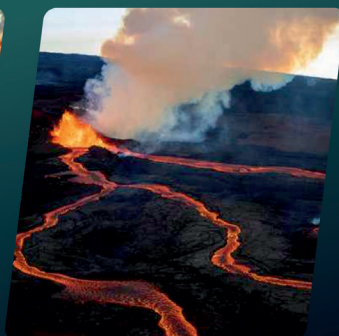




TRANSFORM IAS
Transforming Lives with Education

CURRENT AFFAIRS MAGAZINE

November - 2022



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TRANSFORM IAS
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November , 2022

Current Affairs

Contents

Contents

ART AND CULTURE

1

- Elaben Bhatt
- Bonalu festival
- Edavalath Kakkat Janaki Ammal
- Guru Nanak
- National Florence Nightingale Awards 2021
- Baliyatra
- Lachit Borphukan
- Birsa Munda
- Kashi Tamil Sangamam
- Sir C P Ramaswamy Iyer
- Taklung Setrunga Rinpoche
- Kathakar

POLITY & GOVERNANCE

12

- Anti-Superstition
- Indian-origin Tamils
- Statehood Demand
- Child Welfare Police Officer
- 22nd Law Commission
- Gram Nyayalayas
- 50th Chief Justice of India
- Constitution Day 2022
- PIL challenging First Amendment Act 1951
- Political parties with religious connotations

ENVIRONMENT AND ECOLOGY

21

- Emissions Gap Report 2022
- Mangrove Alliance for Climate (MAC)
- The United Nations Climate Change Conference 2022 COP27
- Blue Flag
- Adaptation Gap Report 2022
- Terai Elephant Reserve
- Mauna Loa
- FAO'S State of Food and Agriculture report 2022
- Beaver Blood Moon
- World Heritage Glaciers Sentinels of Climate Change
- Climate change and health
- Great Nicobar development project
- The Climate Change Performance Index 2023
- Global Offshore Wind Alliance (GOWA)
- MARS

- Water Resources Of India
- Champions of the Earth award-2022
- The Shiveluch volcano of Russia

ECONOMY

38

- UNCTAD Global Investment Trend Monitor Report – 2022
- India's First Floating Financial Literacy Camp
- Electronic Bank Guarantees (E-BGs)
- Record high Currency in circulation
- Purchase of Gold
- Domestic Inflation
- Framework for safeguarding consumer interest
- Central Depositories Services India Ltd (CDSL)
- Regulatory framework for Online Bond Platform Providers
- IEC
- India's first multimodal logistics park
- Citizen Perception Survey 2022
- Interest-free banking

SCIENCE AND TECHNOLOGY

49

- AMR Salmonella
- China's Mengtian module
- Global Climate Observing System(GCOS)
- 8% of Human DNA is Virus
- Malaria Vaccine
- Beidou satellite navigation system of China
- Nano-biosensor for detecting 'lycopene'
- Artemis lunar-exploration programme
- Carbon border tax
- LOFTID mission
- Cordy gold nanoparticles (Cor-AuNPs)
- Global Vaccine Market Report 2022
- Challenger space shuttle disaster
- India's first privately developed launch vehicle
- Curcumin Compound against mastitis in cattle
- Earth Observation Satellite & PSLV C54
- Mycobacterium leprae
- Red Planet Day & Mars missions

SOCIAL ISSUES

66

- ASHA worker's vision for India@100
- Mental health crisis in India
- Hindi imposition and its discontents
- Inclusion in Scheduled Castes
- T N Seshan
- Police Commissionerate system
- Ayushman Bharat Digital Mission
- National Milk Day 2022
- Manipur's Ima market

INTERNATIONAL RELATION

76

- India-Australia
- Artificial Intelligence
- No Money for Terror conference
- East Asia Summit
- India's G20 presidency
- United Nations (UN) Resident Coordinator
- Global South

- India and GCC
- Indo-Pacific Regional Dialogue 2022
- Code of Conduct for the South China Sea
- Express entry system of Canada
- India's Koo in Brazil

GOVERNMENT SCHEME

86

- IIPDF Scheme
- MITRA
- India's first Suicide prevention policy
- UGC's new regulations for awarding PhDs
- Online RTI portal
- Digital Shakti 4.0
- MAARG Portal
- Toilets 2.0
- Scheme for Procurement of Aggregate Power of 4500 MW

MISCELLANEOUS

95

- Phase-II Ballistic Missile Defence (BMD) interceptor
- New mandatory safety tests for electric vehicles
- Protected system or Critical Information Infrastructure
- Kurdish people of Turkey
- National Gopal Ratna Awards
- Agni-3 missile
- The Phrygian cap or the liberty cap

Chapter- 1

ART AND CULTURE

Elaben Bhatt

Why in News

Elaben Bhatt, a noted Gandhian and a leading women's empowerment activist, passed away recently.

