government bodies, Corporates or Industry bodies, and trainings in special job roles not defined under the available Qualification Packs (QPs)/National Occupational Standards (NOSs).
- **Kaushal and Rozgar Mela:** PMKVY assigns special importance to the involvement of the target beneficiaries through a defined mobilisation process. TPs shall conduct Kaushal and Rozgar Melas every six months with press/media coverage; they are also required to participate actively in National Career Service Melas and on-ground activities.
- **Placement Guidelines:** PMKVY envisages to link the aptitude, aspiration, and knowledge of the skilled workforce it creates with employment opportunities and demands in the market. TPs shall also provide support to entrepreneurship development.
- **Monitoring Guidelines:** To ensure that high standards of quality are maintained by PMKVY TCs, NSDC and empaneled Inspection Agencies shall use various methodologies, such as self-audit reporting, call validations, surprise visits, and monitoring through the Skills Development Management System (SDMS). These methodologies shall be enhanced with the engagement of latest technologies.

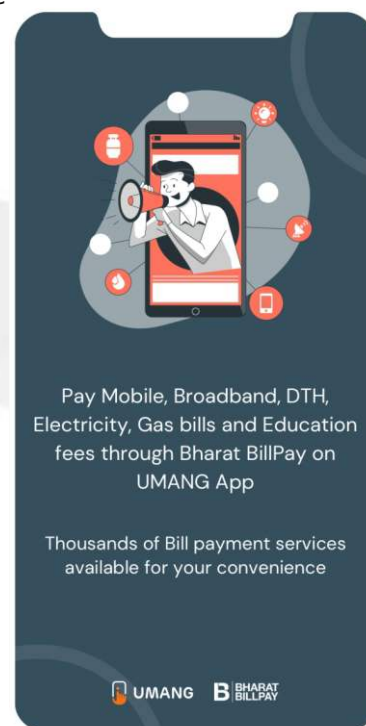


About UMANG Portal

- UMANG (Unified Mobile Application for New-age Governance) is developed by Ministry of Electronics and Information Technology (MeitY) and National e-Governance Division (NeGD) to drive Mobile Governance in India.
- UMANG provides a single platform for all Indian Citizens to access pan India e-Gov services ranging from Central to Local Government bodies and other citizen centric services.

Services under UMANG portal

- It is an all-in-one single unified secure multi-channel multi-platform multi-lingual multi-service freeware mobile app for accessing over 841 services through 127 central and state government departments in multiple Indian languages over Android, iOS, Windows and services such as: AADHAR, DigiLocker, Bharat Bill Payment System, PAN, EPFO services, PMKVY services, AICTE, CBSE, Tax and fee, Utilities bills payments, Education, Passport.



National Strategy for Financial Education

Economy

Why in news?

- India is the third largest economy in the world in terms of purchasing power parity and is aiming to become a USD 5 trillion economy.

About NFSE

- It has the **vision** of creating a financially aware and empowered India.
- It focuses on various **aspects of financial education across banking, insurance, pension and investments through greater roles for financial institutions** (both banks and non-banks), **educational institutions, industry bodies and other stakeholders.**
- In order to reach out to the various **target groups** (*school children, teachers, young adults, women, new entrants at workplace/ entrepreneurs (MSMEs), senior citizens, Divyang persons, illiterate people*), innovative techniques and digital modes of delivery including targeted modules for specific categories of customers have been envisaged.
- Due emphasis has also been given to **safe usage of digital financial services** and enhancing awareness about grievance redress measures.
- The evaluation methods to assess progress in financial education have also been identified as one of the strategic objectives.
- The strategy includes a **'5 Cs' approach** for dissemination of financial education through emphasis on development of relevant **Content** (including Curriculum in schools, colleges and training establishments); **Capacity** of the intermediaries who provide financial services and education; leveraging on the positive effect of **Community** led model for financial literacy through appropriate **Communication** Strategy and enhancing **Collaboration** among various stakeholders.



Initiatives taken so far to impart financial education

1. Setting of a **National Centre for Financial Education (NCFE)**:

- The NCFE has been set up by the four financial sector regulators as a Section 8 (**Not for Profit**) Company to promote Financial Education across India for all sections of the population as per the NSFE.
- NCFE **undertakes financial education campaigns across the country** through seminars, workshops, conclaves, training programmes, campaigns, etc. to help people manage money more effectively and achieve financial wellbeing in the process.

2. **Centre for Financial Literacy (CFL) project**:

- It is an innovative way to **impart financial education through community approach**, conceptualised by the RBI in 2017.
- It is a participatory approach to financial literacy at the **Block level** involving select banks and NGOs.

3. The largest impact in recent years came from the opening of Jan Dhan accounts and implementation of the **Pradhan Mantri MUDRA Yojana (PMMY)**.

Empowered Group of Secretaries and Project Development Cells

Economy

Why in news?

- The Union Cabinet has given its approval for setting up of an Empowered Group of Secretaries and Project Development Cells in Ministries/Departments of Government of India for attracting investments in India.

About Empowered Group of Secretaries and Project Development Cells

- This new mechanism will reinforce India's vision of becoming a US\$ 5 trillion economy by 2024-25.

Composition

In order to provide support and facilitation to investors for investing in India and to boost growth in key sectors of the economy, an Empowered Group of Secretaries (EGoS) is approved with the following composition:

- Cabinet Secretary (Chairperson)
- CEO, NitiAayog (Member)

- Secretary, Department for Promotion of Industry and Internal Trade (Member Convenor)
- Secretary, Department of Commerce (Member)
- Secretary, Department of Revenue (Member)
- Secretary, Department of Economic Affairs (Member)
- Secretary of Department concerned (to be co-opted).

Objectives

- To **bring synergies and ensure timely clearances** from different departments and Ministries.
- To **attract increased investments into India and provide investment support** and facilitation to global investors.
- To facilitate investments of top investors in a targeted manner and to **usher policy stability & consistency in the overall investment environment**.
- To evaluate investments put forward by the departments on the basis of their (i) project creation (ii) actual investments that come.

Project Development Cell (PDC)

- A 'Project Development Cell' (PDC) is also approved **for the development of investible projects in coordination between the Central Government and State Governments** and thereby grow the pipeline of investible projects in India and in turn increase FDI inflows.
- Under the guidance of the Secretary, an officer not below the rank of Joint Secretary of each relevant central line Ministry, who will be in-charge of the PDC will be tasked to conceptualize, strategize, implement, and disseminate details with respect to investable projects.

Objectives of PDC

- To create projects with all approvals, land available for allocation and with the complete Detailed Project Reports for adoption/investment by investors.
- To identify issues that need to be resolved in order to attract and finalise the investments

Flexible Inflation Targeting

Economy

Why in news?

- Recently, RBI's working paper on inflation has found a steady decline in trend inflation to 4.1 - 4.3 percent since 2014.

About the report?

- The report says that Maintaining the inflation target at 4 per cent is appropriate for India in the backdrop of the steady decline in trend inflation to 4.1- 4.3 per cent since 2014
- The observation by the report assumes significance given that the flexible inflation targeting/ FIT (formally instituted in June 2016), which commits the RBI to a consumer price inflation (CPI) target of 4 per cent with an upper and lower tolerance band of +/- 2 per cent, has to be reviewed by end-March 2021.
- The authors report Harendra Kumar Behera, Director, and Michael Debabrata Patra, Deputy Governor, RBI underscored that: "The credibility bonus accruing to monetary policy warrants smaller policy actions to achieve the target (FIT). This points to maintaining the inflation target at 4 per cent into the medium-term. If it ain't broke, don't fix it."
- As per the paper, central to the design and conduct of monetary policy is the concept of trend or steady state inflation. It is the level to which actual inflation outcomes are expected to converge after short run fluctuations from a variety of sources, including shocks, die out.
- The paper points out that the real time estimate of trend inflation was around 5 per cent until the end of 2013, but it declined steadily thereafter to 4.1 per cent in Q1 of 2019, before inching up thereafter during the COVID-19 pandemic.
- The authors said it is worthwhile to note that trend inflation still remains above the target under FIT, although it is on a declining trajectory.
- As per the authors, this indicates that inflation expectations are not yet fully anchored to the target but convergence is under way

What is Flexible Inflation Targeting(FIT)?

- FIT is a monetary policy strategy used by the Central Bank to maintain the price level within a certain range. This strategy indicates the importance of price stability as the prime factor of monetary policy. Inflation targeting is known to bring more stability, predictability, and transparency in deciding monetary policy.

Flexible Inflation Targeting Framework

- **In May 2016, the Reserve Bank of India (RBI) Act, 1934 was amended to provide a statutory basis for the implementation of the flexible inflation targeting framework.**
- The amended RBI Act also provides for the inflation target to be set by the Government of India, in consultation with the Reserve Bank, once in every five years.
- Accordingly, the Central Government has notified in the Official Gazette 4 per cent Consumer Price Index (CPI) inflation as the target for the period from August 5, 2016 to March 31, 2021 with the upper tolerance limit of 6 per cent and the lower tolerance limit of 2 per cent.
- The Central Government notified the following as factors that constitute failure to achieve the inflation target:
 - the average inflation is more than the upper tolerance level of the inflation target for any three consecutive quarters; or
 - the average inflation is less than the lower tolerance level for any three consecutive quarters.
- **Prior to the amendment in the RBI Act in May 2016, the flexible inflation targeting framework was governed by an Agreement on Monetary Policy Framework** between the Government and the Reserve Bank of India of February 20, 2015.



Benefits of Inflation Targeting

1. **Enhanced Transparency:** The Inflation targeting explicitly states as to what would be the targeted rate of Inflation in an economy. Such explicitly mandated target brings in more clarity and predictability with respect to the rate of Inflation and monetary policy formulation.
2. **Promote Growth:** A high rate of inflation leads to decrease in the purchasing power of currency, reduces the savings and investment rate, increases the unemployment and leads to overall decrease in the GDP growth rate. Further, high rate of inflation is accompanied by higher levels of Fiscal Deficit and Current Account Deficit leading to an adverse impact on the macro-economic stability of the country. Hence, low and moderate level of inflation would incentivise the investors to undertake the investment in the economy leading to the promotion of higher growth and development.
3. **Autonomy and Accountability of RBI:** As per the monetary policy framework agreement, the RBI has been given complete autonomy in maintaining the rate of inflation within the mandated targets. If the RBI fails to maintain the Inflation within the target, then it would be required to submit in writing, the reasons for its failure. Such a provision enables the RBI to enjoy autonomy and at the same time, it enables the Government to have enhanced accountability over the actions of the RBI.
4. **Empirical Evidence:** The Inflation targeting has been quite successful in some of the advanced economies such as UK, New Zealand etc. These advanced economies have been able to maintain moderate rate of inflation for a much longer time leading to increased macro-economic stability.

Problems and Challenges with Inflation Targeting

1. **Disregards the Multi-faceted role of RBI:** In a developing country like India, it is not practical for the central bank to focus exclusively on inflation without taking into account the larger development context. The RBI needs to **balance between growth, price stability and financial stability**.
2. **No Clear link between Price Stability and Financial Stability:** Prior to 2008, advanced economies were able to maintain moderate rate of inflation for a long term mainly due to adoption of Inflation Targeting. It was believed that Inflation targeting was responsible for overall macroeconomic stability of the country. However, the 2008 Global Financial Crisis has clearly proved that price stability alone cannot lead to financial stability and the excessive focus of the Central banks on the price stability may lead to neglect of other crucial functions such as regulation leading to the economic crisis.
3. **Empirical Evidence failing in India:** The RBI has been able to maintain stable rate of Inflation within the mandated range since last 2-3 years. However, inspite of stable rate of Inflation, Indian economy is facing challenges on multiple fronts. The GDP growth rate has been reduced to 25 quarter low of 5% for the first quarter of financial year 2019-20.
The unemployment has increased to **45- year high of 6.1%**. There has been contraction in the manufacturing activity as evident in declining IIP. The agriculture sector is staring at agrarian distress. All these clearly highlight that the Inflation targeting has failed to promote growth and development.
4. **Poor Monetary Policy Transmission:** The Inflation targeting is more suited to the developed economies since the monetary policy transmission in such economies is quite efficient. However, in case of India, the monetary policy transmission is quite inefficient and this can in turn reduce the effectiveness of Inflation Targeting.
5. **Hinder GDP Growth:** In order to contain Inflation, the RBI would be required to increase the rate of Interest by following the contractionary monetary policy. However, such a policy would lead to increase in the rate of interest on the loans leading to decrease in investment and consumption expenditure leading to decline in the GDP growth rates. For example, during 2013-2015, the higher interest rates in the country on account of higher rate of inflation had led to decrease in the GDP growth rates.

6. **Does not address the Supply Side Inflation:** The inflation in India may take place due to supply side bottlenecks such as increase in global crude oil prices, poor monsoon, floods etc. For instance, the recent increase in the prices of Tomato and Onions is mainly on account of supply side disruptions. Under such circumstances, RBI would have limited role to play in easing the rate of inflation. Rather, the Government of India would be required to address these supply side disruptions in order to moderate the prices of such commodities.

- **Monetary Policy Instruments**

- **Open Market Operations:** This involves being open to buying/selling securities like government bond from or to the public and banks.
- **Cash Reserve Ratio (CRR):** Cash Reserve Ratio is special bank deposits that the bank keeps with the RBI in the form of reserves or balances.
- **Statutory Liquidity Ratio (SLR):** The assets are kept in precious metals, bonds, and other non-cash forms. As noted in December 2019, SLR stands at 18.25%.
- **Bank Rate Policy:** Also known as the discount rate, bank rates are the interests which the RBI charges for providing funds and loans to the banking system. When there is an increase in bank rate, the cost of borrowing by commercial banks also increases which results in the reduction in credit volume to the banks, and hence the supply of money declines. When there is an increase in the bank rate, it can be taken as an indication of the tightening of the RBI monetary policy.
- **Credit Ceiling:** RBI issues prior information or direction that loans to the commercial bank will be given up to a certain limit by the use of credit ceiling. In this case, a commercial bank will be stringent and frugal in advancing loans to the public. The allocation of loans is limited to a few sectors

RBI relaxes Eligibility Norms for its Regulatory Sandbox Initiative

Economy

Why in news?

- The Reserve Bank of India recently relaxed eligibility norms for applicants under its regulatory sandbox (RS) initiative and announced "cross-border payments" as the theme of the second cohort under this scheme

About Regulatory Sand Box

- A Regulatory Sandbox (RS) is a **framework that allows for live-testing of new products or services in a controlled environment.**
- RBI's framework for a regulatory sandbox outlines a '**learning by doing**' approach for all ecosystem players.
- With certain safeguards, the regulator allows start-ups/Fintechs/tech companies/banks to innovate their products.
- Regulatory sandbox **allows a few cohorts with a limited number of entrants to test their product.**
- The cohorts can run at various time periods but shall be **completed within six months.**
- The presence of appropriate safeguards helps in **containing the consequences of failure.**
- The sandbox allows for the **pilot testing** of newly developed technologies.
- RBI has segregated innovation into two parts: **Innovative products and services and Innovative technology.**
- The regulatory sandbox framework **doesn't allow any FinTechs or start-ups to innovate with crypto currency.**
- RBI has also given an **exclusion list** where it will not entertain any innovation.

IFSCA and regulatory sandbox:

- The **International Financial Services Centres Authority (IFSCA)** has introduced a framework for Regulatory Sandbox.
- Under this Sandbox framework, **entities operating in the capital market, banking, insurance and financial services space shall be granted certain facilities and flexibilities to experiment with innovative FinTech solutions in a live environment** with a limited set of real customers for a limited time frame.
- These features shall be fortified with necessary safeguards for investor protection and risk mitigation.
- The Regulatory Sandbox shall operate within the IFSC located at GIFT City, Gujarat.
- **All entities (regulated as well as unregulated)** operating in the capital market, banking, insurance and pension sectors as well as **individuals and startups** from India and FATF compliant jurisdictions, shall be **eligible for participation.**
- IFSCA shall assess the applications and extend suitable regulatory relaxations to commence limited purpose testing in the Sandbox.
- **Market Infrastructure Institutions (MIIs)** operating in the IFSC will manage the Innovation Sandbox.

Why it is used?

- The first and foremost use of this concept is that it fosters "learning by doing".
- It will provide the requisite regulatory guidance to increase efficiency, manage risks and create new opportunities for consumers.
- Users of a sandbox can test the product's viability without the need for a larger and more expensive roll-out. If the product appears to have the potential to be successful, the product might then be authorised and brought to the broader market more quickly.

How will it benefit fintech firms?

- These testing grounds are especially relevant in the fintech world, where there is a growing need to develop regulatory frameworks for emerging business models.
- The purpose of the sandbox is to adapt compliance with strict financial regulations to the growth and pace of the most innovative companies, in a way that doesn't smother the fintech sector with rules, but also doesn't diminish consumer protection.
- It allows the regulator, the innovators, the financial service providers (as potential deployers of the technology) and the customers (as final users) to conduct field tests to collect evidence on the benefits and risks of new financial innovations, while carefully monitoring and containing their risks.

Zero Coupon Bonds

Economy

Why in the news?

- Recently, the government has used financial innovation to recapitalize Punjab & Sind Bank by issuing the lender Rs 5,500-crore worth of **Zero Coupon Bond** valued at par.

What is a Zero Coupon Bond?

- The zero-coupon bond is a bond that **pays no interest** and **trades at a discount to its face value**.
 - It implies that the investor purchasing a zero coupon bond **profits from the difference between the buying price and the face value**, contrary to the usual interest income.
- It is also called a **pure discount bond** or **deep discount bond**.
- A Zero Coupon Bond is a **non-interest bearing, non-transferable special Government of India securities** which has a maturity of 10-15 years.
- The Zero Coupon Bond is issued by the **Central Government** specifically to a **particular institution**.



Significance of Zero Coupon Bond

- The market participants term it both a '**financial illusion**' and '**great innovation**' by the government where it is using Rs 100 to create an impact of Rs 200 in the economy.
- The lender has kept the **Zero Coupon Bond in the Held-to-Maturity (HTM) bucket**, not requiring it to book any mark-to-market gains or losses from these bonds because these bonds are not tradable.
- The government has found an **innovative way to capitalise banks**, which **does not affect the fiscal deficit** while at the same time provides much needed **equity capital to the banks**.
- The funds raised through issuance of Zero Coupon Bond can **deployed to capitalise the state-run bank**.

Difference between zero coupon bonds issued by private firms and special zero coupon bonds by the government

Zero coupon bonds by private companies are normally issued at discount, but since these special bonds are not tradable these can be issued at par. The special bonds are issued to a specified person

Concerns associated with Zero Coupon Bond

- Zero coupon bonds are **subject to interest rates risk** if sold prior to the date of maturity.
- The value of **zero coupon bonds is inversely related to the rise in the interest rates** i.e. with rising in interest rates there is a decline in the value of these bonds in the secondary market.
- The sensitivity of long-term zero-coupon bonds to interest rates **exposes them to duration risk** which implies that higher a bond's duration, the greater will be its sensitivity to interest rate changes.

Zero Coupon Bonds issued by Private Firms

- The zero coupon bonds issued by **private companies are normally issued at discount**, but the zero coupon bonds of the government are special bonds which are not tradable as these can be issued at par.

Illegally availing Fake GST invoices

Economy

Why in news?

- Directorate General of Goods and Services Tax Intelligence (DGGSTI) across the country has arrested over 100 people for illegally availing or passing on input tax credit (ITC) by using fake GST invoices, and causing loss to the exchequer.

What is the Input tax credit system?

- It is the tax paid by the buyer on the purchase of goods or services.
- Such tax which is paid at the purchase when reduced from liability payable on outward supplies is known as an input tax credit.
- In simple terms, the input tax credit is tax reduced from output tax payable on account of sales.

What is the major concern?

- According to tax officials, the use of fake invoices to wrongfully avail ITC credit has been gradually increasing and has become a concern for the government, especially at a time when revenue collection is depressed.
- According to official data, in 2018-19, the central GST authorities registered 1,602 cases of fake ITC involving an amount of Rs 11,251 crore and arrested 154 people.
- Between April and November 2019, the authorities booked over 6,000 such cases.



How did fraudsters cheat the government?

- By floating multiple dummy firms:** As per the cases booked by tax authorities, fraudsters have been found to have floated multiple dummy firms, obtained GST registrations, issued fake GST invoices of goods and services without actual supply of services, and passed on ineligible ITC accrued from the bogus invoices to clients for a commission, who subsequently used it to make GST payments, causing losses to the government
- Series of shell companies:** In other cases, the tax department has found that promoters of certain companies have routed fake invoices through a series of shell companies and transferred input tax credit from one company to another in circular transactions to increase the turnover of the company. This helped them not only evade GST but also avail higher bank loans and credit facilities due to increased turnover.

What encourages fraudsters to use fake invoices?

- Fake invoices are used because it not only helps evade GST on taxable output supplies by availing undue ITC and converting excess ITC into cash but also helps in inflating turnover using these invoices, booking fake purchases to evade income tax, diversion of funds and money laundering.

Reasons for surge in such cases

- As per tax officials, one of the primary reasons for an increase in companies availing ITC fraudulently is the lack of due diligence during the GST registration.
- The process of registration was made easy and hassle free by the government so that businesses could be easily on-boarded to the system.
- However, this meant that a number of dummy companies too obtained the GST registration in the absence of scrutiny or physical verification of the registered address of the companies.
- Lack of data exchange among the enforcement agencies and banks have also led to increase in fraud cases

Recovery of money from fraudsters

- In these cases, recovery of money is unlikely as the money has already been siphoned and the companies involved in the fraud are only on paper with very little or no assets.

Government's plan to curb such cases

- It is planning to tighten the GST registration process and legal measures to deal with the rising cases of fake invoicing.
- In November, the legal committee of the GST Council met to discuss the tightening of the GST registration process and work out other legal measures including necessary law amendments required in the GST Act

Directorate General of Goods and Service Tax Intelligence (DGGSTI)

1. DGGSTI has been named the "**Regulator**" for dealing with **money laundering** cases in the **gems and jewellery** sector
2. It is a newly created **GST intelligence arm**
3. The **Prevention of Money-Laundering (Maintenance of Records) Rules, 2005** was amended to make the **DGGSTI** as the **regulator** with respect to the gems and jewellery sector
4. After the amendment, the **DGGSTI** would now keep a **track of transactions** in the gems and jewellery sector to see **if they are conformity with law**
5. The **DG GSTI** is the new name given to the **Directorate General of Central Excise Intelligence (DGCEI)**, which **was mandated** to check **service tax and central excise duty evasion**

100% FDI in DTH service**Economy****Why in news?**

- The Union Cabinet on Wednesday approved revised guidelines for Direct-to-Home (DTH) broadcasting services, allowing 100 per cent foreign direct investment (FDI) as well as increasing the licence period to 20 years.

About the revised guidelines

- Under the revised guidelines the licenses will be issued for a period of 20 years, compared to 10 years at the moment, and will be renewed for a 10-year period. The license fee has been revised from 10 per cent of gross revenue (GR) to 8 percent of adjusted gross revenue (AGR), which will be calculated by deduction of GST from GR.
- Further, broadcasting firms will have to pay the license fee on a quarterly basis, rather than the annual basis as of now.
- The revised guidelines "may also enable DTH service providers to invest for more coverage leading to increased operations and higher growth and thereby enhanced and regular payment", the government said in a statement.
- The government has also allowed DTH operators to share infrastructure. "DTH operators, willing to share DTH platforms and transport streams of TV channels, on a voluntary basis, will be allowed," the statement said. "Distributors of TV channels will be permitted to share the common hardware for their Subscriber Management System (SMS) and Conditional Access System (CAS) applications."
- Sharing of infrastructure by the DTH operators, the government noted, "may bring in more efficient use of scarce satellite resources and reduce the costs borne by the consumers".

**Significance of the move**

- The DTH is operable on pan-India basis. DTH sector is a highly employment intensive sector. It directly employs DTH operators as well as those in the call centres besides indirectly employing a sizeable number of installers at the grass-root level. The amended DTH guidelines, with longer license period and clarity on renewals, relaxed FDI limits, etc., will ensure fair degree of stability and new investments in the DTH sector along with employment opportunities.

| Direct-to-home (DTH) Broadcasting Service | Analog/Cable transmission |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| In India, direct-to-home (DTH) Broadcasting Service refers to the distribution of multi channel TV programmes in Ku Band by using a satellite system by providing TV signals direct to subscribers' premises. | Analog transmission is a transmission method of conveying information using a continuous signal which varies in amplitude, phase, or some other property in proportion to that information |
| DTH is an encrypted transmission that travels to the consumer directly through a satellite. | In an analog television broadcast, the brightness, colors and sound are represented by amplitude, phase and frequency of an analog signal |
| DTH transmission is received directly by the consumer at his end through the small dish antenna. A set-top box, unlike the regular cable connection, decodes the encrypted transmission. | For example cable TV operates on just analog signals |
| It reaches even the most isolated locations | Reaching remote areas is not possible with cable TV as it requires the subscriber to be within the available range of the cable network |

Why in news?

- Recently, the National Consumer Day 2020 was observed.

About the act**Who is Consumer?**

- A consumer is defined as a person **who buys any goods or avails a service for consideration.**
- It **does not include a person** who obtains a good for resale or a good or service for commercial purpose.
- It **covers transactions through all modes** including offline, and online through electronic means, teleshopping, multi-level marketing or direct selling.

**Provisions of the Act:**

- The following consumer rights have been defined in the Act-
 - To be **protected against the marketing of goods and services** which are hazardous to life and property.
 - To be informed** of the quality, quantity, potency, purity, standard and price of goods or services.
 - To be assured of **access to a variety of goods or services** at competitive prices.
 - To seek **redressal against unfair or restrictive trade practices.**
- Provision for a Central Authority-**
 - It provides for the establishment of the **Central Consumer Protection Authority, CCPA** to promote, protect and enforce the rights of consumers.
 - The CCPA will be **empowered to conduct investigations** into-
 - Violations of consumer rights and institute complaints or prosecution.
 - Order recall of unsafe goods and services.
 - Order discontinuance of unfair trade practices and misleading advertisements.
 - Impose penalties on manufacturers or endorsers or publishers of misleading advertisements.
 - The CCPA may **impose a penalty on a manufacturer or an endorser of up to Rs 10 lakh** and imprisonment for up to two years for a false or misleading advertisement and the case of a repeated offence, the fine may extend to Rs 50 lakh and imprisonment of up to five years.
- Consumer Disputes Redressal Commissions-**
 - It will be set up at the district, state, and national levels.
 - A consumer can file a complaint with CDRCs in relation to Unfair or restrictive trade practices, defective goods or services, overcharging or deceptive charging and the offering of goods or services for sale which may be hazardous to life and safety etc.
 - Complaints against an unfair contract can be filed with only the State and National Appeals from a District CDRC will be heard by the State CDRC.
 - Appeals from the State CDRC will be heard by the National CDRC. The final appeal will lie before the Supreme Court.
- Alternate Dispute Resolution Mechanism of Mediation-**
 - The act provides for reference to mediation by Consumer Commissions wherever scope for early settlement exists and parties agree for it.
 - The mediation will be held in the Mediation Cells which will be established under the aegis of the Consumer Commissions.
 - There will be no appeal against settlement through mediation.
- E-commerce-related provisions-**
 - It will have the rules for the prevention of unfair trade practice by e-commerce platforms.
 - E-commerce platforms will have to acknowledge the receipt of any consumer complaint within 48 hours and redress the complaint within one month from the date of receipt. They will also have to appoint a grievance officer for consumer grievance redressal.

| Provision | Consumer Protection Act, 1986 | Consumer Protection Bill, 2019 |
|----------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Regulator | No Central Regulator | Central Consumer Protection Authority to be set up. |
| Filing of Complaint | A complaint needs to be filed in the consumer court under whom jurisdiction of the seller falls under | A complaint can be filed from anywhere or from where the consumer resides. |
| Mediation | No Provision | Courts can work towards settlement through mediation cells. |
| Jurisdiction | The jurisdiction at District level was complaints worth of Rs. 20 Lakh | District level authorities can take-up complaints with goods and services worth up to Rs.1 crore. |
| Product Liability | No Provision | Consumers have the right to seek compensation for any harm caused. |
| E-Commerce | No Provision | E-Commerce transactions will come under the provisions involving direct sales. |
| Video Conferencing | No Provision | Consumers can seek hearing through Video Conference. |

- Sellers cannot refuse to take back goods or withdraw services or refuse refunds, if such goods or services are defective, deficient, delivered late, or even if they do not meet the description on the platform.
- It prohibits the e-commerce companies to manipulate the price of the goods or services.
- **Other important provisions-**
 - There will be no fee for filing cases up to Rs. 5 lakh.
 - State Commissions will provide information to the Central Government on a quarterly basis on vacancies, disposal, the pendency of cases and other matters.
 - Apart from these general rules, there are Central Consumer Protection Council Rules, provided for the constitution of the Central Consumer Protection Council (CCPC).
 - It will be an advisory body on consumer issues, headed by the Union Minister of Consumer Affairs, Food and Public Distribution with the Minister of State as Vice Chairperson and 34 other members from different fields.
 - It will have a three-year tenure and will have Minister-in-charge of consumer affairs from two States from each region- North, South, East, West, and North-East Region.

India loses tax arbitration case against Cairn

Economy

Why in news?

- In a 2nd setback after Vodafone case, Indian government has lost an International arbitration case to energy giant Cairn, on the issue of retrospective taxation.

Details of the case

- The case pertains to the tax demand related to an alleged Rs. 24,500 crore worth capital gains it made in 2006 while transferring all its shares of Cairn India Holdings to a new company, Cairn India, and got it listed on the stock exchanges.
- However, Cairn argued the retroactive application of a newly enacted law is a breach by India of its obligations under the Treaty **[UK-India Bilateral Investment Treaty]** to treat Cairn and its investments fairly and equitably and refrain from unlawfully expropriating Cairn's assets.
- Owing to different interpretations of capital gains, the company refused to pay the tax.
- This prompted cases being filed at the Income Tax Appellate Tribunal (ITAT) and the High Court.

What is the verdict of Court?

- The Permanent Court of Arbitration at The Hague has maintained that the Cairn tax issue is not a tax dispute but a tax-related investment dispute and, hence, it falls under its jurisdiction.
 - India's demand in past taxes, it said, was in **breach of fair treatment under the UK-India Bilateral Investment Treaty**.
 - The GOI was ordered to compensate for the total harm suffered together with interest and cost of arbitration.
- The order does not contain a provision for challenge or appeal. Moreover, Cairn can use the arbitration award to approach courts in countries such as the UK to seize any property owned by India overseas to recover the money if the award is not honored.

Retrospective taxation allows a country to pass a rule on taxing certain products, items or services and deals and charge companies from a time behind the date on which the law is passed.

Countries use this route to correct any anomalies in their taxation policies that have, in the past, allowed companies to take advantage of such loopholes.

Apart from India, many countries including the USA, the UK, the Netherlands, Canada, Belgium, Australia and Italy have retrospectively taxed companies.

National Institute of Public Finance and Policy

Economy

Why in news?

- A new research paper by the National Institute of Public Finance and Policy finds that the revenue shortfall for the GST compensation payable to States in 2020-21 could be about Rs 1.95 lakh crore

About NIPFP

- The National Institute of Public Finance and Policy (NIPFP) is a centre for research in public economics and policies.
- Founded in 1976, the institute undertakes research, policy advocacy and capacity building in areas related to public economics.



- One of the major mandates of the institute is to assist the Central, State and Local governments in formulating and reforming public policies by providing an analytical base.
- The institute was set up as an autonomous society, at the joint initiative of the Ministry of Finance, Planning Commission, several State governments and distinguished academicians. It is registered under the Societies Registration Act, 1860.
- In its 44 years of existence, the institute has emerged as a premier think tank in India, and has made significant contribution to policy reforms at all levels of the government. It has maintained close functional links with the Central and State governments all along, and has built up linkages with other teaching and research institutions both in India and abroad.
- Although the institute receives an annual grant from the Ministry of Finance, Government of India, and various State governments, it maintains an independent non-government character in its pursuit of research and policy.

Green National Highways Corridors

Economy

Why in news?

- Recently, the **World Bank** and **Government of India** have signed a \$500 million agreement for the **Green National Highways Corridors Project**.

About Green National Highways Corridors Project



- It aims to build **safe and green national highway corridors** in the states of **Rajasthan, Himachal Pradesh, Uttar Pradesh** and **Andhra Pradesh**.
- The ultimate objective of **transport infrastructure** is to provide seamless connectivity and reduce logistics costs.
- The project will support analytics to **map the freight volume and movement pattern** on the National Highway network, identify constraints, and provide innovative logistics solutions.
- The project has three components:
 - The **Green Highway Corridor Improvement and Maintenance** includes upgradation and maintenance for five years of about 783 kilometers of selected existing National Highways.
 - The **Institutional Capacity Enhancement** has the following subcomponents:
 - **Development and implementation of a Climate Adaptation Policy** and guidelines and mainstreaming climate resilience in National Highways design and construction processes;
 - Development and implementation of policy for **reducing emissions from transport services**;
 - Research and Development and **mainstreaming green technologies in National Highways** design and construction processes;
 - Development and implementation of guidelines and model documents for **mainstreaming safety and green technologies**;
 - Mainstreaming safety and green technologies in the **development of highways**; and

- **Implementing Enterprise Resource Planning (ERP)** solution in Ministry of Road Transport and Highways (MoRTH) and its implementing agencies.
- The **Road Safety** has the following subcomponents:
 - Support to **improve road safety data analytics** and highway safety monitoring and implementation;
 - Support for **operationalization of the National Road Safety Board**; and
 - **Strengthening highway patrol and emergency response** along the project highway

Significance of Green National Highways Corridors Project

- It will support Ministry of Road Transport & Highways (MoRTH) construct 783 km of highways in various geographies by **integrating safe and green technology designs**.
- The project will help **reduce GHG emissions** in the construction and maintenance of highways.
- The project will also **enhance the capacity of the MoRTH** in mainstreaming safety and green technologies.
- The project will support the ministry with an **in-depth analysis of gender-related issues** in the transport sector along with help in creating jobs for women.
- The project will **strengthen and widen existing structures; construct new pavements, drainage facilities and bypasses; improve junctions; and introduce road safety features**.

Electricity (Rights of Consumers) Rules 2020

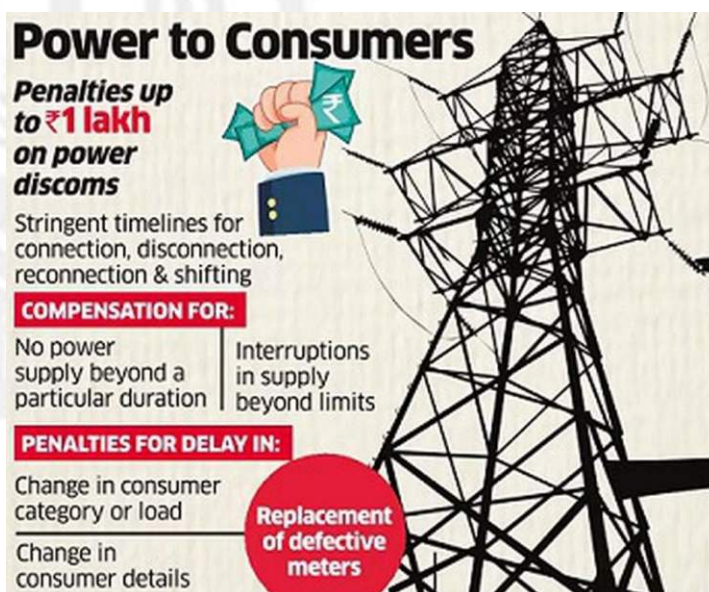
Economy

Why in news?

- Recently, the Union Ministry of Power has promulgated rules laying down the rights of power consumers in the country through **Electricity (Rights of Consumers) Rules, 2020**.

Need for Electricity Rights of Consumers

- The Rules emanate from the conviction that the **power systems exist to serve the consumers and the consumers have rights** to get the reliable services and quality electricity.
- The Distribution Companies across the country are **monopolies** and the **consumer has no alternative**.
 - Therefore it was necessary that the **consumers' rights be laid down in Rules** and a system for enforcement of these rights be put in place.
- The implementation of these Rules shall **ensure that new electricity connections, refunds** and other services are given in a time bound manner.
- The Rules will **benefit about 30 crores existing and the prospective consumers** in the country.
- The States and DISCOMs are being advised to **provide wide publicity to these highly consumer friendly Rules** of the Government while stressing upon the need for awareness of all consumers especially in rural areas/villages.