Important Points

- Ela Ramesh Bhatt was an Indian cooperative organiser, activist and Gandhian, who founded the Self-Employed Women's Association of India in 1972, and served as its general secretary from 1972 to 1996.
- A lawyer by training, Bhatt was a part of the international labour, cooperative, women, and micro- finance movements.
- Elaben was born on September 7, 1933, in Ahmedabad, in a family that engaged in social causes.
- Her father, Sumant Bhatt, was a lawyer who served as a district judge and was later appointed the Charity Commissioner for Bombay and then Gujarat, where he supervised the work of all charitable organisations, trusts and NGOs.
- Her mother, Vanalila Vyas, served as secretary of the Gujarat branch of the All India Women's Conference for some time.
- The organisation, founded by Kamaladevi Chattopadhyay in 1927, worked for educational and social reforms.
- She is the recipient of national and international awards, including the Padma Bhushan, the Ramon Magsaysay Award, the Indira Gandhi Peace Prize and Right Livelihood Award.
- She was globally recognised as a woman leader who founded many institutions and carried out pioneering work in organising the informal sector for self-employment and empowerment of women not only in India but across South Asia.
- Elaben was the Chairperson of Sabarmati Ashram and recently resigned as the Chancellor of Mahatma Gandhi-founded Gujarat Vidhyapith.
- In 2007, she became part of a group of world leaders called the Elders, founded by Nelson Mandela to promote human rights and peace across the world.
- She was also a Member of the Rajya Sabha and of the Planning Commission of India in the 1980s.
- She served in many international organisations, including Women's World Banking, a global network of microfinance organisations, of which she was co-founder and had served as Chairperson.
- She also served as an advisor to the World Bank, and addressed the United Nations General Assembly.
- Founded by her in 1972, SEWA is one of the largest cooperatives working for women, with a base of over two million members from around 18 States in the country and in neighbouring nations.



Bonalu festival

Why in News

Rahul Gandhi participated in Telangana's traditional Bonalu festival.

Important Points

Rahul Gandhi, on day 57 of Congress' Bharat Jodo Yatra, participated in Telangana's traditional Bonalu festival and picked up a heavy rope and whipped himself as he donned the avatar of 'potharaju'.

What is Bonalu festival?

- Bonalu is a traditional Hindu festival centered on the Goddess Mahakali from Telangana.
- It is celebrated in the month of Ashada Masam, which is around July and/or August.
- The festival is also considered a thanksgiving to the Goddess for fulfillment of vows.
- The word Bonam is a contraction of the word Bhojanam, a Sanskrit loanword which means a meal or a feast in Telugu. It is an offering to the Mother Goddess.
- Women prepare rice cooked with milk and jaggery in a new brass or earthen pot adorned with neem leaves, turmeric, vermilion and a lit lamp on top of the pot.
- Women carry the pots on their heads and make an offering of the Bonam along with turmeric-vermilion, bangles and sari to the Mother Goddess across the temples.
- Bonalu involves the worship of Mother Goddess in regional forms like Maisamma, Pochamma, Yellamma, Peddhamma, Dokkamma, Ankamma, Poleramma, Maremma, Nookamma.
- Special “poojas” (worship/ ceremonies) are performed for Yellamma (one of the many regional forms of Mahakali) on the first and last day of the festival.
- Potharaju, a key figure in the Bonalu festival, is the fearsome brother of the goddess Mahankali, who wields a whip to protect the goddess.
- During Bonalu, women walk in procession to temples led by ‘potharaju’ who violently dances to loud drum beats and whips the crowd with his ropes.
- Potharaju is considered to be the brother of seven sister goddesses — different forms of the goddess Mahankali.