Key Highlights of Electricity (Rights of Consumers) Rules, 2020

- **Rights and Obligations:**
 - **Distributor:** It is the duty of every distribution licensee to supply electricity on request made by an owner or occupier of any premises in line with the provisions of Act.
 - **Consumer:** Whereas, consumers have a right to have minimum standards of service for supply of electricity from the distribution licensee.
- **Release of new connection and modification in existing connection:** Maximum time period of 7 days in metro cities and 15 days in other municipal areas and 30 days in rural areas, has been fixed to provide new connection and modify an existing connection.
- **Metering:** No connection shall be given without a meter that shall be a smart prepayment meter or prepayment meter.
- **Billing and Payment:** There should be transparency applicable consumer tariff and bills, with the option to pay advance bills.

- **Reliability of supply:** The distribution licensee shall supply 24×7 power to all consumers. However, the Commission may specify lower hours of supply for some categories of consumers like agriculture.
- **Consumer as prosumer:** While the prosumers will maintain consumer status and have the same rights as the general consumer, they will also have the right to set up Renewable Energy (RE) generation units including roof top solar photovoltaic (PV) systems – either by himself or through a service provider.
- **Prosumer:** It means a person who consumes electricity from the grid and can also inject electricity into the grid for distribution licensees using the same point of supply.
- **Compensation mechanism:** Automatic compensation shall be paid to consumers for which parameters on standards of performance can be monitored remotely.
- **Call Centre for Consumer Services:** Distribution licensee shall establish a centralized 24×7 toll-free call center.
- **Grievance redressal mechanism:** Consumer Grievance Redressal Forum (CGRF) to include consumer and prosumer representatives. Though Maximum timeline of 45 days has been specified for grievance redressal, licensee shall specify the time within which various types of grievances will be resolved.

Novel Safety Features in Cheques

Economy

Why in news?

- Recently, the Reserve Bank of India (RBI) introduced the **new 'Positive Pay' mechanism** to make cheque payments safer and reduce instances of frauds.

About the Mechanism

- It is a **fraud detection tool** adopted by banks to protect customers against **forged, altered or counterfeit cheques**.
- It **cross verifies all details of the issued cheque** before funds are encashed by the beneficiary.
- It ensures that **every high-value cheque valued at Rs 50,000 and above is crossed checked** with details provided by the issuing party or the individual.
- This will cover approximately **20 per cent of transactions by volume and 80 per cent by value**.

Process of Positive Pay mechanism-

- The Positive Pay system demands that an account holder **electronically uploads the details of the high-value cheque** through the bank's net banking system.
- Customers will have to **put in a cheque number**, issuance date, payee name, account number, amount payable along with an image of the front and reverse side of the instrument on the Positive Pay system.
- In the next stage, the **cheque is submitted for encashment to the beneficiary's bank** and forwarded to the clearing branch of the drawee bank.
- The drawee bank then compares the details mentioned on the cheque with the details provided online by the customer through the Positive Pay system.
- Only a match of details will lead to the drawee's bank clearing the cheque and in the event of a mismatch scenario, the issuing authority/individual will be contacted for verification, cancellation or withdrawal of the cheque.

Draft National Rail Plan

Economy

Why in news?

- Indian Railways has issued a Draft National Rail Plan. The plan will be a common platform for all future infrastructural, business and financial planning of the Railways.

Details of National Rail Plan

1. The plan also **proposes to eliminate waiting lists in passenger trains** by running more trains.
2. We are using **artificial intelligence** to assess demand and would want to **augment rail movement** towards meeting this demand, Railway Board Chairman said.
3. The Railways aims to create capacity by 2030 which will be ahead of demand till 2050.
4. The final draft of the National Rail Plan reflects to **develop capacity beyond demand**.
5. This is the first time that the **business plan and the infrastructure development plan** of the Railways is **jointly planned and developed on a single platform**.

Vision 2024

As part of the National Rail Plan, Vision 2024 has been launched for accelerated implementation of certain critical projects by 2024 such as **100% electrification, multitracking of congested routes**, upgradation of speed to

160 kmph on Delhi-Howrah and Delhi-Mumbai routes, upgradation of speed to 130kmph on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes and elimination of all Level Crossings on all GQ/GD route.

1. Future projects for implementation beyond 2024 in both track and signalling have been identified with clear cut timelines for implementation.
2. Three Dedicated Freight Corridors, namely East Coast, East-West & North-South identified along with timelines. PETS survey already underway.
3. Several new High Speed Rail Corridors have also been identified. Survey on Delhi-Varanasi High Speed Rail already under way.
4. Assess rolling stock requirement for passenger traffic as well as wagon requirement for freight.
5. Assess Locomotive requirement to meet twin objectives of 100% electrification (Green Energy) by December 2023 and also the increasing traffic right up to 2030 and beyond up to 2050.
6. Assess the total investment in capital that would be required along with a periodical break up.
7. Identify new streams of finance and models for financing including those based on PPP.
8. For successful implementation of the National Rail Plan ,the Railways will be looking to engage with Private Sector, PSUs, State Governments and Original Equipment Manufacturers(OEM)/Industries.
9. Sustained involvement of the Private Sector in areas like operations and ownership of rolling stock, development of freight and passenger terminals, development/operations of track infrastructure etc.
10. In effect the National Rail Plan envisages an initial surge in capital investment right up to 2030 to create capacity ahead of demand and increase the modal share of the Railways in freight by 45%.
11. Post 2030, the revenue surplus generated would be adequate to finance future capital investment and also take the burden of debt service ratio of the capital already invested. Exchequer funding of Rail projects would not be required.

New Unified Natural Gas Pipeline Tariff Regulations

Economy

Why in news?

- New unified natural gas pipeline tariff regulations notified by Petroleum and Natural Gas Regulatory Board (PNGRB) will likely face legal challenges due to the impact on existing agreements between suppliers and consumers of natural gas.

Key highlights of the regulations

- The new regulations mark a shift from the existing system which charges consumers based on the distance from the source of gas and the number of pipelines used to a proposal involving a unified gas tariff system, with one tariff for gas transported within 300 km and another tariff for gas transported beyond 300 km from the source of the natural gas.
- According to PNGRB, its move is aimed at reducing the cost of gas transportation for consumers further away from sources of gas, effectively seeks to levy a weighted average tariff of 14 pipelines clubbed as the national gas grid to its users, even if they use only one of these pipelines
- Another complication stems from the fact that four of these 14 pipelines have been handed out after a tariff-based competitive bidding process, with the result that forced changes to the tariff structure now effectively raises question marks over the sanctity of the bidding process, multiple stakeholders indicated.
- There is also the issue of the lack of clarity of settlement matters owing to "the complex revenue settlement" to the pipeline operators, which the regulator has left to be thrashed out by the service providers themselves.

Implications

- The move has faced criticism from a section of stakeholders as one which would lead to consumers closer to sources of gas ending up subsidising those located further away
- The new tariff regulations may lead to a rise in tariff for a majority of users such as steel and fertiliser plants, which could result in an upward revision in the government's subsidy spend on urea. may lead to a rise in tariff for a majority of users such as steel and fertiliser plants, which could result in an upward revision in the government's subsidy spend on urea.
- New tariffs would lead to higher costs of gas transportation for industries located near the sources of gas, including LNG terminals on the west coast of India

North Eastern Region Power System Improvement Project

Economy

Why in news?

- Cabinet approves revised cost estimate of North Eastern Region Power System Improvement Project for six States for strengthening of the Intra-State Transmission and Distribution Systems.

About the project

- It is a major step towards economic development of North Eastern Region through strengthening of Intra - State Transmission and Distribution systems.
- The scheme is being **implemented through POWERGRID, a Public Sector Undertaking (PSU) under Ministry of Power** in association with six beneficiary North Eastern States namely, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura.
- The main **objective of the project** is Government commitment for the **total economic development of North Eastern Region and to strengthen the Intra-State Transmission & Distribution Infrastructure in the North East Region.**
- Implementation of this scheme will **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 North Eastern Region.
- The scheme shall also **increase the per capita power consumption of these States**, and shall contribute to the total economic development of the North-Eastern Region.
- Implementing agencies are hiring a considerable number of local manpower during their construction works, generating a lot of employment for skilled and unskilled manpower of North-Eastern Region.
- Further, after completion, additional manpower will be required for Operation & Maintenance of these newly created assets as per standard norms, generating considerable additional employment opportunities for North Eastern Region States.
- The Scheme was initially approved in December 2014 as a Central Sector Plan Scheme of Ministry of Power and is being funded with the assistance of World Bank fund and by the Government of India through the Budget support of Ministry of Power on 50:50 basis.



Spectrum Auction

Economy

Why in news?

- Cabinet approves next round of spectrum auction; to help telcos boost network capacity

Need for auction

- Currently, Spectrum holding per operator in a service area in our country is well below the international average
- In order to enhance the penetration, The Union Cabinet on Wednesday approved the auction of 2,251.25 megahertz of spectrum with a reserve price of Rs 3.92 lakh crore.
- Currently, The Reliance Industries' telecom subsidiary has been using bankrupt Reliance Communications Ltd's spectrum in the **800 MHz band** under a trading and sharing agreement to expand its 4G coverage across 21 circles in the country. Of the 21, the licence for 18 circles will expire in July-August 2021.
- Spectrum in the 800MHz band is touted as the most efficient and is used for 4G services.
- Earlier, Spectrum in the 700MHz and 900 MHz had remained unsold in 2016

Spectrum To Have 20-Yr Validity

➤ Auction will be for spectrum in frequency bands of 700MHz, 800, 900, 1800, 2100, 2300 & 2500MHz. Spectrum will be offered for a validity period of 20 years, says govt

➤ No sale in regular 5G bands of 3,300-3,600MHz and also in 26GHz and 28GHz frequencies

➤ 5G auctions expected to happen separately as govt working with defence to vacate certain spectrum

➤ Govt to start work on 5G



field trials before auctions

➤ Government has retained rules of 2016 for payments in this auction. Apart from bid price, the telecom operator will also need to share 3% of revenue with government every year

Industry body COAI said auction will help address industry's need for more spectrum in view of growing consumer usage

“... lower reserve prices would have provided additional resources for network expansion to telcos
— COAI DG S P KOCHHAR

Key Decision taken during cabinet meets

- The auction will be for spectrum in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz frequency bands.
- Spectrum will be offered for assignment for **validity period of 20 years.**
- A total of 2251.25 MHz is being offered with total valuation of Rs. 3,92,332.70crore (at reserve price).
- Successful bidders may pay entire bid amount in one go (upfront) or may exercise an option to pay a certain amount (25% for spectrum won in 700 MHz, 800 MHz, 900 MHz bands or 50% for spectrum won in 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz bands) upfront and remaining amount in a maximum up to 16 equated annual instalments, after a moratorium of two years
- In addition to the bid amount, successful bidders will also **have to pay 3% of the Adjusted Gross Revenue (AGR) excluding wireline services** as spectrum usage charges for the spectrum won through this auction
- It is expected to boost the quality of 4G telecom services in the country

- **What is AGR?**

- Telecom operators are required to pay license fee and spectrum charges in the form of 'revenue share' to the Centre. The revenue amount used to calculate this revenue share is termed as the AGR. According to the DoT, the calculations should incorporate all revenues earned by a telecom company – including from non-telecom sources such as deposit interests and sale of assets.



India - Vietnam

International Relations

Why in the news?

- Guided by ACT East Asia policy and Indo-Pacific strategy India is working towards **EXTENDED NEIGHBOURHOOD**. The role of Vietnam is very critical for India ranging from Strategic to Energy security. This topic is highly important for UPSC mains and Political science.
- India and Vietnam** signed **seven pacts** during their virtual summit, in areas such as defence, petrochemicals, and nuclear energy, and agreed to **intensify their development partnership** that will enable achievement of **Sustainable Development Goals (SDGs)**, and develop capabilities to address **climate change**.



Memorandums of Understanding:

- Specific agreement will cover **USD 5 million Indian Grant Assistance for Army Software Park** at National Telecommunications University, NhaTrang, Vietnam.
- Both sides committed to promote bilateral cooperation between the "regulatory bodies of the two countries in the **fields of radiation protection and nuclear safety**."
- Agreements covered diverse areas such as IT, UN peacekeeping and cancer research.**

Defence major area of cooperation:

- India and Vietnam are an important factor of stability in the **Indo-Pacific region**. The two sides will step up their military-to-military exchanges, training and capacity building programmes across the three services and coast guards and will intensify their defence industry collaboration building on India's defence credit lines extended to Vietnam.
- VINBAX** is the **military exercise** between armies of India and Vietnam.
- Both sides will engage more closely through institutionalized dialogue mechanisms in dealing with traditional and non-traditional security threats in cyber and maritime domains, terrorism, natural disasters, health security, water security, transnational crimes etc, including through enhanced legal and judicial cooperation, where required.
- One such example is the successful implementation of the High Speed Guard Boat (HSGB) Manufacturing Project for Vietnam Border Guard Command under the US dollar 100 million Defence Line of Credit extended by the Government of India to Vietnam.
- Terrorism:** joint efforts in building a strong consensus for early adoption of the **Comprehensive Convention on International Terrorism (CCIT)**.
- South China Sea:**
 - Both sides reaffirmed the importance of maintaining peace, stability, security and freedom of navigation and overflight in the South China Sea, while pursuing the peaceful resolution of disputes in accordance with international law, particularly the 1982 United Nations Convention on the Law of the Sea (UNCLOS).
 - Both leaders further called for the full and effective implementation of the Declaration on the Conduct of Parties in the South China Sea in its entirety.
- Both countries in the region:**
 - Association of South East Asian Nations (ASEAN):** To foster practical cooperation between ASEAN and India in the key areas and in line with the objectives and principles as stated in the ASEAN Outlook on Indo-Pacific (AOIP) and India's Indo-Pacific Oceans Initiative (IPOI).
 - UN Security Council:** The two sides will actively promote reformed multilateralism to make international organizations, including the UN Security Council, more representative, contemporary and capable of dealing with current challenges.
 - Cooperation in the Post Pandemic Era:** Acknowledging the new challenges as well as opportunities brought upon by Covid-19 pandemic, the two sides will work towards reliable, efficient and resilient supply chains, and will promote human-centric globalization.



Economic Cooperation:

- New horizons for partnership created by India's goal to become a US dollar 5 trillion economy by 2024 and Vietnam's ambition to become a high-income economy by 2045 will be fully explored for all segments of economy, including blue economy, MSMEs and farming communities of the two countries.
- India and Vietnam share a comprehensive strategic partnership. One great example of economic cooperation is completion of the Development Projects with Indian 'Grant-in-Aid' Assistance of US dollar 1.5 million for the benefit of the local community in Vietnam's NinhThuan province.

Climate Change:

- India advocated that Vietnam's possible future participation in the **International Solar Alliance** would bring new opportunities for cooperation in large scale deployment of solar energy.
- India looks forward to Vietnam's joining the **Coalition for Disaster Resilient Infrastructure** in the near future.
- They agreed to expand the **Mekong - Ganga Quick Impact Projects**.

Cultural:

- Both sides will actively cooperate to publish an **Encyclopedia of India - Vietnam Cultural and Civilizational Relations** to mark the 50th anniversary of India - Vietnam diplomatic relations in 2022.
- The two sides will promote understanding and research of their shared cultural and civilizational heritage, including Buddhist and Cham cultures, traditions and ancient scriptures.
- The traditional systems of medicine like Ayurveda and Vietnam-Traditional Medicine share many common threads of rich knowledge of health.
- Yoga has emerged as a symbol of peace and harmony and shared pursuit of spiritual wellbeing and happiness.
- New Development Partnership projects in heritage conservation in Vietnam (F-block of Temple at My Son; Dong Duong Buddhist Monastery in Quang Nam and Nhan Cham Tower in Phu Yen) will be materialised.
- **People-to-People Exchange:** By increasing direct flights, providing ease of travelling through simplified visa procedures and facilitating tourism.
- **Education:** They will further **strengthen and institutionalize linkages** such as Parliamentary exchanges; relations between Indian States and Vietnamese Provinces; exchanges between social organisations and youth organizations; collaboration between educational institutions; engagement between think tanks; joint research programmes; and exchanges in media, film, TV shows and sports.

Significance of the Relationship:

- India's first Prime Minister Pandit Jawaharlal Nehru was one of the first visitors to Vietnam after its victory against the French at Dien Bien Phu in 1954.
- Vietnam is a strategic pillar of India's Act East Policy, and key interlocutor in ASEAN.
- Over the years, political contacts have strengthened as reflected in several high-level visits by leaders from both sides.
- India's thrust under the 'Act East' policy combined with Vietnam's growing engagement within the region and with India has paid rich dividends.
- India and Vietnam closely cooperate in various regional forums such as ASEAN, East Asia Summit, Mekong Ganga Cooperation, Asia Europe Meeting (ASEM) besides UN and WTO.
- Both India and Vietnam possess the capacity to find compatibility in areas promoting defence cooperation and infrastructure simultaneously.
- Vietnam, which is under maritime pressure from China's activities in the South China Sea (SCS), wants India to deepen its military engagement further.

Challenges:

- Vietnam opposed the "Quad" or quadrilateral coalition among India, the US, Japan and Australia.
- The proposed sale of the BrahMos supersonic cruise missile has taken a back seat as there has been no response from Hanoi.
- The line of credit offered has yet to be operationalised for facilitating deeper defence cooperation.

UN Decides Cannabis Not A Dangerous Narcotic**International Relations****Why in the news?**

- The UN Commission on Narcotic Drugs (CND) decided to remove cannabis from Schedule IV of the 1961 Single Convention on Narcotic Drugs.

About the Narcotics

- **India has voted with the majority at the United Nations** to remove cannabis and cannabis resin from the list of most dangerous substances.

- From the past 59 years, cannabis had been subject to the strictest control schedules, which even discouraged its use for medical purposes.
- **Background-** Back in January 2019, the **World Health Organisation (WHO)** made six recommendations related to the scheduling of cannabis in UN treaties, including the deletion of cannabis and cannabis **resin from Schedule IV of the Single Convention on Narcotic Drugs, 1961.**
 - **Schedule IV** is the category of drugs that are considered to have "particularly dangerous properties" in comparison to other drugs.
- During the CND's March 2019 session, many countries had requested more time to study the endorsements and define their positions.

Significance of the move:

- It is listed alongside opioids like heroin – which are discouraged from even being used for medicinal purposes.
- This vote has opened the door to recognizing the medicinal and therapeutic potential of cannabis.

About cannabis

- Cannabis is a **generic term used to denote the several psychoactive preparations** of the plant **Cannabis sativa.**
 - The major psychoactive constituent in cannabis is Delta-9 tetrahydrocannabinol (THC).
- The **Mexican name 'marijuana'** is frequently used in referring to cannabis leaves or other crude plant material in many countries.
- Most species of cannabis are dioecious plants that can be identified as either male or female.
- The unpollinated female plants are **called hashish.**
- **Cannabis oil (hashish oil)** is a concentrate of cannabinoids obtained by solvent extraction of the crude plant material or the resin.
- Cannabis is the most widely cultivated, trafficked and abused illicit drug in the world.
- **Uses:**
 - It has been found useful in **cancer treatment** like in multiple myeloma.
 - Many people **suffering from anxiety and depression** are known to buy it legally in the US and bring it back to India for personal use in small quantities.
- **Affects:**
 - Cannabis **impairs cognitive development (capabilities of learning)**, including associative processes, free recall of previously learned items is often impaired when cannabis is used both during learning and recall periods.

Cannabis in the context of India:

- In India, cannabis, also known as **bang, ganja, charas or hashish**, is typically eaten (bang golis, thandai, pakoras, lassi, etc.) or smoked (chillum or cigarette).
- Ayurvedic texts refer to cannabis as a treatment for several maladies, and it is categorised as **UpavishaVarga (sub poisonous)**, and its recreational use has been described as toxic.
- **Odisha is one of the leading cannabis-producing States** in India.

Legal Provisions in the context of India

- The **Narcotic Drugs and Psychotropic Substances Act, 1985 (NDPS Act)** outlaws the recreational use of cannabis.
- Under the Act, the production, manufacture, possession, sale, purchase, transport, and use of cannabis is a punishable offence.
- The NDPS Act, however, does not apply to the leaves and seeds of cannabis plants.
- In case the **CBD is extracted from the leaves of the cannabis**, then technically it is **not illegal.**
- CBD oil manufactured under a licence issued by the **Drugs and Cosmetics Act, 1940** can be legally used.
- The **Narcotics Control Bureau (NCB)** is vested with the power to charge individuals in cases related to the illegal use and supply of narcotics.
- However, the use of cannabis as a medicine is not much prevalent in India.

UN Commission on Narcotic Drugs (CND):

- The **Vienna-based CND** was founded in 1946.
- It is the **UN agency** mandated to decide on the scope of control of substances by placing them in the schedules of global drug control conventions.
- Currently, over 50 countries allow medicinal cannabis programmes, and its **recreational use has been legalised in Canada, Uruguay and 15 states of the USA.**

USA listed Pakistan and China as Countries of Particular Concern

International Relations

Why in the news?

- Recently, the US State Department has designated Pakistan and China among eight other countries that are of particular concern for violation of religious freedom.

About CPC (countries of particular concern)

- Designation of the CPC (countries of particular concern) is the top tier recommendation by the US Commission on International Religious Freedom (USCIRF) when it comes to violation of international religious freedom.
- It is followed by Special Watch List Countries for severe violations.
- Nations on the CPC list: Pakistan, China, Myanmar, Eritrea, Iran, Nigeria, North Korea, Saudi Arabia, Tajikistan and Turkmenistan.
- USCIRF recommendation that India, Russia, Syria and Vietnam be also designated CPCs was not accepted by the US State Department.
- Governments that have engaged in or tolerated severe violations of religious freedom are included in the Special Watch List list.
- Comoros, Cuba, Nicaragua and Russia are on the list.

2020 Afghanistan Conference

International Relations

Why in News

- Recently, at the Afghanistan 2020 Conference, India has announced about 150 projects worth USD 80 million.

India's Current Assistance:

- India will launch phase-IV of high-impact community development projects, which include around 150 projects worth USD 80 million.
- It has signed an agreement for building the **Shahtoot dam**, which would provide safe drinking water to 2 million residents of Kabul city.
- It builds on the 202 km Pul-e-Khumri transmission line of 2009, through which India provides power to the city.



India's development programmes in Afghanistan are focused around five pillars:

- Large infrastructure projects.
- Human resource development and capacity building.
- Humanitarian assistance.
- High-impact community development projects.
- Enhancing trade and investment through air and land connectivity.
- Since 2001, India has committed USD 3 billion towards rebuilding and reconstruction of Afghanistan.
- During the Taliban years from 1996 to 2001, India did not invest in Afghanistan.
- Chabahar Port in Iran, which provides alternate connectivity to Afghanistan.
- Afghanistan's growth has been constrained by its landlocked geography and Pakistan blocking transit access made the situation even worse.
- Pandemic Support:** India sent more than 20 tonnes of medicines, other equipment and transported 75,000 tonnes of wheat to Afghanistan to address the Covid-19 challenge.

SCO comes to India

International Relations

Why in the news?

- India chaired the 19th meeting of the Council of Heads of Governments (CHG), i.e., Prime Ministers of the Shanghai Cooperation Organisation (SCO) in a virtual format.
- This was the first summit meeting of the SCO to be hosted by India since it became its member in 2017.
- It should be noted that India refused to endorse the Belt Road Initiative (BRI) of China at the summit.

India's Initiatives

- India had assumed the Chair of the SCO CHG, in November 2019, at the conclusion of the term of Uzbekistan.
- During the course of its Chairmanship, India particularly focused on creating three new pillars of cooperation: Startups and Innovation, Science and Technology, and Traditional Medicine.
- During its chairmanship, India organised in the virtual format, the first-ever SCO Young Scientists Conclave, in which more than 200 young scientists participated.
- India also hosted the first-ever Consortium of SCO Economic Think Tanks as well as the first ever SCO Startup Forum.
- In the B2B format, the Federation of Indian Chambers of Commerce and Industry convened the first SCO Business Conclave with special emphasis on cooperation amongst MSMEs.
- On the cultural-humanitarian side, India implemented PM Modi's commitment at the Bishkek Summit in 2019 by launching the first-ever SCO Digital Exhibition on Shared Buddhist Heritage by the National Museum and translating 10 classics of Indian regional literature into Russian and Chinese.
- India also proposed to host an SCO Culinary Festival in 2021.

About SCO:

- The Shanghai Cooperation Organisation (SCO) is a permanent intergovernmental international Organisation, created in June 2001 in Shanghai (China) by the Republic of Kazakhstan, the People's Republic of China, the Kyrgyz Republic, the Russian Federation, , the Republic of Tajikistan, and the Republic of Uzbekistan.

Legion of Merit Award

International Relations

Why in news?

- Recently, the US government has awarded the '**Legion of Merit Award**' to **Prime Minister of India Narendra Modi**.

About Legion of Merit Award

- The Legion of Merit was **instituted in 1942** by former **US president Franklin D Roosevelt**.
- It is the **only US military decoration** that has distinct ranks, and the **first US medal** to be awarded to citizens of other nations.
- The Legion of Merit, in the **highest degree of the Chief Commander**, is a prestigious award conferred by the President of the United States.
- The award is conferred to members of the **US military and foreign military members** and political figures who have displayed exceptionally meritorious conduct in the performance of outstanding services and achievements.
- It is awarded for **outstanding service, fidelity, and loyalty** in either combat or non-combat positions.
- The previous Indian recipients of the award include **Field Marshal KM Cariappa (1950)** and **Satyawant Mallana Srinagesh (1955)**.



Criteria for Legion of Merit Award

- Under the criteria outlined in **Army Regulation 672-7**, this award is awarded to the degrees of Chief Commander, Commander, Officer, and Legionnaire of armed forces of foreign nations and is based on the relative rank or position:
 - **Chief Commander:** Some Allied World War II theater commanders, usually for joint amphibious landings or invasions, are awarded this degree.
 - **Commander:** Equal of a US military head of staff or higher position, but not to a chief of state.
 - **Officer:** General below the equal of a US military chief of staff; colonel or equal rank for service in assignments equal to those held by a general or flag officer in US military service; or military attaches.
 - **Legionnaire:** All recipients not included above.

Asia-Pacific Broadcasting Union

International Relations

Why in the news?

- PrasarBharati CEO ShashiSekharVempati has been elected as Vice President of Asia-Pacific Broadcasting Union(ABU).

About ABU

- **ABU:** It was established in 1964 as a non-profit, non-governmental, non- political, professional association with a mandate to assist the development of broadcasting in the region.
- **Objective:** To promote the collective interests of television and radio broadcasters as well as key industry players and facilitate regional and international media co-operation.
- **Headquarters:** Kuala Lumpur, Malaysia

France new Security Bill

International Relations

Why in the news

- France has been rocked by street protests after the government introduced a controversial security bill in the Parliament. The bill seeks to provide greater powers and protections for the police officers. The three articles of the bill have caused the controversy.

Key Highlights Of The Bill:

- Article 21 and 22 of the proposed "global security" law allow the police and the paramilitary forces to use body cameras and drones to film citizens. It also allows the recorded footage to be live streamed to the command post.
- Article 24 penalises publishing "the image of the face or any other element of identification" of a police or paramilitary official who is acting in a "police operation".
- If the dissemination is done with the intent of harming their physical or mental integrity, the punishment will be imprisonment for up to 1 year, with a maximum fine of 45000 euros.
- **Analysis:**
 - Human rights groups have expressed concern that Article 24 would make it harder to cover public events and record instances of police violence.
 - It would also curtail press freedom and lead to less police accountability. Once the bill is passed, courts would decide if images were shared online with "intent to harm" or not.
 - However, there are many who support the bill. Analysts have pointed to a rightward shift of the French electorate, especially after the recent terror attacks including the beheading of a school teacher.
- **France Counters Islamist Radicalisation**
 - The French cabinet presented a draft law that targets "radical Islamism". The bill, aims to crack down on Islamic radicalism and envisages a range of measures, including school education reforms to ensure Muslim children do not drop out, stricter control on mosques and preachers.
 - Once the law comes into force, French mosques could see increased surveillance of their activities, such as financing.
 - The government would have greater powers to shut down places of worship receiving public subsidies if they go against republican principles such as gender equality.
 - Under French secularism laws, there is already a ban on state employees displaying religious symbols that are conspicuous, such as the crucifix or hijab. This ban would now be extended beyond government bodies to any sub-contracted public service.

Tibetan policy and support Act

International Relations

Why in the news?

- The US and China sparred over Tibet and the South China Sea over the passing of the Tibetan Policy and Support Act (TPSA).

About TPSA

- The TPSA once signed into law would make it the official policy of the US Government to oppose any effort by the govt. of the People's Republic of China to select, educate, and venerate Tibetan Buddhist religious leaders in a manner inconsistent with Tibetan Buddhism.
- The proposed legislation will empower the US Government to impose sanctions on China who might try to interfere in the process of selecting the next incarnation of the Dalai Lama.

- **Reasons for the law**

- Tibetans were concerned over the possibility of the Chinese Government making an attempt to install someone loyal to it as the 15th Dalai Lama after the death of the incumbent.
- The PRC could use him as a puppet to fizzle out the global campaign against its occupation of Tibet.
- The incumbent and the 14th Dalai Lama have been living in exile in India ever since his 1959 escape from Tibet, which had been occupied by the Chinese People's Liberation Army (PLA) in 1950-51.
- He has been leading the movement for "genuine autonomy" for Tibet and the Tibetans.

- **Significance of TPSA**

- The TPSA acknowledged the legitimacy of the Tibetan Parliament in Exile elected by the exiled community as well as the CTA.
- It seeks to introduce key provisions aimed at protecting the environment and water resources on the Tibetan Plateau.
- In an aggressive move, the PRC government has forced resettlement of the nomads from grasslands.
- TPSA recognizes the importance of traditional Tibetan grassland stewardship in mitigating the negative effects of climate change in the region.
- In addition, it calls for greater international cooperation to monitor the environment on the Tibetan plateau.

Comprehensive Agreement on Investment between EU and China

International Relations

Why in news ?

- Recently, the European Union and China have agreed in principle on a business investment deal after seven years of discussions.

The key feature of the Comprehensive Agreement on Investment

- It includes provisions for settling disputes and outlines clear rules against the forced transfer of technologies a practice in which a government requires foreign investors to share their technology in exchange for market access.
- As per EU's previous statement, the agreement should increase the transparency of Chinese state subsidies and make sustainable development a key element of the relationship between the two trading blocs.
- The proposed deal focuses on institutional opening up with market access as the key principle of the deal, which will mean more investment opportunities for businesses on both sides and "a better business environment"
- Under the agreement, European firms will gain permission to operate in China in sectors including electric cars, private hospitals, real estate, advertising, the maritime industry, telecom cloud services, airline reservation systems and ground handling.
- Some requirements that companies operate as part of joint ventures with Chinese partners will be lifted.
- In turn, China will ban the forced transfer of technology from foreign companies and has pledged to be more transparent on subsidies and bar state-owned enterprises from discriminating against foreign investors.
- The deal is predicted to make the economies of the EU and China more interdependent, with foreign investment in sectors including telecoms, private hospitals and electric vehicles likely to open up.
- Once in effect, the CAI (Comprehensive Agreement on Investment) will help rebalance the trade and investment relationship between the EU and China

The economic status of China

- After the US, China is currently already ranked as the EU's second-biggest partner for trade with goods commerce between the two countries representing more than €1 billion per day.

EU on China's Human Rights violation

- As per the report, the EU expressed concerns about the restrictions on freedom of expression, on access to information, and intimidation and surveillance of journalists, as well as detentions, trials and sentencing of human rights defenders, lawyers, and intellectuals in China
- The issue of human rights could prove to be a sticking point for the deal clearing the EU Parliament, with critics drawing attention to reports of forced labour in some regions of China.

Global Alliance for Vaccines and Immunization(GAVI)

International Relations

Why in news?

- Recently, the Union Health Minister Harsh Vardhan has been nominated by the Global Alliance for Vaccines and Immunisation (GAVI) as a member of the GAVI Board.

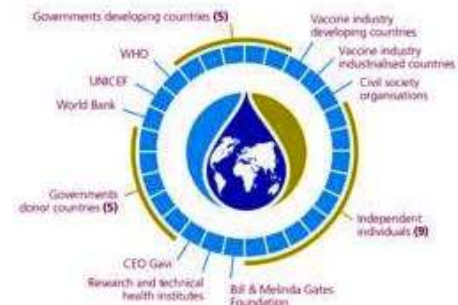
About GAVI

- It was created in 2000, with headquarters at Geneva Switzerland, Gavi is an international organisation – a global Vaccine Alliance, bringing together public and private sectors with the shared goal of creating equal access to new and underused vaccines for children living in the world's poorest countries.

- Its mission is to save lives, reduce poverty, protect the world against the threat of epidemic and work towards achieving SDGs.
- Gavi's impact draws on the strengths of its core partners, the World Health Organization, UNICEF, the World Bank and the Bill & Melinda Gates Foundation.
- Gavi has helped in vaccination of more than 760 million children in world's poorest countries preventing more than 13 million deaths.
- Gavi also works with donors, including sovereign governments, private sector foundations and corporate partners, NGOs etc.

GAVI Board:

- The GAVI Board normally meets twice a year in June and November/December and holds an annual retreat, normally in March or April.
- The board is responsible for strategic direction and policy-making, oversees the operations of the Vaccine Alliance and monitors programme implementation.
- With membership drawn from a range of partner organisations, as well as experts from the private sector, the Board provides a forum for balanced strategic decision making, innovation & partner collaboration.



Morocco - Israel deal

International Relations

Why in news?

- Morocco has become the fourth Arab country to normalise ties with Israel in five months.

What is the dispute?

- Western Sahara is a large, arid and sparsely populated region that shares a border with Morocco, Algeria and Mauritania and has a long Atlantic coast was a Spanish colony.
- The region is home to the Sahrawi tribe.
- In the 1970s, when international and local pressure mounted on Spain to vacate its colonies in Africa, Libya and Algeria helped found a Sahrawi insurgency group against the Spanish rule in Western Sahara.
- The Popular Front for the Liberation of Saguia el Hamra and Rio de Oro, known as the Polisario Front, started guerilla warfare against Spanish colonialists.
- In 1975, as part of the Madrid Accords with Morocco and Mauritania, Spain decided to leave the region, which was then called Spanish Sahara.
- According to the accords, Spain would exit the territory before February 28, 1976 and until then, the Spanish Governor General would administer the territory, with help from two Moroccan and Mauritanian Deputy Governors. The Polisario Front and Algeria opposed the agreements.
- Both Morocco and Mauritania moved troops to Western Sahara to assert their claims. Polisario, backed by Algeria, continued the guerilla resistance, demanding their withdrawal.
- On February 27, 1976, a day before Spain ended its presence, the Polisario Front declared the Sahrawi Arab Democratic Republic (SADR) in Western Sahara.
- The SADR has been recognised by several African countries and is a member of the African Union.



What is Morocco's claim?

- Morocco and Mauritania had laid claims to Western Sahara even when it was a Spanish colony.
- In 1974, the International Court of Justice was asked by the U.N. General Assembly to look into the legal ties, if any, that existed between Western Sahara and Morocco and Mauritania at the time of its colonisation by Spain in the 19th century.
- The court found no evidence "of any ties of territorial sovereignty" between the Western Sahara and either Morocco or Mauritania, but stated that there were "indications" that some tribes in the territory were loyal to the Moroccan Sultan.
- In its conclusion, the court endorsed the General Assembly Resolution 1541 that affirmed that to ensure decolonisation, complete compliance with the principle of self-determination is required.
- But King Hassan II of Morocco hailed the court's opinion as a vindication of Rabat's claims and moved troops across the northern border to Western Sahara.
- Mauritania joined in later. It set the stage for a three-way fight with the Polisario Front resisting both countries.

What's the current status of the conflict?

- The three-way conflict lasted for almost four years.
- In August 1979, Mauritania signed a peace treaty with Polisario, bringing the country's military involvement in Western Sahara to an end.
- When Mauritanian forces withdrew from the southern part of the desert that they had occupied, Morocco swiftly advanced troops. The war continued between Moroccan troops and the Polisario Front.
- In 1991, when a ceasefire was finally achieved, upon the promise of holding an independence referendum in Western Sahara, Morocco had taken control of about 80% of the territory.
- The war had forced almost 200,000 Sahrawis to flee the territory to neighbouring Algeria, where Polisario is running squalid refugee camps.
- The SADR is operating largely from the eastern flank of Western Sahara and the refugee camps.
- Moroccan troops have built a huge sand wall called Berm, from the Atlantic coast of Western Sahara to the mountains of Morocco, dividing the territories they control from that of Polisario. "It's Africa's last colony", according to Polisario fighters.

What impact will the Israel deal have on the conflict?