Edavalath Kakkat Janaki Ammal

Why in News

125th birth anniversary of Edavalath Kakkat Janaki Ammal, a pioneering botanist and the first Indian woman to be awarded a PhD in the botanical sciences was observed recently.

Important Points

- Janaki Ammal is known widely for her contributions to science – in the field of genetics, cytology, evolution, and more.
- Born in Thalassery in Kannur district of Kerala in 1897, Janaki Ammal moved to Madras (now Chennai) to obtain her Bachelors and Honors degrees at the Queen Mary's and Presidency College respectively.
- In 1925, at the University of Michigan in the USA where she did research on plant cytology (which focuses on the structure and function of cells), Janaki Ammal obtained a Master's degree.
- She also had brief stints in teaching at the Women's Christian College (WCC) in Madras as well as the Maharaja's College of Science in Thiruvananthapuram.
- Her work as a geneticist took her to the Sugarcane Breeding Institute at Coimbatore in Tamil Nadu from 1934 to 1939.
- According to scientist C V Subramanian's research piece 'Edavaleth Kakkat Janaki Ammal', she worked on making several intergeneric and interspecific hybrids involving sugarcane and related grass species.
- These works were highly significant, as she is believed to have been responsible for creating sugarcane hybrids that yielded sweeter sugar.
- She then left for England and worked as Assistant Cytologist at the John Innes Horticultural Institution in London and as Cytologist at the Royal Horticultural Society at Wisley during 1945–51.
- Along with C.D. Darlington, she authored 'The Chromosome Atlas of Cultivated Plants' in 1945 which contained her work on many species.
- To honour her work, the Royal Horticultural Society named a variety of Magnolia blossoms after her – the Magnolia Kobus Janaki Ammal.
- She returned to India in the 1950s. C V Subramanian's research piece also states that Janaki Ammal was invited by the then Prime Minister Jawaharlal Nehru to reorganise the Botanical Survey of India in 1951, which explores the plant resources of the country and identifies plant species with economic virtue.

- The range of roles she worked at included serving as the head of the Central Botanical Laboratory in Allahabad and as an Officer of Special Duty at the Regional Research Laboratory in Jammu and Kashmir.
- Her association with the Save the Silent Valley movement – a campaign to stop a hydroelectric project from flooding the Silent Valley forest in Palakkad district of Kerala – was well-known.
- She headed a chromosomal survey of the forest to assess and preserve the botanical knowledge of the area.
- The movement was successful when the forest was declared a national park later and the project was abandoned.
- She also worked on the cytogenetics of a range of plants and co-authored the Chromosome Atlas of Cultivated Plants (1945) with C.D. Darlington. She took an interest in ethnobotany and plants of medicinal and economic value from the rain forests of Kerala, India.
- She was awarded Padma Shri by the then prime minister of India in 1977.

Guru Nanak

Why in News

The 553rd birth anniversary of Sikh Guru Nanak Dev is celebrated on November 8, 2022.

Important Points

- The sacred festival of Guru Nanak Jayanti, also known as Gurmurab, Prakash Parv and Guru Nanak's Prakash Utsab, is right around the corner.
- It is one of the most important days of Sikhism and marks the birth anniversary of the first of the ten Sikh gurus and the founder of Sikhism, Guru Nanak Dev Ji.
- It is observed annually on the full moon date of the Kartik month or Kartik Purnima.
- The festival is honoured by Sikhs all across the globe with utmost love and reverence.



When is Guru Nanak Jayanti 2022?

- Guru Nanak Jayanti or Gurmurab is on November 8, 2022.
- It will be observed as the 553rd birth anniversary of Guru Nanak Dev Ji.
- While Diwali falls on the 15th day of the Kartik month as per the Lunar calendar, Guru Nanak Jayanti falls fifteen days after the festival of lights on the auspicious occasion of Kartik Purnima. T
- his year, on the occasion of Kartik Purnima, a total Lunar Eclipse or Chandra Grahan (also known as the Blood Moon) will take place.

About Guru Nanak Dev

- Guru Nanak Dev Ji was born in 1469 at Talwandi Nankana Sahib.
- It is believed that Guru Nanak Dev Ji laid the foundation of the Sikh religion and brought enlightenment to this world.
- The festival honours his life, achievements and legacy.
- Guru Nanak Dev Ji believed one can connect to the almighty through sincere prayers.