- The normalisation deal between Morocco and Israel itself will not have any direct bearing on Western Sahara.
- But the concession the U.S. has given to Morocco — **Washington's recognition of Moroccan occupation of Western Sahara in return for Rabat's agreement with Israel** — could flare up the conflict.
- The independence referendum, promised in the 1991 ceasefire, is yet to take place.
- Last month, Morocco launched an offensive into the U.N.-controlled buffer zone between the two sides and in return, Polisario said it would resume armed conflict.
- After the Trump administration's recognition of Morocco's claim, Polisario said it would continue fighting until Moroccan troops are forced to withdraw.
- The U.S. move would **upset Algeria**, the biggest backer of Polisario.
- Among the countries that condemned the U.S. decision is Russia, which said the recognition of Moroccan sovereignty over Western Sahara "is a violation of international law".

United Nations Military Observer Group in India and Pakistan (UNMOGIP)

International Relations

Why in news?

- Pakistan Prime Minister Imran Khan on Wednesday urged the international powers, including the UN and the U.S., to **help deescalate tensions with India**, saying they "must act" to **prevent the two nuclear-armed countries from reaching a point of no return**. Mr. Khan also demanded that **UN Military Observer Group in India and Pakistan (UNMOGIP)** be allowed along the Line of Control.

About UNMOGIP

- **Established:** January 1949
- **Location:** India and Pakistan
- **Headquarters:** Islamabad (November to April) and Srinagar (May to October)
- **Method of financing:** UNMOGIP is funded through the UN regular budget
- The first group of United Nations military observers arrived in the mission area on 24 January of 1949 **to supervise the ceasefire between India and Pakistan in the State of Jammu and Kashmir**.
- These observers, **under the command of the Military Adviser appointed by the UN Secretary-General**, formed the nucleus of the United Nations Military Observer Group in India and Pakistan (UNMOGIP).
- Following renewed hostilities of 1971, UNMOGIP has **remained in the area** to observe developments pertaining to the **strict observance of the ceasefire of 17 December 1971** and report thereon to the Secretary-General.

India's policy towards UNMOGIP

- In July 1972, India and Pakistan signed an agreement defining a Line of Control in Kashmir which, with minor deviations, followed the same course as the ceasefire line established by the Karachi Agreement in 1949.
- **India took the position that the mandate of UNMOGIP had lapsed**, since it related specifically to the ceasefire line under the Karachi Agreement. Pakistan, however, did not accept this position.
- **Since the Simla Agreement of 1972, India has adopted a non-recognition policy towards third parties in their bilateral exchanges with Pakistan** over the question regarding the state of Jammu and Kashmir.
- The military authorities of Pakistan have continued to lodge alleged ceasefire violations complaints with UNMOGIP.

- The military authorities of India have lodged no complaints since January 1972 limiting the activities of the UN observers on the Indian-administered side of the Line of Control, though they continue to provide necessary security, transport and other services to UNMOGIP.
- Given the disagreement between the two parties over UNMOGIP's mandate and functions, the Secretary-General's position has been that UNMOGIP could be terminated only by a decision of the Security Council.
- In the absence of such an agreement, UNMOGIP has been maintained with the same arrangements as established following December 1971 ceasefire

Chilahati - Haldibari Rail link

International Relations

Why in news?

- India and Bangladesh Prime Minister has jointly inaugurated a railway link between Haldibari in India and Chilahati in Bangladesh during the virtual bilateral summit.

Haldibari – Chilahati Rail Link

- This rail link being made functional is the **5th rail link between India and Bangladesh.**
- It was operational till 1965. This was part of the Broad Gauge main **route from Kolkata to Siliguri during partition.**
- Trains travelling to Assam and North Bengal continued to **travel through the then East Pakistan territory even after partition.**
- For example, a train from **Sealdah to Siliguri used to enter East Pakistan territory from Darshana and exit using the Haldibari – Chilahati link.**
- However, the **war of 1965** effectively cut off all the railway links between India and the then East Pakistan.
- So on the **Eastern Sector of India partition of the railways thus happened in 1965. So the importance of the reopening of this rail link can be well imagined.**

Benefits offered by the rail

- The rail link will be beneficial for transit into Bangladesh from Assam and West Bengal.
- It will enhance rail network access to the **main ports, dry ports, and land borders to support the growth in regional trade and to encourage economic and social development of the region.**
- Common people and businessman of **both countries will be able to reap the benefit of both goods and passenger traffic, once passenger trains are planned in this route.**
- With this new link **coming into operation, tourists from Bangladesh will be able to visit places like Darjeeling, Sikkim, Dooars apart from countries like Nepal, Bhutan etc easily.**
- **Economic activities of these South Asian** countries will also be benefitted from this new rail link.



What are the other rail links that India-Bangladesh is connected with?

- The railway network of India and Bangladesh are mostly inherited from British Era Indian Railways. After partition in 1947, 7 rail links were operational between India and the then East Pakistan (up to 1965).
- Presently, there are 4 operational rail links between India and Bangladesh. They are,
- Petrapole (India) – Benapole (Bangladesh)
- Gede (India) – Darshana (Bangladesh)
- Singhabad (India)–Rohanpur (Bangladesh)
- Radhikapur (India)–Birol (Bangladesh).
- The Haldibari – Chilahati rail link being made functional from 17.12.2020 is the 5th rail link between India and Bangladesh.

Mahakali Treaty between India and Nepal

International Relations

Why in news?

- Chairman and Managing Director of National Hydroelectric Power Corporation (NHPC) a PSU under Ministry of Power, laid the foundation stone of head regulator works of Indo-Nepal Link Canal at Barrage of 94.2 MW Tanakpur Power Station of NHPC located in Banbasa, Distt Champawat (Uttarakhand). The 1.2 km long Indo-Nepal canal is being constructed under the 'Mahakali Treaty' signed between India and Nepal.

About 'Mahakali Treaty'

- The Treaty was signed in February 1996 between India and Nepal, pertaining to sharing water of a river by the same name.
- The Mahakali Treaty basically **aims at integrated development of water resources in the Mahakali River** and has been finalized on the basis of equal partnership.
- The **river Mahakali originates in Nepal and forms the border between the two countries** for a considerable distance.
- The **scope of the Treaty covers the Sarada Barrage, the Tanakpur Barrage and the proposed Pancheswar project.**
- From the Sarada Barrage, the **Treaty gives Nepal 28.3 cumec (1000 cusec) of water** in the wet season and 4.25 cumec (150 cusec) in the dry season. This quantity is to be supplied from the Tanakpur Barrage if the Sarada Barrage turns non-functional.
- Further, **the Treaty also directs that not less than 9.91 cumec (350 cusec) should flow downstream of the barrage** to maintain and preserve the ecosystem of the river.
- On **Tanakpur, the Treaty reaffirmed the Nepalese sovereignty over the land (2.9 ha) needed for building the eastern afflux** bund, as well as the 9 ha of pondage area.
- In lieu of the eastern afflux bund, the Treaty gave Nepal the right to 28.3 cumec (1,000 cusec) of water in the wet season and 8.5 cumec (300 cusec) in the dry season; and 70 million kilowatt-hours (kWh) of electricity (as against the earlier agreed figure of 20 million kWh).
- As per the treaty, when the Pancheswar Project comes into being and augments the availability of water in dry season at Tanakpur, Nepal would be provided with additional water and additional energy. Nepal will bear a portion of the cost of generation of incremental energy.
- The Pancheswar Project, which was to be located on the Indo-Nepal boundary and was to be a joint project.
- For this project, some general principles applicable to border rivers (an important one being "equal entitlement in the utilization of the waters of the Mahakali River without prejudice to their respective existing consumptive uses of the waters") were laid down.
- These were further elaborated in a document exchanged by the two Prime Ministers.
- The detailed project report (DPR) was to be jointly prepared in six months; the energy, irrigation and flood control benefits to the two countries were to be assessed, and the capital cost shared accordingly; the power benefit was to be assessed on the basis of savings in costs as compared with the relevant alternatives available and so on.
- There was to be a **bi-national Mahakali River Commission, guided by the principles of equality, mutual benefit and no harm to either party.**
- There would also be a specific joint entity to develop, execute and operate the Pancheswar Project.
- The **life of the Treaty (75 years), review after 10 years,** arbitration in the event of disputes, etc.

Ignite IAS

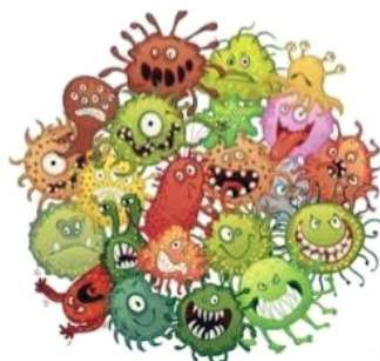
Super infections

Science and Technology

Why in the news?

- Researchers at Sweden's Karolinska institute have tried to answer why influenza infections lead to an increased risk of bacterial pneumonia. They have described findings leading to so-called "superinfections".

SUPERINFECTIONS



What are super infections ?

- These are infection occurring after or on top of an earlier infection, especially following treatment with broad-spectrum antibiotics. It is an overgrowth of an opportunistic pathogen from the bacterial or yeast imbalance of systemic antibiotics. For example, influenza is caused by a virus, but the most common cause of death in influenza patients is secondary pneumonia, which is caused by bacteria. However, the reason behind influenza infections leading to an increased risk of bacterial pneumonia is not known.

Influenza

- It is a **viral infection that attacks the respiratory system** i.e. nose, throat and lungs and is commonly called the **flu**.
- **Symptoms:** Fever, chills, muscle aches, cough, congestion, runny nose, headaches and fatigue.
- **Common Treatment:**
- Flu is primarily treated with **rest and fluid intake** to allow the body to fight the infection on its own.
- **Paracetamol may help** cure the symptoms but **Non Steroidal Anti-inflammatory Drugs (NSAIDs)** should be avoided. **An annual vaccine can help prevent** the flu and limit its complications.
- Young children, older adults, pregnant women and people with chronic disease or weak immune systems are at high risk.

Pneumonia

- It is an infection that **inflames the air sacs in one or both lungs**. The air sacs may fill with fluid or pus.
- **Cause:** Variety of organisms, including bacteria, viruses and fungi.
- **Symptoms:** Cough with phlegm or pus, fever, chills and difficulty breathing.
- **Treatment:** Antibiotics can treat many forms of pneumonia. Some forms of pneumonia can be prevented by **vaccines**.
- The infection can be **life-threatening to anyone**, but particularly to **infants, children & people over 65**.

The Cancer Genome Atlas 2020 Conference

Science and Technology

Why in the news?

- Minister of Science and Technology has virtually inaugurated the 2nd TCGA (The Cancer Genome Atlas) 2020 Conference.

What is a Genome?

- Every organism's genetic code is contained in its Deoxyribose Nucleic Acid (DNA), the building blocks of life.
- The discovery that DNA is structured as a "double helix" by James Watson and Francis Crick in 1953, started the quest for understanding how genes dictate life, its traits, and what causes diseases.
- A genome is all the genetic matter in an organism. It is defined as "an organism's complete set of DNA, including all of its genes."
- Each genome contains all of the information needed to build and maintain that organism.
- In humans, a copy of the entire genome contains more than 3 billion DNA base pairs.

Background

- It reiterated commitment of government of India to **reduce the burden of cancer in the country** by employing latest technologies in the genomics, proteomics, metabolomics, artificial intelligence and machine learning.
- It is important that India should create **indigenous, open-source and comprehensive database** of molecular profiles of all cancer prevalent in Indian population.

Key Highlights

- The Union Minister acknowledged the efforts of the consortium comprising of scientists and clinicians from across the world, who have come together to build an **Indian Cancer Genomics Atlas (ICGA)**.
- The conference underlined the **importance of scientific team building** from diverse backgrounds in strategizing a coordinated response.
- It highlighted that establishment of **Indian Cancer Genomics Atlas (ICGA)** is a much needed initiative and will add value to India and to the world of science in terms of cancer treatment.

About Cancer Genome Atlas 2020 (TCGA)

- It is a landmark cancer genomics program that **molecularly characterized over 20,000 primary cancer and matched normal samples** spanning 33 cancer types.
- It is a joint effort between the **US-National Cancer Institute** and the **National Human Genome Research Institute**.
- The TCGA generated over 2.5 petabytes of **genomic, epigenomic, transcriptomic** and **proteomic data**.
- The 'Indian Cancer Genomics Atlas (ICGA)' has been initiated by a **consortium of key stakeholders** (led by CSIR) in India on the same lines of TCGA.

IndiGen Genome Project: It is being implemented by the CSIR-Institute of Genomics and Integrative Biology (IGIB), Delhi and CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad.

- **Aim:** To undertake whole genome sequencing of thousands of individuals representing diverse ethnic groups from India.

Pan-Cancer Analysis of Whole Genomes (PCAWG): It is an international collaboration of the International Cancer Genome Consortium and The Cancer Genome Atlas (TCGA).

- **Purpose:** The project revealed the most comprehensive gene map of the genes whose departures from normal behaviour — mutations — trigger a cascade of genetic misbehaviours that eventually lead to cancer.

Plasmodium Ovale Malaria

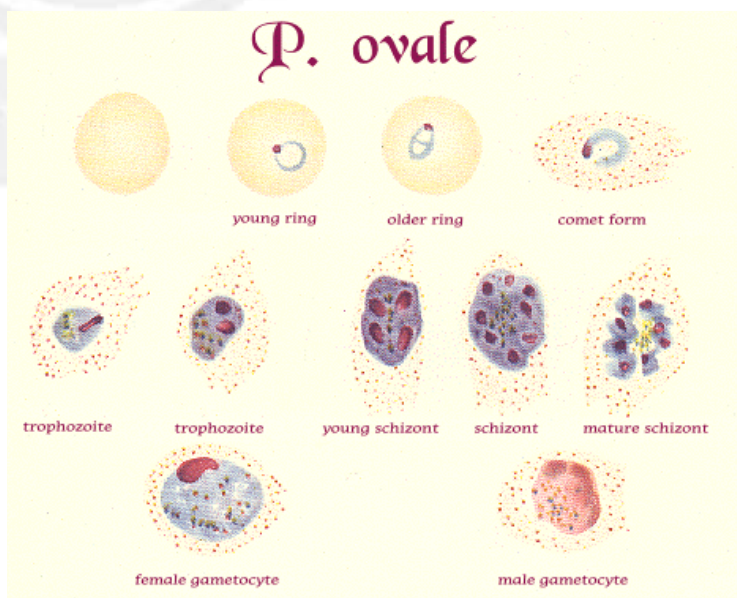
Science and Technology

Why in the news?

- Plasmodium ovale – a very uncommon type of malaria, has been identified in a soldier in Kerala – who was posted in Sudan where Plasmodium ovale is endemic.

What is Plasmodium Ovale Malaria?

- P ovale malaria is endemic to tropical Western Africa. According to scientists at NIMR, P ovale is relatively unusual outside of Africa and, where found, comprises less than 1% of the isolates.
- It has also been detected in the Philippines, Indonesia and Papua New Guinea, but is still relatively rare in these areas.
- In a 2016 study on the China-Myanmar border, it was found that P ovale and P malariae occurred at very low prevalence, but were often misidentified.
- In another study, carried out in China's Jiangsu Province, indigenous malaria cases decreased significantly over 2011-14, but imported cases of P ovale and P malariae had increased, and were often misdiagnosed.



Types of malaria

Malaria is caused by the bite of the female Anopheles mosquito, if the mosquito itself is infected with a malarial parasite.

There are five kinds of malarial parasites —

- Plasmodium falciparum,
- Plasmodium vivax (the commonest ones),
- Plasmodium malariae,
- Plasmodium ovale and
- Plasmodium knowlesi.

Current State of Malaria infections in India

- In India, out of 1.57 lakh malaria cases in the high-burden states of Odisha, Chhattisgarh, Jharkhand, Meghalaya and Madhya Pradesh in 2019, 1.1 lakh cases (70%) were cases of falciparum malaria, according to a statement by the Health Ministry on December 2.
- In 2018, the National Vector-borne Disease Control Programme (NVBDCP) estimated that approximately 5 lakh people suffered from malaria (63% were of Plasmodium falciparum); researchers writing in the Malaria Journal of BMC felt the numbers could be an underestimate.
- The recent World Malaria Report 2020 said cases in India dropped from about 20 million in 2000 to about 5.6 million in 2019.

World Malaria Report 2020

- The World Health Organisation recently released the World Malaria Report 2020. The report provides an assessment of the burden of malaria at global, regional and country levels. It tracks investments in malaria programmes and research as well as progress across all intervention areas. The 2020 report is based on information received from national malaria control programmes and other partners in 87 malaria-endemic countries. Global Findings
- In 2019, global malaria cases stood at 229 million, an estimate that has remained unchanged over the last four years. The deaths from the disease have dropped slightly to around 4.09 lakh in 2019 compared to 4.11 lakh in 2018.
- As in past years, the African Region had more than 90% of the overall disease burden. Since 2000, the region has reduced its malaria death toll by 44%, from an estimated 680,000 to 384,000 annually. Progress Against Malaria Control
- According to the report, 1.5 billion malaria cases and 7.6 million deaths have been avoided since 2000.
- According to the report, 21 countries eliminated malaria over the last 2 decades; of these, 10 countries were officially certified as malaria-free by WHO.
- However, progress has slowed in recent years, particularly in countries with a high burden of the disease. Funding shortages have led to critical gaps in access to proven malaria control tools. In 2019, total funding reached US \$3 billion against a global target of \$5.6 billion. Findings From India
- India has made considerable progress in reducing its malaria burden and is the only high endemic country to have reported a decline of 17.6% in cases during 2019 as compared to previous year.
- States like Odisha, Chhattisgarh, Jharkhand, Meghalaya and Madhya Pradesh together accounted for nearly 45.47% of total malaria cases in the country in 2019. They were also responsible for 63.64% malaria deaths.
- In India, between 2000 and 2019, malaria cases dropped by over 83% to around 3.38 lakh, whereas deaths declined by 92%. Malaria Control Efforts In India The Indian government intensified malaria elimination efforts with the launch of the National Framework for Malaria Elimination (NFME) in 2016. It was followed by the National Strategic Plan For Malaria Elimination (2017-22), launched in 2017, which laid down strategies for the next five years. WHO's Malaria Response
- WHO's work on malaria is guided by the Global Technical Strategy for Malaria 2016-2030 (GTS), approved by the World Health Assembly in 2015. The strategy includes four global targets for 2030, along with interim targets to track progress. The 2030 targets are:
 - i) Reducing malaria case incidence by at least 90%.
 - ii) Reducing malaria mortality rates by at least 90%.
 - iii) Eliminating malaria in at least 35 countries; and
 - iv) Preventing a resurgence of malaria in all countries that are malaria-free.
- Near-term GTS targets for 2020 include global reductions in malaria case incidence and death rates of at least 40% and the elimination of malaria in at least 10 countries. According to report, the 2020 target for reductions in malaria case incidence will be missed by 37% and the mortality reduction target will be missed by 22%.