- All his teachings are composed together to form the sacred book called Guru Granth Sahib - the central holy religious scripture of Sikhism.
- Guru Granth Sahib is regarded as the final, sovereign and eternal Guru.
- The verses preach selfless service to humanity, prosperity and social justice for all, irrespective of differences.
- On this day, a 48-hour non-stop recitation of the Guru Granth Sahib, called Akhand Path, is held in the Gurudwaras. Additionally, a procession called Nagarkirtan is organised a day before Guru Nanak's birthday, led by five men called the Panj Pyare, who hold the Sikh triangular flag, Nishan Sahib.
- During the procession, the Guru Granth Sahib is placed in a palanquin, and people sing hymns in groups, play traditional musical instruments, and display their martial art skills.

National Florence Nightingale Awards 2021

Why in News

Nursing officer from Chandigarh's GMSH-16 wins National Florence Nightingale Award 2021

Important Points

- The President of India, Smt Droupadi Murmu presented the National Florence Nightingale Awards for the year 2021 to the Nursing professionals at Rashtrapati Bhavan.
- The award was conferred on as many as 51 nurses from across the country at the Rashtrapati Bhavan in New Delhi.
- The National Florence Nightingale Awards were instituted in the year 1973 by the Ministry of Health and Family Welfare, Government of India as a mark of recognition for the meritorious services rendered by the nurses and nursing professionals to the society.

Who is Florence Nightingale?

- Florence Nightingale, byname Lady with the Lamp, British nurse, statistician, and social reformer who was the foundational philosopher of modern nursing.
- She was born in Florence, Italy, on May 12, 1820, and was named after her birthplace, where her parents.
- However, she grew up and spent her life in England, living in Derbyshire, Hampshire, and London.
- Nightingale was put in charge of nursing British and allied soldiers in Turkey during the Crimean War.
- She spent many hours in the wards, and her night rounds giving personal care to the wounded established her image as the "Lady with the Lamp."
- Her efforts to formalize nursing education led her to establish the first scientifically based nursing school—the Nightingale School of Nursing, at St. Thomas' Hospital in London.
- She also was instrumental in setting up training for midwives and nurses in workhouse infirmaries.
- In 1859 she published her book Notes on Nursing: What It Is, and What It Is Not, a step-by-step guide explaining her methods for attending to the sick.
- She was the first woman awarded the Order of Merit (1907).
- International Nurses Day, observed annually on May 12, commemorates her birth and celebrates the important role of nurses in health care.
- WHO designated the year 2020 as the "Year of the Nurse and midwife", in honour of the 200th birth anniversary of Florence Nightingale.



Baliyatra

Why in News

Prime Minister Narendra Modi mentioned the annual Baliyatra on the banks of the Mahanadi in Cuttack

Important Points

- In his address to the Indian diaspora in Bali on the sidelines of the G20 summit, Prime Minister Narendra Modi mentioned the annual Baliyatra on the banks of the Mahanadi in Cuttack, which celebrates the ancient trade relations between India and Indonesia.
- This year's Baliyatra also found a place in the Guinness World Records for achieving an impressive feat of origami, the creation of beautiful paper sculptures.

Historical significance

- Baliyatra, literally 'voyage to Bali', is one of the country's largest open-air fairs, which is organised every year to commemorate the 2,000-year-old maritime and cultural links between ancient Kalinga (today's Odisha) and Bali and other South and South-east Asian regions like Java, Sumatra, Borneo, Burma (Myanmar) and Ceylon (Sri Lanka).
- The origins of the festival, which begins on Kartik Purnima (full moon night in the month of Kartik) can be traced back more than 1,000 years.
- The Bay of Bengal region had several ports, and sadhavas (traders) traditionally began their voyage across the sea on this auspicious day, when the winds were favourable for the boats, known as boita, to sail.
- According to historians, popular items of trade between Kalinga and Southeast Asia included pepper, cinnamon, cardamom, silk, camphor, gold, and jewellery.
- Even today, thousands of people across Odisha sail decorative miniature boats made of banana stems, paper, or thermocol to celebrate boita bandana, or the worshipping of the boats.