Havana Syndrome

Science and Technology

Why in news?

- Nearly four years after a mysterious neurological illness, referred to as "Havana syndrome", started to afflict American diplomats and intelligence operatives in Cuba, China, and other countries, a report by the National Academies of Sciences (NAS) has found "directed" microwave radiation to be its "plausible" cause.

About the syndrome

- The study by National Academies of Sciences (NAS) in the U.S. was commissioned to investigate regarding the "hearing of strange sounds and experiencing of odd physical sensations" by U.S. diplomats and other officers stationed in Havana (capital of Cuba) in 2016.
- The symptoms included nausea, severe headaches, fatigue, dizziness, sleep problems, and hearing loss, which have since come to be known as the Havana Syndrome.

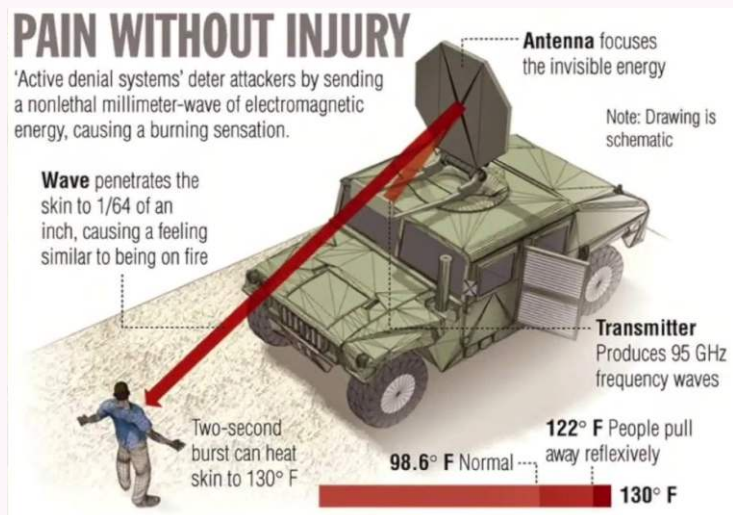
Highlights of the report

- The NAS report examined four possibilities to explain the symptoms viz. infection, chemicals, psychological factors and microwave energy.
- Directed pulsed microwave radiation energy appears to be the most plausible mechanism in explaining the cases of Havana syndrome among those that the committee considered.
- By calling it "directed" and "pulsed" energy, the report leaves no room for confusion that the victims' exposure was targeted and not due to common sources of microwave energy.
- It warns about the possibility of future episodes and recommends establishing a response mechanism for similar incidents, adding that future incidents might be more dispersed in time and place, and even more difficult to recognise quickly.
- It also does not mention the source and if the energy was delivered intentionally, even though it conducted significant research on microwave weapons.



Microwave Weapons

- Microwave Weapons are supposed to be a type of direct energy weapons, which aim highly focused energy in the form of sonic, laser, or microwaves, at a target.
- The high-frequency electromagnetic radiations heat the water in the human body and cause discomfort and pain.
- This process is similar to that which takes place in a microwave oven – In the oven the microwaves agitate the water molecules in the food, and their vibration produces heat that cooks the food.
- A number of countries are thought to have developed these weapons to target both humans and electronic systems.
- China had first put on display its microwave weapon, called Poly WB-1, at an air show in 2014.
- The USA has also developed a prototype microwave-style weapon, which it calls the "Active Denial System", which is the first non-lethal, directed-energy, counter-personnel system with an extended range greater than currently fielded non-lethal weapons.



Which countries have these "microwave weapons"?

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How dangerous are these weapons?

- Concerns have been raised on whether they can damage the eyes, or have a carcinogenic impact in the long term.
- It is not clear yet how China intends to use such a weapon, and whether it can kill or cause lasting damage to human targets.

Why in news?

- Singapore to support high-tech farming and new means of food production.

More about Meat

- Singapore has given U.S. start-up Eat Just the green light to sell its lab-grown chicken meat, in what the firm says is the world's first regulatory approval for so-called clean meat that does not come from slaughtered animals.
- The so-called **clean or cultured meat**, which is grown from animal muscle cells in a lab, is still at a nascent stage given high production costs.
- The Singapore Food Agency said it had reviewed data relating to process, manufacturing control and safety testing before granting approval.

The difference between lab-grown or cultured meat and plant-based meat

- The latter is made from **plant sources such as soy or pea protein**, while **cultured meat is grown directly from cells in a laboratory**.

Both have the same objective:

- to offer alternatives to traditional meat products that could feed a lot more people,
- reduce the threat of zoonotic diseases,
- Mitigate the environmental impact of meat consumption.

Difference between cultured meat and conventional beef

- In terms of cellular structure, **cultured or cultivated meat is the same as conventional meat** — except that cultured meat does not come directly from animals.
- Compared to conventional beef, **cultivated beef could reduce land use by more than 95%, climate change emissions by 74-87% and nutrient pollution by 94%**.
- Since cultivated meat is created in clean facilities, **the risk of contamination by pathogens** such as salmonella and E coli is significantly reduced.
- It **does not require antibiotics** either, unlike animals raised for meat, thereby reducing the threat posed to public health by growing antibiotic resistance.

Challenges

- Conventional meat still dominates the market, and **industry lobbies have been fighting to hold on to their market, not least by challenging the very idea of alternative meats**.
- **The charge against lab-grown meat**, led by agriculture and husbandry bodies, is that it simply isn't meat if it didn't come from an animal.
- The US Cattlemen's Association, for example, successfully lobbied **Missouri to pass a Bill** ruling that **plant-based and lab-grown meats cannot be called meats**.
- The Cattle Council of Australia has been putting similar pressure on the country's government since 2018.

The issues

- In its June 2020 Food Outlook Report, the **UN Food and Agriculture Organisation (FAO)** stated that **world meat output was set to contract row to 333 million tonnes**, 1.7% less than in 2019.
- The disruption has been caused **mainly by Covid-19**, but it has added to already **widespread fears about zoonotic diseases, especially African swine fever and highly pathogenic avian influenza**.
- But **while plant-based meats** were finding more and more favour, **commercial availability of lab-grown meat (or cultured meat)** was still many years in the future.
- This is why the **approval by Singapore to cultured chicken is seen as significant**.

Why in news?

- Recently, BSNL, in partnership with **Skylotech India**, announced a breakthrough in **satellite-based NB-IoT (Narrow Band-Internet of Things)**.

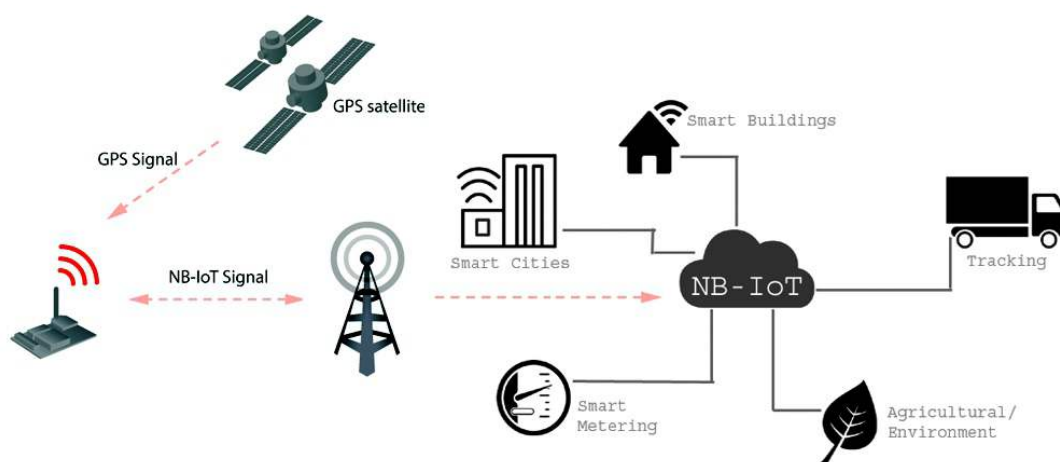
What is Satellite-based Narrow Band-Internet of Things?

- It is the **world's first satellite-based NB-IoT network**.
- It is a new '**Made in India**' **Solution** which is indigenously developed by **Skylo**.

- It will connect with **BSNL's satellite- ground infrastructure** and provide **PAN-India coverage**, including **Indian seas**.

Significance of Satellite-based narrow band-Internet of Things network

- It is in pursuance of the Prime Minister's vision of a truly **Digital India starting with fishermen, farmers, construction, mining and logistics enterprises**.
- It will provide India the **access to a ubiquitous fabric of connectivity for millions** of yet unconnected machines, sensors and industrial IoT devices.
- The coverage will be so vast that it will **not leave any dark patch within the boundary of India**, from Kashmir & Ladakh to Kanyakumari, and from Gujarat to the North East, including the Indian seas.
- The solution is in line with BSNL's vision to **leverage technology to provide affordable and innovative telecom services** and products across customers segments
- It supports the Department of Telecom and NITI Aayog's plan of **bringing indigenous IoT connectivity** to India's core sectors.



Submarine Optical Fibre Cable Connectivity

Science and Technology

Why in the news?

- The Prime Minister launched an Submarine Optical Fibre Network (OFC) connecting the Andaman and Nicobar Islands with the mainland that would provide residents of the Union Territory high-speed Internet connection. The Prime Minister had laid the foundation stone for the 2,300-km-long submarine optical fibre cable project connecting Chennai and the Andaman and Nicobar Islands on December 30, 2018.
- Under-sea cable has been executed by BSNL in a record time of less than 24 months and this will give 4G mobile services a big boost on these islands due to OFC connectivity. This will boost Digital Services like Tele-education, Tele- Health, e-Governance Services and tourism on the islands.
- The Connectivity will boost the Opportunities in the Andaman & Nicobar Islands says Prime Minister. It will promote Ease of Doing Business and simplify maritime logistics.
- The Andaman and Nicobar Island is to be developed as hub of Port led Development and it will also be a major port hub for international maritime trade.
- Submarine Optical Fibre Network project will strengthen base for Digital India and Atmanirbhar Bharat.

Benefits and Importance of Submarine Optical Fibre Cable

- The Submarine Cable will help A&N in getting cheaper & better connectivity and all the benefits of Digital India, especially in improving online education, tele-medicine, banking system, online trading and in boosting tourism.
- According to the Prime Minister, Indian Ocean has been the centre of India's trade and strategic prowess for thousands of years and that Andaman & Nicobar is an important centre for India's Economic-Strategic Cooperation. He said all the Islands of India would be playing an important role under India's new trade strategy for Indo-Pacific region.
- Andaman & Nicobar will be developed as hub of Port Led Development as it is at a Competitive Distance from many ports of the World and this will help to boost trade in 21st Century.
- Under the Act-East policy, the role of Andaman and Nicobar in India's strong relations with East Asian countries and other countries connected to the sea is very high and is going to increase.
- The Island Development Agency was formed 3 years ago to strengthen its role. IDA is chaired by Union Home Minister as Home Minister is its Chairman and CEO of NITI Aayog acts as its Convenor.
- Apart from providing for better internet & mobile connectivity, the effort is to further improve physical connectivity through road, air and water.

- The Prime Minister also referred to the work on two major bridges and the NH-4 in order to improve the road connectivity of North and Middle Andaman. He said the Port Blair Airport is being enhanced to handle a Capacity of 1200 passengers. Along with this the airports are ready for operations in Diglipur, Car Nicobar and Campbell - Bay. 4 Ships being built at Kochi Shipyard shall be delivered soon to improve the Water connectivity between the islands and the mainland.

Boosting International Maritime Trade

- Government's focus is also on promoting Ease of Business in the sea and simplifying Maritime Logistics. Speedy construction of the deep draft inner harbour and the proposal to construct Trans-shipment Port in Great Nicobar at an estimated cost of about Rs 10 thousand crores. This would enable big ships to anchor and would increase India's share in maritime trade, along with new employment opportunities.
- The Blue Economy like Fisheries, Aquaculture and Sea-Weed farming in the island will accelerate in commensurate with the modern infrastructure being developed in Andaman and Nicobar. The efforts of the Government will give Andaman and Nicobar, not only new facilities but also as a prominent place on the World Tourist Map.

Nuclear Magnetic Resonance (NMR) Test

Science and Technology

Why in the news?

- Recently, the **Centre for Science and Environment (CSE)** claimed that honey marketed by prominent brands failed a key test of purity. Food safety regulator FSSAI has also sought details of the CSE tests.

More details

- The present regulations specify around **18 parameters** that honey must comply with for producers to label it '**pure honey.**'
- The food researchers selected **13 brands** of raw and processed honey and subjected them to tests that are required under national food regulatory laws.
- Most of the brands passed muster but when subjected to the Nuclear Magnetic Resonance (NMR) only three brands passed.
- The NMR tests were carried out in Germany.
- The NMR test is not required by Indian law for honey that is being marketed locally but is needed for export.

About Nuclear Magnetic Resonance (NMR) test:

- It is an **analytical chemistry technique** used in quality control and research for determining the content and purity of a sample as well as its molecular structure.
- It ascertains the **composition of a product** at the **molecular level.**

India Regulation in the context of NMR:

- For NMR testing of honey, **FSSAI** clarified that it **allows rapid but database-driven detection and quantification** of various chemical compounds, especially for authenticating the origin of a sample of honey.
- FSSAI said its scientific panel has opined that **NMR is not required currently** due to lack of database, high skill requirement, high operating cost and high capital investment.
- The scientific panel has also mentioned that India and **Codex Alimentarius Commission**, has the most stringent standards for honey.

About the Codex Alimentarius:

- It is an **international food standards** body established jointly by the **Food and Agriculture Organization (FAO)** and the **World Health Organization (WHO)** in May **1963** with the objective of protecting consumer's health and ensuring fair practices in food trade.
- At present, the Codex Alimentarius Commission has **189 Codex Members** made up of 188 Member Countries and 1 Member Organization (The European Union).
- India** became a **member** in 1964.
- Codex Committees:** The food standards development work of the Commission is assisted by its **Executive Committee** and subsidiary bodies namely **General subject/Commodity Committees, Coordinating Committees** and **Task Forces.**
- India is the host secretariat for the Codex Committee on Spices and Culinary Herbs.
- Codex Standards:** They are **voluntary** in nature.
- The standards can be general or specific and are recognised by WTO Agreements as reference standards.

Why in the news?

- **Two persons died and several took ill in a major ammonia gas leakage at the Indian Farmers Fertilizer Cooperative Limited (IFFCO) unit at Prayagraj.**

About:

- A tri-hydride of nitrogen (NH_3), ammonia is a building block for ammonium nitrate (NH_4NO_3) that is used in agriculture as a high-nitrogen fertiliser.
- Ammonia is stored for industrial use in liquid form under high pressure or in gaseous form at low temperature.
- Ammonia, which is highly soluble in water, is found in soil, air, and water; it is naturally present in the body and secreted by the kidneys to neutralise excess acid. However, it is highly diluted when in the environment and does not affect the human body to a noticeable level.
- Uses of ammonia: Ammonia is critical in the manufacturing of fertilizers, and is one of the largest-volume synthetic chemicals produced in the world. More than 80 per cent of ammonia made is consumed in the manufacturing of fertilizer, and most of the remainder goes into the production of formaldehyde.

Ammonia:

- Its chemical formula is NH_3 .
- It is a colourless gas and is used as an industrial chemical in the production of fertilisers, plastics, synthetic fibres, dyes and other products.
- It occurs naturally in the environment from the breakdown of organic waste matter, and may also find its way to ground and surface water sources through industrial effluents, contamination by sewage or through agricultural runoff.

Effect of High Level of Ammonia:

- Ammonia reduces the amount of oxygen in water as it is transformed to oxidised forms of nitrogen. Hence, it also increases Biochemical oxygen demand (BOD).
- If the concentration of ammonia in water is above 1 ppm it is toxic to fishes.
- In humans, long term ingestion of water having ammonia levels of 1 ppm or above may cause damage to internal organs.

Treatment:

- Mixing of freshwater with ammonia polluted water.
- Chlorination.
 - Chlorination is the process of adding chlorine or chlorine compounds such as sodium hypochlorite to water.
 - This method is used to kill certain bacteria and other microbes in tap water. However, chlorine is highly toxic.

Long Term Solution:

- Stringent implementation of guidelines against dumping harmful waste into the river.
- Making sure untreated sewage does not enter the water.
- Maintain a sustainable minimum flow, called the ecological flow.
 - Ecological flow is the minimum amount of water that should flow throughout the river at all times to sustain underwater and estuarine ecosystems and human livelihoods, and for self regulation

How ammonia gas affects the human body?

- Ammonia, even in moderate concentration, can cause irritation to eyes, skin, nose and throat.
- It interacts immediately upon contact with moisture present in the skin, eyes, oral cavity, and respiratory tract to form ammonium hydroxide.
- It is very caustic and disrupts the cell membrane lipids, ultimately leading to cellular destruction.
- As cell proteins break down, water is extracted, resulting in an inflammatory response that causes further damage.
- The gas is toxic and affects the lungs with a possibility of causing chemical pneumonitis — inflammation of the lung caused by aspirating or inhaling irritants.

Digital Ocean Platform

Science and Technology

Why in the news?

- Recently, the Ministry of Earth Sciences has launched the **Digital Ocean Platform**.

About Digital Ocean Platform

- It is a **web-based application** developed by **Indian National Centre for Oceanic Information Services (INCOIS)**.
- It is a **first of its kind digital platform** for Ocean Data Management.
- The Digital Ocean will be promoted as a platform for capacity building on **Ocean Data Management** for all **Indian Ocean Rim countries**.
- It includes a set of applications **developed to organize and present heterogeneous oceanographic data** by adopting rapid advancements in geospatial technology.
- It facilitates an **online interactive web-based environment** for:
 - Data integration,
 - 3D and 4D data visualization,
 - Data analysis to assess the evolution of oceanographic features,
 - Data fusion and multi-format download of disparate data from multiple sources,
 - Remote sensing and model data
- The **User Management component** of Digital Ocean allows:
 - Authentication of users, their roles and privileges of access to different data sets;
 - Categorization of data as per the data sharing guidelines;
 - Metadata management, mail management, usage statistics and system statistics; and
 - Monitoring of observing platforms and addition of new data streams

Significance of Digital Ocean Platform

- Digital Ocean is a big step towards **Prime Minister's vision of Digital India** i.e. to transform India into a digitally empowered society and knowledge economy.
- The nation will be powerful which has the **gold mine of data management** and the capacity to process and interpret it meaningfully.
- Ocean is a **storehouse of infinite knowledge** and '**Digital Ocean**' **helps to share this knowledge** with a wide range of users including research institutions, academic community, maritime industry and policy makers.
- It will play a central role in sustainable management of oceans and expanding **India's 'Blue Economy' initiatives**.