Business of festivities

- The festival is organised by the Cuttack district administration and Cuttack Municipal Corporation in association with several other government agencies.
- Lakhs of people from Cuttack and neighbouring districts throng the fair site by the Mahanadi through the nine-day festival.
- Besides the cultural and historical aspects, Baliyatra has an important commercial dimension.
- It is a time when people purchase everything from automobiles and electronic devices to local artisanal products at prices that are comparatively low.
- The district administration allots more than 1,500 stalls to traders through an auction, and the fair is estimated to see business worth more than Rs 100 crore over its nine days.

Bigger after pandemic

- Massive arrangements were made for this year's Baliyatra after the Covid-induced disruptions in 2020 and 2021.
- The festival, which is usually held in a 35-acre area, sprawled over 85 acres this year.
- People come to relish a range of foods and cultural evenings see performances from folk dancers as well as classical artists and celebrities, even as swings, Ram Dolis, and the sounds of toy trumpets lend the fair a rustic charm.
- At a special event organised at the Barabati Stadium this year, over 2,100 students made over 22,000 paper boats at a single venue in 35 minutes, an achievement that was recognised by Guinness, and achieved the objective of getting global attention for the festival.

Lachit Borphukan

Why in News

PM addresses closing ceremony of year-long celebrations of 400th birth anniversary of Lachit Borphukan in New Delhi

Important Points

- The Prime Minister, Shri Narendra Modi addressed the closing ceremony of the year-long celebrations of the 400th birth anniversary of Lachit Borphukan in New Delhi.
- The Prime Minister also released the book - 'Lachit Borphukan - Assam's Hero who Halted the Mughals' on the occasion.
- Lachit Borphukan (24th November 1622 — 25th April 1672) was the famous General of the Royal Army of the Ahom Kingdom of Assam who defeated the Mughals and successfully halted the ever-expanding ambitions of the Mughals under Aurangzeb.
- Lachit Borphukan inspired the Assamese soldiers in the Battle of Saraighat fought in 1671, and delivered a crushing and humiliating defeat on the Mughals.
- The heroic fight of Lachit Borphukan and his army remains one of the most inspiring military feats of resistance in the history of our country.
- The Prime Minister complimented the Assam Government for taking steps to celebrate the legacy of its heroes.
- He mentioned the projects like a museum and a memorial in Assam to honour its heroes.
- Lachit Borphukan's life inspires us to live the mantra of 'Nation First.' His life inspires us to rise above self and to give the highest priority to the national interest.
- His life teaches us that instead of nepotism and dynasty, the country should be supreme.
- The Prime Minister suggested creating a grand theatre play on Lachit Borphukan on the lines of the one on Chhatrapati Shivaji Maharaj and taking that to every corner of the country.
- This will give a great boost to the resolution of 'Ek Bharat, Shreshtha Bharat'.



Birsa Munda

Why in News

On the occasion of the birth anniversary of tribal leader Birsa Munda, the Centre marked the second Janjatiya Gaurav Divas.

Important Points

- Birsa Munda was an Indian tribal freedom fighter, and folk hero who belonged to the Munda tribe.
- He spearheaded a tribal religious millenarian movement that arose in the Bengal Presidency in the late 19th century, during the British Raj, thereby making him an important figure in the history of the Indian independence movement.
- The revolt mainly concentrated in the Munda belt of Khunti, Tamar, Sarwada and Bandgaon.
- The Munda tribe inhabited the Chota Nagpur region of today's Jharkhand. When Birsa Munda was born in 1875, the British were attempting to establish control over and exploit forest lands, disrupting the tribal way of life.
- This was done in part by allying with local zamindars, who helped force the tribals into bonded labour.
- A feudal zamindari system was introduced, destroying the tribal "Khuntkatti" agrarian and land ownership system that was more community-based.
- The Raj brought in outsiders — moneylenders and contractors, as well as feudal landlords — to aid them.

- Munda received his early education under the guidance of his teacher Jaipal Nag. Influenced by him, Birsa converted to Christianity in order to join the German Mission school. He, however, opted out of the school after a few years.
- With the impact of British rule in the region, as well as the activities of Christian missionaries, many tribals became critical of the British and missionaries' presence.
- From 1886 to 1890, Birsa Munda spent a large amount of time in Chaibasa, which was close to the centre of the Sardari agitation.
- The Sardars' activities had a strong impact on him and he became a part of the anti-missionary and anti-government programmes.
- Birsa soon emerged as a tribal leader who brought people together on fighting for these issues.
- He became a God-like figure, with him leading the faith of 'Birsait'. Soon, members of the Munda and Oraon communities started joining the Birsait sect and it turned into a challenge to British conversion activities.