INCOIS

- ESSO-INCOIS was established as an autonomous body in 1999 under the Ministry of Earth Sciences (MoES).
- It is a unit of the Earth System Science Organization (ESSO).
- It is mandated to provide the best possible ocean information and advisory services to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvements through systematic and focussed research.
- It is a permanent member of the Indian delegation to IOC of UNESCO and a founding member of the Indian Ocean Global Ocean Observing System (IOGOOS).

Shigella Infection

Science and Technology

Why in the news?

- Cases of **Shigella bacterial infection** have been reported from **different districts of Kerala**.

About: the infection

- It is also **called Shigellosis**.
- It is **an intestinal infection** caused by a family of bacteria known as shigella and the main sign of shigella infection is diarrhea, which often is bloody.
- It is **very contagious** and people get infected with shigella when they come in contact with and swallow small amounts of bacteria from the stool of a person who is infected with shigella.



- The bacteria **after ingestion attacks the epithelial lining of the colon** resulting in inflammation of the cells and subsequently the destruction of the cells in severe cases.
- Children under age 5 are most likely to get shigella infection, but it can occur at any age.

Symptoms:

- Diarrhea, Stomach pain or cramps, Fever, Nausea or vomiting. If not diagnosed and treated well it can cause **complications like**: Dehydration, Seizures, Rectal prolapse, Toxic megacolon etc.

Prevention:

- According to the CDC, it's important to wash hands with soap especially after dealing with a child's diaper and before preparing/eating food.
- While swimming in pools and lakes, it's advisable not to swallow water.
- One can avoid eating contaminated food especially from the street in unhygienic conditions.
- Drinking boiled water is advised.

Mucormycosis or Black Fungus

Science and Technology

Why in news?

- Doctors have witnessed more than 12 cases of Covid-19 triggered Mucormycosis fungus.

Mucormycetes

- Mucormycetes, the group of fungi that cause mucormycosis, are present throughout the environment, particularly in soil and in association with decaying organic matter, such as leaves, compost piles, and animal dung.
- Several different types of fungi can cause mucormycosis and belong to the scientific order Mucorales.
- The most common types that cause mucormycosis are Rhizopus species and Mucor species.
- They are more common in soil than in air, and in summer and fall than in winter or spring.
- These fungi are not harmful to most people but for people who have weakened immune systems, breathing in micromycetes spores can cause an infection.



Details of Mucormycetes

- **Black Fungus or Mucormycosis**: It is a serious but rare fungal infection caused by a group of molds called mucormycetes which exist in the environment.
- **Symptoms**: The symptoms are face numbness, one-side nose obstructions or swelling of eyes or pain.
- **Vulnerable Group**: Mucormycosis mainly affects people who have health problems or take medicines that lower the body's ability to fight germs and sickness.
- **Transmission**: It is acquired when spores produced by the mold are inhaled or much less commonly when they enter the body through a cut or other break in the skin. It does not spread between people or between people and animals.

Pneumosil

Science and Technology

Why in the news?

- Recently, Serum Institute of India announced the launch of **India's first indigenously developed pneumococcal vaccine – Pneumosil**

About Pneumosil

- It is India's **first pneumococcal conjugate vaccine (PCV)**.
- It has been developed by the **Serum Institute of India Private Limited (SIIPL)** in collaboration with partners like the **Bill and Melinda Gates Foundation**.
- Pneumosil was found to be **safe and effective in the prevention of Pneumonia disease** during the clinical trials.
- Based on the clinical trials, the Drugs Controller General (India) has **licensed the Pneumosil vaccine** in July 2020 after approval from Subject Expert Committee (SEC).
- The vaccine targets the **pneumococcal bacterium**, which causes pneumonia and other serious life-threatening diseases such as meningitis and sepsis.

Significance of Pneumosisil

- Pneumosisil is an example of **India's capability in Research & Development** and **manufacturing high end sophisticated Vaccines**.
- It is matter of pride for India for this historical milestone during COVID-19 Pandemic because till now **India was fully dependent on Pneumococcal Conjugate Vaccine manufactured by Foreign Manufacturers**.
- It is a significant milestone for the country's **public healthcare** which will ensure that **children are protected better against pneumococcal disease** with an effective vaccine.

How the pneumoniae is caused?

- Pneumonia is an **infection that inflames air sacs in one or both lungs**, which may fill with fluid or pus.
- The infection can be life-threatening to anyone, but particularly to infants, children and people over 65.
Symptoms: Cough with phlegm or pus, fever, chills and difficulty breathing.
- Antibiotics can treat many forms of pneumonia.
- Some forms of pneumonia can be prevented by vaccines.
- A common cause of bacterial pneumonia is **Streptococcus pneumoniae (pneumococcus)**.

Status of Pneumonia in India:

- As per UNICEF data, **more than one lakh children under the age of five years** die every year in India due to the pneumococcal disease.
- The **top five contributors to India's pneumococcal pneumonia** burden in terms of the number of cases and deaths were Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan and Jharkhand.

Radio frequency Identification

Science and Technology

Why in the news?

- Commission for Air Quality Management for Delhi-NCR has warned that commercial vehicles without RFID tags or inadequate balance in the tags, will not be allowed entry from January 1.

What is Radio Frequency Identification (RFID)?

- Radio Frequency Identification (RFID) technology is at the core of FASTag, the flagship initiative of the Ministry of Road Transport and Highways (MoRTH) for implementing electronic toll collection across the national highways in India. It is aimed at ensuring cashless transactions at toll plazas, resulting in a near non-stop movement of traffic and hence, de-congesting and streamlining the entire process of toll collection.
- The RFID technology uses an Electronic Produce Code (EPC) through which every vehicle can be uniquely identified. This code is different from the vehicle's registration number and exclusive to it on a global scale. Each EPC code, which is a 13-digit number, in the RFID-FASTag is issued by GS1 India, a standards body, which ensures that each code is unique and in sync with the global standards put in place, in order for correct product identification. Which in the case of FASTag, is a vehicle. The code needs to be standardized in order to ensure that the data coded inside is not read differently at different levels.
- "Radio Frequency Identification technology is essentially a data capture technology, much like barcoding," says Ravi Mathur, CEO, GS1 India.
- However, unlike barcoding, which uses a pattern of black bars and white spaces, in which the information is coded, an RFID tag uses a small electronic chip for the same which is surrounded by an antenna. Also, unlike the barcode, an RFID tag does not need to be very close to the reader or, even in the line of sight of the same. One just simply has to be within a reading distance from the scanner.



Square Kilometre Array Observatory (SKAO)

Science and Technology

Why in the news?

- Recently, the formal go ahead for establishing the Square Kilometre Array Observatory (SKAO) has recently been received, after the United Kingdom ratified the international treaty Convention.

About Square Kilometre Array Observatory (SKAO)

- Once built, Square Kilometre Array Observatory (SKAO) will be the world's largest radio telescope
- It will be built across two continents – Africa and Australia — and have its global headquarters in the UK.
- It is not a single telescope, but a collection of telescopes known as an array, which would be installed in Australia and South Africa.
- Ratification by member countries:** SKAO project was awaiting ratification by at least five of its member-countries, including the three host countries – the UK, Australia and South Africa.
- With the recent approval UK became the sixth country to ratify the treaty Convention
- Hence an international treaty organisation can now be set up, which will build and run the SKAO over its lifetime of several decades.
- Earlier, Australia, South Africa, Italy, The Netherlands and Portugal had given similar approvals to join the new treaty organisation.
- With six member-countries having ratified the Convention, now an SKAO Council for the same will be set up.
- Once the SKAO Council approves the construction proposal and other related documents, it will pave the way for the commencement of the on-site construction of SKA
- Project cost: The SKAO is scheduled to be built in two phases and the estimated cost for the initial phase is about 1.8 billion Euros, which will be spent over a period of 10 years.
- Time period: There are numerous stages for the construction and it will go on for six to seven years, after which it will take another three to four years to make the SKA fully operational for meeting its main scientific objectives



India's involvement in the project

- India, too, is involved in this project through the Department of Atomic Energy (DAE) as the official representative of the 20-plus scientific institutions.
- However, as a member country, India is yet to complete the final approval and ratification process for joining the construction phase.
- Started in 2014, the SKA design work took six years to be completed, with contributions made by over 1,000 engineers and scientists from across 20 countries.
- A team from India played a significant role during this phase, leading the design of the sophisticated **Telescope Manager (TM) system** of the entire SKA observatory.
- India** has already been **chosen as the country to lead the construction of the TM system**. Nicknamed the SKA 'nervous system', it will be responsible for the complete end-to-end operations of the SKAO.
- Along with **National Centre for Radio Astrophysics (NCRA)**, some of the **major Indian institutes involved** in this project are **Raman Research Institute, Indian Institute of Science, Inter University Centre for Astronomy and Astrophysics, IITs from Kanpur, Kharagpur and Indore, Tata Institute of Fundamental Research, Presidency College and IISER-Mohali, among others.**
- India is proposing to participate at a level that is close to 6 percent of the total SKA budget. This proposal is presently under review by the government.

Significance of SKAO

- Once completed, this observatory could help the scientific community improve its knowledge and seek answers to some of the fundamental and yet poorly-explored aspects of the universe, such as its early history, the evolution of galaxies over cosmic time, fundamental physics in extreme environments and

NitiAayog DigiBox

Science and Technology

Why in the news?

- NitiAayog has launched a cloud storage service called DiggiBoxx as part of the Atmanirbhar Bharat initiative.

About DigiBox

- It is a Made-in-India digital asset management, file sharing service and cloud storage platform

- **Key features**

- The platform is the first of its kind 'Make in India, Store in India' digital asset management SaaS product that is in line with the country's national security and data localisation priorities
- The service is priced competitively, as the company is offering free 20GB cloud storage and 100GB space per month to those who pay just Rs. 30.

- **DigiBoxx cloud storage price in India and benefits**

- DigiBoxx has different prices and benefits for a free user, an individual/freelancer, small and mid-sized businesses (SMBs) and enterprises.
- All plans support unlimited external collaborators, meaning people who don't have DigiBoxx accounts can also access the files sent to them.
- The plans offer features such as integration with Gmail, real-time multi-user file collaboration, advanced real-time collaboration, web document previews and automated account backups.
- The free plan includes 20GB cloud storage space and supports files, which of a maximum size of 2GB each. This includes Gmail integration and unlimited external collaborations.
- The storage service is available in monthly and yearly plans. For individuals or freelancers, there is a Rs 30 per month plan, which offers 100GB storage space. This basically means up to 5TB of storage on a yearly basis, which will cost you Rs 360. The plan supports 10GB maximum file size.
- For small and mid-sized businesses, the company will charge Rs 999, which will include up to 50TB storage with 10GB maximum file size. It also supports up to 500 users.
- For enterprises, there is an option to opt for custom cloud storage plans with requirements for over 500 users and configurable total storage size. There is no per-file size cap for large enterprises.

- **Security features**

- According to the company, the service has connection encryption and all the files stored on its platform are encrypted at a database level.
- The company confirmed that all the data is being stored in the country.
- The service claims to offer support for SSL (Secure Sockets Layer) file encryption.

5G and its difference with other generations

Science and Technology

Why in the news?

- The country's tryst with 5G is expected to commence in second half of 2021 with a network rollout by Reliance Jio.

About 5G

- 5G refers to the 5th generation mobile network. When rolled out, it will represent a quantum leap over the current 4G mobile networks.
- If successfully implemented, it can deliver 10 times faster internet and more than 10 times improvement in latency (the time difference between sending and receiving messages) over 4G
- 5G is expected to reduce latency to 1 millisecond (one thousandth of a second).
- 5G also comes with substantially more capacity and hence will enable more connected devices without issues of network congestion.

Major Difference between 5G and 4G

- **With respect to speed:**

- 4G can currently reach top speeds of up to 100 Mbps, though real-world performance is generally no more than 35 Mbps.
- 5G has the potential to be 100 times faster than 4G, with a top theoretical speed around 20 Gbps and current, real-world speeds from 50 Mbps to 3 Gbps.

- **With respect to latency:**

- Latency is a measure of the time it takes a packet of information to travel between two points
- Latency in 4G networks is currently about 50 milliseconds, while 5G networks are expected to shrink that to an impressive 1 ms.

- **With respect to coverage:**

- 5G will take several years to reach a level of coverage similar to 4G, and it will have different implementations (high-, medium-, and low-band 5G), each with its own speed and bandwidth.

- **With respect to bandwidth:**

- 5G is expected to have significantly more bandwidth, or capacity, than 4G as well. In part, this is because 5G will make much more efficient use of available spectrum. 4G uses a narrow slice of the available spectrum from 600 MHz to 2.5 GHz, but 5G is divided into three different bands. Each band has its own frequency range and speed, and will have different applications and use cases for consumers, businesses, and industries

Autonomous Navigation Systems

Science and Technology

Why in the news?

- Union Minister of Education laid foundation stone of 'TiHAN-IIT Hyderabad', India's first Test bed for Autonomous Navigation Systems (Terrestrial and Aerial).

About autonomous navigation systems

- Autonomous navigation means that a vehicle is able to plan its path and execute its plan without human intervention. In some cases remote navigation aids are used in the planning process, while at other times the only information available to compute a path is based on input from sensors aboard the vehicle itself. An autonomous robot is one which not only can maintain its own stability as it moves but also can plan its movements. Autonomous robots use navigation aids when possible but can also rely on visual, auditory, and olfactory cues.

WILL HELP REPLICATE REAL-LIFE SCENARIOS

• The new hub has been established in two acres of land within the campus and the facilities are planned in phases

• It will facilitate research grounds to investigate the functioning of unmanned and connected vehicles in a controlled environment

• It will help replicate different scenarios, ranging from frequently occurring to extreme cases that may ensue in real-life traffic operations

• All smart poles within the institute are enabled with communication providing technology with some poles designed with sprinklers to simulate rain scenario

TiHAN

- TiHAN is an acronym for Technology Innovation Hub on Autonomous Navigation and Data Acquisition Systems (UAVs, RoVs etc.).
- It is a multi-departmental initiative, including researchers from Electrical, Computer Science, Mechanical and Aerospace, Civil, Mathematics, and Design at IIT Hyderabad.
- It would focus on addressing various challenges hindering the real-time adoption of unmanned autonomous vehicles for both terrestrial and aerial applications.

Why need TiHAN?

- One major requirement to make unmanned and connected vehicles more acceptable to the consumer society is to demonstrate its performance in real-life scenarios.
- However, it may become dangerous. Especially in terms of safety, to directly use the operational roadway facilities as experimental test tracks for unmanned and connected vehicles.
- In general, both UAV and UGV testing may include crashes and collisions with obstacles, resulting in damage to costly sensors and other components.
- Hence, it is important to test new technologies developed in a safe, controlled environment before deployment.

Independent Regional Navigation Satellite System

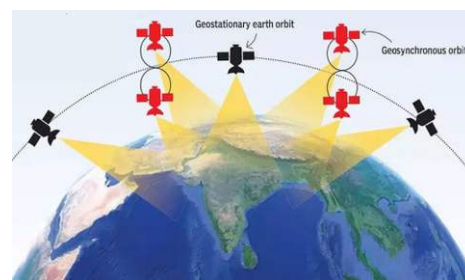
Science and Technology

Why in news?

- Recently, **India became the fourth country** in the world to have **its independent regional navigation satellite system** recognised by the **International Maritime Organisation (IMO)** as a part of the World Wide Radio Navigation System (WWRNS).
- The other three countries that have its navigation systems recognised by the IMO are the US, Russia and China.

About :

- It is also called **NAVigation with Indian Constellation (NavIC)**.
- It is an **autonomous regional satellite navigation system** developed by **ISRO**.
- It has been designed to provide accurate position information service to users in India as well as the region extending up to 1500 km from its boundary.
- It will provide **two types of services**:
 - Standard Positioning Service (SPS)**: provided to all the users.
 - Restricted Service (RS)** : It is an encrypted service provided only to the authorised users.
- The IRNSS System is **expected to provide a position accuracy of better than 20 m in the primary service area**.
- Presently, it **consists of 7 active satellites** located at a distance of approximately 36,000 Km.
 - 3 satellites** are in **Geostationary Orbit (GEO)**
 - 4 satellites** are in inclined **Geosynchronous Orbit (GSO)**
- Some applications of IRNSS are Terrestrial, Aerial and Marine Navigation, Disaster Management, Vehicle tracking and fleet management, Integration with mobile phones, Precise Timing, Mapping and Geodetic data capture etc.



Other Satellite Navigation Systems:• **GPS**

- Initiated in 1978 and achieved global coverage in 1995 and is owned by the **United States government** and operated by the United States Air Force.
- It consists of 24 to 32 medium Earth orbit satellites in six different orbital planes.

• **GLONASS**

- **Russia's Global Navigation Satellite System (GLONASS)** is operated by Roscosmos, a state corporation responsible for the space flight and cosmonautics program for the Russian Federation.
- It became **operational in 1982** and achieved **global coverage in 1996**, and again in 2011 (after the system had fallen into disrepair).
- It has full global coverage with 24 satellites.

• **GALILEO**

- **The European Space Agency's Galileo** system was **initiated in 2005** and projected to **provide global coverage by 2020 with 30 satellites**.
- Galileo is expected to be compatible with the modernized GPS system.

• **The Quasi-Zenith Satellite System (QZSS)**

- It is **operated by the Japanese government**.
- It is a four-satellite regional time transfer system and enhancement for GPS covering Japan and the Asia-Oceania regions.
- Its services **have been available on a trial basis since January 2018**.

About International Maritime Organization (IMO)

- It is the **United Nations specialized agency** with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. IMO's work supports UN SDGs.
- **Roles and responsibilities-**
 - Its main role is **to create a regulatory framework for the shipping industry** that is fair and effective, universally adopted and universally implemented.
 - It **covers all aspects of international shipping** – including ship design, construction, equipment, manning, operation and disposal to ensure that this vital sector remains safe, environmentally sound, energy-efficient and secure.