The Ulgulan movement

- The Ulgulan movement of 1899 also involved the use of weapons and guerrilla warfare to drive out foreigners.
- Munda encouraged the tribals to refuse following colonial laws and paying rent.
- He encouraged changes in the social sphere too, challenging religious practices to fight against superstition, and became known as 'Bhagwan' (God) and 'Dharati Aba' (Father of the earth) by his followers.
- But the British were soon able to halt the movement. On March 3, 1900, Munda was arrested by the British police while he was sleeping with his tribal guerilla army at Jamkopai forest in Chakradharpur.
- It is believed he died in Ranchi jail due to an illness on June 9, 1900, at the young age of 25.
- Though he lived a short life and the movement died out soon after his death, Birsa Munda is known to have played a significant role in mobilising the tribal community against the British and forcing the colonial officials to introduce laws protecting the land rights of the tribals.

Kashi Tamil Sangamam

Why in News

A month-long Kashi-Tamil Sangamam in Varanasi has begun recently.

Important Points

Kashi Tamil Sangamam event

- The month-long Kashi Tamil Sangamam, which began in Varanasi recently celebrates the many aspects of the historical and civilisational connection between India's North and South.
- Some 2,400 people from Tamil Nadu will be taken to Varanasi in groups for visits that will last eight days and will include, besides an immersive local experience, trips to Ayodhya and Prayagraj.
- The broader objective is to bring the two knowledge and cultural traditions (of the North and South) closer, create an understanding of our shared heritage and deepen the people-to-people bond between the regions.
- This is in sync with the National Education Policy, 2020 which emphasises on nurturing a generation that is modern and in sync with the 21st-century mindset, while being rooted in the Indian culture and ethos.
- BHU and IIT-Madras are knowledge partners for the event, and the Ministries of Culture, Tourism, Railways, Textiles and Food Processing have been roped in as stakeholders, besides the government of Uttar Pradesh and the Varanasi administration.
- Educationist Chamu Krishna Shastry, chairman of the Bharatiya Bhasha Samiti under the Ministry of Education that proposed the Sangamam.
- The connection between the traders dealing in silk saris and textiles from Banaras and Kanchipuram, and architectural, culinary, and other kinds of connections are evident.

History of ties between Kashi and Tamil Nadu

- The connection between Kashi and the Tamil region is deep and old.
- Legend has it that King Parakrama Pandya, who ruled over the region around Madurai in the 15th century, wanted to build a temple to Lord Shiva, and he travelled to Kashi to bring back a lingam.
- While returning, he stopped to rest under a tree — but when he tried to continue his journey, the cow carrying the lingam refused to move.
- Parakrama Pandya understood this to be the Lord's wish, and installed the lingam there, a place that came to be known as Sivakasi.
- For devotees who could not visit Kashi, the Pandyas had built the Kasi Viswanathar Temple in what is today Tenkasi in southwestern Tamil Nadu, close to the state's border with Kerala.
- Much later, another king, Adhivir Ram Pandyan, after returning from a pilgrimage to Kashi, constructed another Shiva temple in Tenkasi in the 19th century
- Sant Kumara Gurupara from Thoothukudi district had negotiated with the princely state of Kashi to get a place for the consecration of Kedarghat and Vishvesvaralingam in Varanasi. He also composed Kashi Kalambagam, a collection of grammar poems on Kashi.
- People from Rameswaram would take a dip in the Koti teertha (in the temple) before visiting Kashi for darshan; and they would bring back (Ganga) water from Kashi for abhiseka at the temple in Rameswaram.
- Only this would complete their pilgrimage at a time when it took six months to travel between Kashi and Rameswaram.

Sir C P Ramaswamy Iyer

Why in News

Amid the ongoing tussle between the LDF government in Kerala and the governor, some traded allegations over the erstwhile Travancore Diwan, Sir CP Ramaswamy Iyer.