India International Science Festival 2020**Science and Technology****Why in the news?**

- The 6th edition of India International Science Festival (IISF-2020) concluded with the valedictory address by the Vice President Venkaiah Naidu. About India International Science Festival 2020

About:

- IISF is an annual event organised jointly by science & technology-related Ministries and Departments of the Government of India and Vijnana Bharati (Vibha).
- The first and second IISF were held in New Delhi, the third in Chennai, the fourth in Lucknow, and the fifth IISF was held in Kolkata.
- IISF is a festival to celebrate the achievements of India's scientific and technological advancements with students, innovators, craftsmen, farmers, scientists and technocrats from India and abroad.
- The goal of the IISF 2020 is to help youth develop 21st century skills, with a focus on scientific knowledge, creativity, critical thinking, problem-solving, and teamwork.
- The event began on the occasion of the birth anniversary of Ramanujan

A brief note on Srinivasan Ramanujan

- Born on December 22nd, 1887 in Erode, Tamilnadu, the day is celebrated in his memory as the National Day of Mathematics.
- Famous British mathematician Godfrey Harold Hardy acknowledged his talent in 1913 and invited Ramanujan to Cambridge.
- Ramanujan made significant contributions and worked on elliptical functions to analytic number theories.
- He worked on the whole number division, hypergeometric series and the constant of Euler as well.
- He published his papers in English and European journals and was elected to the Royal Society of London in 1918.
- He died after a long illness on 26th April 1920, in India.



Artificial Sun of China

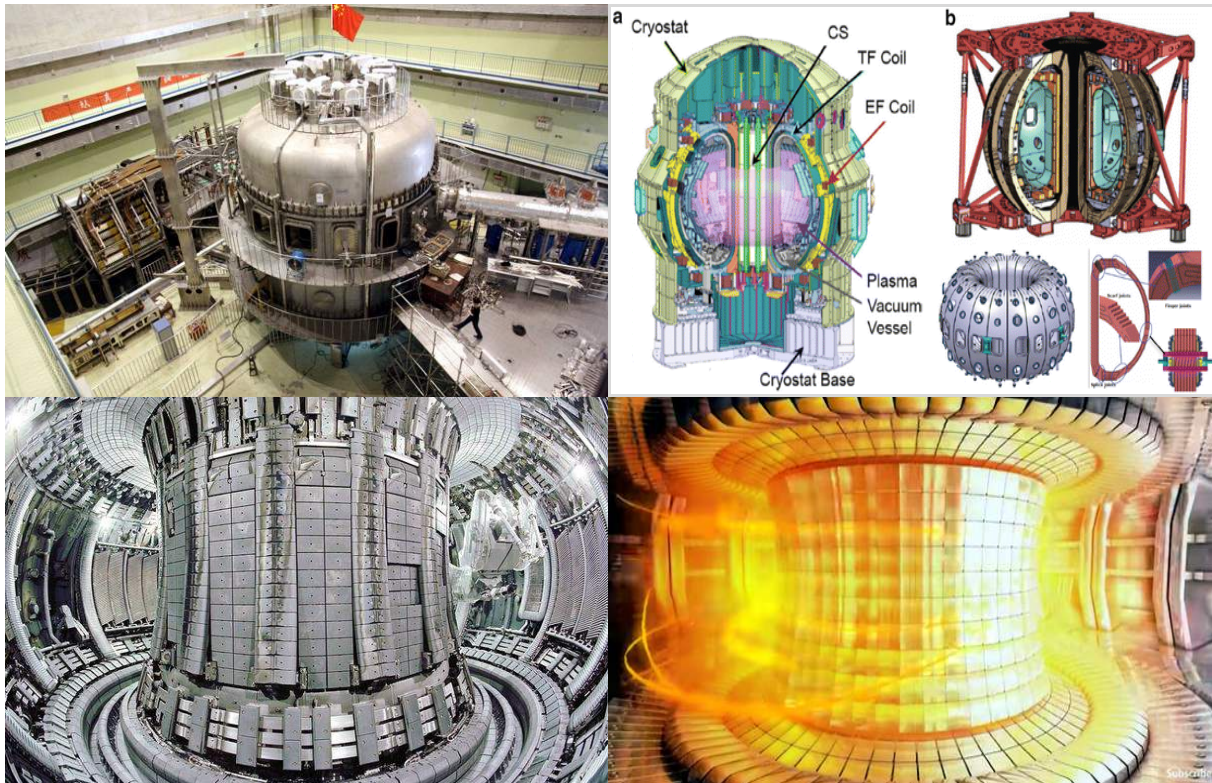
Science and Technology

Why in the news?

- China has successfully powered up its artificial sun nuclear fusion reactor named "HL-2M Tokamak reactor".

Key highlights

- HL-2M Tokamak reactor:** It is China's largest and most advanced nuclear fusion experimental research device that can potentially unlock a powerful clean energy source.
- It uses a powerful magnetic field to fuse hot plasma and can reach temperatures of over 150 million degrees Celsius approximately ten times hotter than the core of the sun.
- Hence, the reactor is often called an "artificial sun" on account of the enormous heat and power it produces.



BSF Raising Day

Defence & Security

Why in news?

- The Border Security Force celebrated its 56th Raising day on 1st December.

About BSF

- BSF is primary border guarding organisation of India and termed as First Line of Defence of Indian Territories.
- It is the sentinels of Indian borders with *Pakistan and Bangladesh*.
- It came into existence on 1st December, **1965**.
- It was created by merging various State Armed Police Battalions for achieving a better coordinated synergy between the border guarding functions in peace time and fighting the war during the eventuality on both Western and Eastern fronts.
- BSF is deployed on Indo-Pakistan International Border, Indo-Bangladesh International Border, Line of Control (LoC) along with Indian Army and in Anti-Naxal Operations.
- Since its inception, BSF has proven its credentials during various counter insurgency and anti-militancy operations, internal security duties, natural calamities etc.
- BSF is one of the five Central Armed Police Forces of Union of India under the administrative control of Ministry of Home Affairs (MHA).
- It is mandated with guarding India's land border during peacetime and preventing transnational crime.
- BSF currently stands as the world's largest border guarding force.



Mission Sagar-III

Defence & Security

Why in news?

Indian navy sends flood support to Vietnam under Mission Sagar III

About Mission

- India has sent 5 tons of flood support to Vietnam under its Mission Sagar III as Central Vietnam has been impacted by massive floods in which more than 100 people have died and 50 people are still missing.
- Indian Naval Ship Kiltan, carrying humanitarian assistance, arrived at Vietnam's NhaRong Port in the Ho Chi Minh City to deliver 15 tonnes of relief material for flood-affected people.
- According to Indian Navy release this mission is part of India's Humanitarian Assistance and Disaster Relief (HADR) assistance to Friendly Foreign Countries during the ongoing pandemic



About Mission SAGAR

- Mission SAGAR is a major milestone in India's engagement with the countries in the Indian Ocean Region, in line with the Prime Minister's vision of 'SAGAR- Security and Growth for All in the Region'.
- SAGAR highlights the importance accorded by India to relations with her neighbouring countries and further strengthens the existing bond.
- The Mission also highlights the importance accorded to ASEAN countries and further strengthens the existing bonds.
- Mission Sagar-I:** Indian Navy undertook this mission in May-June 2020, wherein India reached out to **Maldives, Mauritius, Seychelles, Madagascar and Comoros**, and provided food aid and medicines.
- Mission Sagar-II:** Under Mission Sagar-II Indian Navy had deployed INS Airavat to Port Sudan. In this regard, INS Airavat carried a consignment of 100 tonnes of food aid for the people of **Sudan, South Sudan, Djibouti and Eritrea**.

Humanitarian Assistance and Disaster Relief (HADR)

- HADR is intended to save lives, alleviate suffering and maintain human dignity during and after man-made crises and disasters caused by natural hazards, as well as to prevent and strengthen preparedness for when such situations occur.
- Indian defence forces, under the aegis of Headquarters Integrated Defence Staff (HQ IDS) have been carrying out HADR operations within the country as well as outside the country.
- The defence forces can deliver during various HADR contingencies due to its well ingrained expertise in reconnaissance, damage assessment, evacuation, setting up of relief infrastructure, restoring communication & providing medical facilities, distributing ration supplies, clothing etc
- Defence Forces, because of their unparalleled discipline, organisational cohesiveness, huge capacity in terms of logistics & operational capabilities in land, water & air are considered best suited for Humanitarian Assistance & Disaster Relief (HADR) operations.

DRDO Systems Handed to Defense Services

Defence & Security

Why in news?

- The Minister of Defence handed over three indigenously developed Defence Research and Development Organisation (DRDO) systems to Army, Navy and Air Force.

About the novel systems

- 1. Indian Maritime Situational Awareness System (IMSAS):** The **IMSAS** is state-of-the-art, fully indigenous, high performance intelligent software system that provide Global Maritime Situational Picture, Marine planning tools and Analytical capabilities to Indian Navy. Centre for Artificial Intelligence & Robotics (CAIR), Bengaluru and **Indian Navy has jointly conceptualised and developed the product and the BEL, Bengaluru has implemented it.**
- 2. ASTRA Mk-I Missile:** The **ASTRA Mk-I** is the indigenously developed first Beyond Visual Range (BVR) Missile, which can be launched from Sukhoi-30, Light Combat Aircraft (LCA), Mig-29 and Mig-29K. Globally, very few countries have expertise and capabilities to design and produce this class of weapon system. Successful development of ASTRA weapon system by Defence Research & Development Laboratory (DRDL) Hyderabad & production by Bharat Dynamics Limited (BDL), Hyderabad is a major contribution towards 'Atmanirbhar Bharat'.
- 3. Border Surveillance System (BOSS):** This is an all-weather electronic surveillance system. The system has been deployed in the Ladakh border area for day and night surveillance. The system facilitates monitoring and surveillance by automatically detecting the intrusions in harsh high-altitude sub-zero temperature areas with remote operation capability. It is designed and developed by Instrument Research and Development Agency (IRDE), Dehradun. It is produced by Bharat Electronics Co., Ltd. (BEL) of Machilipatnam.

Coastal Radar Chain Network

Defence & Security

Why in the news?

- In a bid to further expand the coastal radar chain network, India's efforts are in advanced stages to set up coastal radar stations in Maldives, Myanmar and Bangladesh.

About Coastal radar chain network

- **Aim:** To **create a network of information and maritime domain awareness** in the strategic Indian Ocean Region.
- The assistance to other countries is provided under India's programme called **SAGAR – Security and Growth for All in the Region.**
- **Under Phase-I** of the coastal radar chain network, 46 coastal radar stations have been set up across the country's coastline.
- **Under Phase-II** of the project, 38 static radar stations and four mobile radar stations are being set up by the Coast Guard and is in an advanced stage of completion. This phase is progressive.
- It will also help in **monitoring any illegal activities in the sea.**
- The data collected will be fed into the Information Fusion Centre for the Indian Ocean Region (IFC-IOR).



Information Management and Analysis Centre (IMAC)

- IMAC, based in Gurgaon, was established in 2014, and is the nodal centre for maritime security information collation and distribution.
- It is jointly operated by the Navy and Coast Guard.

IMAC's Functions:

- IMAC's task is to facilitate exchange of maritime security information among various national stakeholders, and develop a common operational picture.
- IMAC focuses on ships passing through the Indian Ocean Region (IOR). At its headquarters, officers can look at all ships that transmit signals to an Automatic Identification System (AIS) when passing through IOR.
- It can look at information including route, destination, nationality and ownership for each vessel.
- It can also check if a vessel has changed its identity, or if it has been involved in law-enforcement issues in other countries.
- It is important to note that IMAC tracks only non-military or commercial ships, known as white shipping. Military ships, are tracked by the Directorate of Naval Operations, as this is on a classified (secret) network.

IFC-IOR

- The Navy's Information Fusion Centre for the Indian Ocean Region (IFC-IOR) was inaugurated in 2018, within the premises of IMAC, to promote Maritime Domain Awareness.
- It is the single point centre linking all coastal radar chain networks along the 7,500 km Indian coastline. It tracks and monitors 75,000 – 1.5 lakh shipping vessels in real time round the clock.
- It interacts with the maritime community and has already built linkages with various countries and multinational and maritime security centres.

Medium Range Surface to Air Missile (MRSAM)

Defence & Security

Why in the news?

- Recently, the Defence Research & Development Organisation (DRDO) has achieved a major milestone with the maiden launch of Army Version **Medium Range Surface to Air Missile (MRSAM)**.

What is 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 of the Indian Army.
- The MRSAM Army weapon system comprises of **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 and 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.



S-400 Air Defence Systems

Defence & Security



- India to get advance delivery of S-400 from Russia

About S-400

- The S-400 Triumph is an air defence missile system developed by Almaz Central Design Bureau of Russia.
- The S-400 replaced the S-300P and S-200 air defence systems of the Russian Army.
- Features: It is designed to destroy aircraft, cruise and ballistic missiles, including medium-range missiles, and can also be used against ground installations.
- The S-400 can engage targets at a Range of 400 km and At an altitude of up to 30 km.

- The S-400 Triumph air defence system integrates a multifunction radar, autonomous detection and targeting systems, anti-aircraft missile systems, launchers, and command and control centre.
- It provides four different types of layered air defence.
- The system can simultaneously engage 36 targets.
- It can also be integrated into the existing and future air defence units of the air force, army and navy.

India's View

- In 2015, China signed an agreement with Russia to purchase six battalions of the system. China's acquisition of the S-400 system has been viewed as a "game changer" in the region. However, its effectiveness against India is limited. Even if stationed right on the India-China border and moved into the Himalaya mountains, Delhi would be at the limit of its range. India's acquisition is crucial to counter attacks in a two-front war, including even high-end F-35 US fighter aircraft.
- In October 2015, Defence Acquisition Council considered buying 12 units of S-400 for its defence needs. But, on evaluation, in December 2015, five units were found adequate. The deal is worth about USD 5 billion.

Project 17A-Himgiri

Defence & Security

Why in news?

- Recently, the **first GRSE-built Project 17A stealth frigate 'Himgiri'** was launched at Hooghly River, Kolkata.

About the project

- It is the **first of the three Project 17A ships** being built at M/s Garden Reach Shipbuilders and Engineers Limited (GRSE), Kolkata.
- The ship has taken its **name and crest of the second Frigate of the Leander Class of ships**, which incidentally was launched 50 years ago in 1970.

Significance of Naval Ships under Project 17A

- The launch of 'Himgiri' has showcased **GRSE's commitment towards the building of three state-of-the-art warships of P17A** for Indian Navy.
- The naval shipbuilding provides a **great opportunity to energise our economy** post COVID-19.
- Project 17A ships are **sourcing 80% of the material/ equipment required for the project from indigenous vendors** and with employment generation for over 2000 Indian firms and MSMEs within the country.
- The modular construction of the ship through outsourcing, and integrated construction methodology are being used to **enhance GRSE's productivity for delivery of ship** targeted in August 2023.

What is Project 17A?

- The project was **sanctioned by the Government in 2015**.
- Under the project seven stealth frigates will be built at an estimated cost of Rs 50,000 crore.
 - Out of the seven ships, three are to be developed by Garden Reach Shipbuilders and Engineers (GRSE) and another four will be developed by Government-owned Mazagon Docks Limited (MDL) which is based in Mumbai.
- These frigates will come armed with advanced state-of-the-art sensors and boast of top-notch stealth.

ICGS Saksham

Defence & Security

Why in news?

- Recently, the Goa Shipyard Ltd (GSL) launched **the fifth and final Offshore Patrol Vessel (OPV) named ICGS Saksham**.

About ICGS Saksham

- It is an **offshore patrol vehicle** of Indian Coast Guard.
- It has been **designed and developed indigenously** under the Indigenous Offshore Patrol Project.
- It weighs 2,350 tonnes and is armed with 30-mm guns.
- It is also **equipped with "quick response boats"** to handle emergencies along the coast, piracy and anti-terrorism missions.

About Indian Coast Guard (ICG):

- **Established on 18 August 1978** by the Coast Guard Act, 1978 as an **independent Armed force of India**.
- **Headquarters:** New Delhi
- **Nodal Ministry:** The Ministry of Defence.
- **Roles:** It has jurisdiction over the territorial waters of India including contiguous zone and exclusive economic zone (EEZ) and is tasked with the protection of India's maritime interests and enforcement of maritime law.
- It is responsible for marine environment protection in maritime zones of India and is coordinating authority for response to oil spills in Indian waters.
- It works in close cooperation with the Indian Navy, the Department of Fisheries, the Department of Revenue (Customs) and the Central and State police forces.

INS Kalvari**Defence & Security****Why in news?**

- The Submarine Day is **celebrated annually on the 08th Dec** to mark the birth of the Indian Navy's Submarine Arm with the commissioning of its first submarine, erstwhile INS Kalvari. On December 8, the Indian Naval Ensign was unfurled on INS Kalvari.

About INS Kalvari

- It was a **diesel-electric submarine** of the Foxtrot Class **from the erstwhile USSR**.
- It was inducted in the Indian Navy, at Riga in Latvia, the erstwhile USSR in 1967.
- After INS Kalvari, **three more submarines** named Karanj, Khanderi and Kursura were commissioned in the Indian Navy along with submarine support vehicle Amba.

**What are the Kalvari Class submarines?**

- The Indian Navy is in the process of **inducting several submarines** in Kalvari Class.
- The Kalvari class has been named after the first submarine of India.
- **INS Kalvari** was inducted into service **in 2017**.
- It is a diesel-electric submarine of Scorpene-class (Project 75).
- **INS Khanderi** is the other submarine of Kalvari class currently in service.
- The other **submarines slated to join** service under this class are Vela, Karanj, Vaghir and Vaghsheer.

What is Project-75?

- It is a programme of the Indian Navy **to induct six Scorpene-Class attack submarines** in their fleet.
- It involves **the transfer of technology** from the French company Naval Group (formerly known as DCNS).
- The submarines are to be **built at the Mazagon Dock Limited (MDL)**.
- The P75 Scorpene-Class **is powered by the conventional diesel-electric propulsion system** with Air-Independent Propulsion technology.
 - **Air Independent Propulsion (AIP) system:** It enables the submarine to take in oxygen-less frequently and remain submerged for long durations.
- INS Kalvari and INS Khanderi belong to the Scorpene-Class.
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