Important Points

- Claiming that the Left dispensation was attempting to “demean” the constitutional post of the Governor and create “constitutional anarchy” in the state, former Union minister Javadekar alleged that Sivankutty had threatened the Governor by reminding him of the assassination bid against Sir C P Ramaswamy Iyer in 1947.
- Stating that Iyer was a good administrator and anarchists attempted to take his life, Javadekar alleged that the Kerala minister “was doing the same thing by reminding Governor Arif Mohammed Khan of the incident.”
- Sivankutty hit back saying that the Diwan had tried to keep Travancore an independent country without joining India or Pakistan.
- Claiming that Pakistan had supported Iyer's move, Sivankutty said that the BJP leader was hailing a person who worked against the integrity of India with the support of Pakistan.

Who was Sir CP Ramaswamy Iyer?

- Sir Chetput Pattabhiraman Ramaswamy Iyer, popularly known as ‘Sir CP’, was the Diwan of the erstwhile Travancore princely state from 1936 to 1947.
- A lawyer who served as the Advocate-General of Madras Presidency from 1920 to 1923, CP rose to glorious heights as he found favour with both the crown prince Sri Chithira Thirunal Bala Rama Varma and Lord Willingdon, the Viceroy of India. Serving as Adviser to the prince between 1931 and 1936, Sir CP was personally requested by Sri Chithira Thirunal in 1936 to be the Diwan of Travancore, an offer he accepted and served at the position for 10 years.



Assassination attempt on CP and the end of independent Travancore mission

- On June 3, 1947, Britain announced its intention to quit India, while also accepting demands for the country's partition. Following this, the Indian Independence Act of 1947 — a legislation of the United Kingdom Parliament — gave princely states the option to accede to the newly divided territories of India or Pakistan, or continue as an independent sovereign state.
- Maharaja Sri Chithira Thirunal, who wished to stay independent, was supported by Sir CP, who declared his intention of forming an independent state of Travancore that would be open to the idea of signing a treaty with the Indian union.
- According to historian Ramachandra Guha, Sir CP, being strongly pressed by Mohammed Ali Jinnah, also maintained secret relations with senior ministers of the British government, who encouraged him to not merge with India.
- According to a report in Manorama Online, Viceroy Lord Mountbatten, following his meeting with Sir CP in Delhi on July 22, 1947, had stated: "He (CP) declared that Travancore could never accede to the Dominion of India: he had indeed made preliminary terms with Mr Jinnah, including a trade agreement."
- Guha also writes that Jinnah wired Iyer on June 20, 1947, to say that Pakistan was "ready to establish relationship with Travancore which will be of mutual advantage."
- Amid his dream of an independent state, Sir CP became more unpopular as he proposed an 'American model' for Travancore. Communists were opposed to his move and the struggle against the Travancore Kingdom led to the merger of socialist parties, creating a new radical communist party.
- Further, severe famine conditions during the Second World War, that killed over 21,000 peasants in Cherthala taluk alone, spewed discontent against the Diwan, who was accused of not helping the poor during the famine.
- His policies led to a massive uprising, the Punnappa-Vayalar revolt, which was suppressed by the Travancore army and navy. As over 2,000 communists fiercely attacked police stations across Alappuzha, the crackdown they faced were brutal, with noted historian Sreedhara Menon estimating the casualties to be around 1000.
- The anger and discontent culminated into an assassination attempt on Sir CP on July 25, 1947, at a concert commemorating the anniversary of Swati Thirunal.
- The attempt was carried out by a member of the Kerala Socialist Party, and the Diwan survived with multiple stab wounds. Soon after, he agreed to the accession of Travancore state to the Indian Union, following which he resigned and left for London.

Taklung Setrunga Rinpoche

Why in News

Recently, the Nyingma sect of the Tibetan Buddhist circles has identified a boy from Spiti in Himachal Pradesh as the reincarnation of the late Taklung Setrunga Rinpoche

Important Points

Taklung Setrunga Rinpoche

- He was a scholar known for his knowledge of Tibetan Tantric school.
- The Rinpoche used to live in the Takthok monastery of Ladakh, one of the oldest monasteries related to the Nyingma sect.
- He was born in 1926 in central Tibet near the famous Yamdrok Lake, and he was recognized as an incarnation of the great master Ngok Chöku Dorje.
- The prominent Dorje Drak affiliated Taklung Tse monastic center, the head of which he is considered to be, used to be located near his birthplace in Taklung region.
- He lived in exile in Simla, Himachal Pradesh and Ladakh, Jammu and Kashmir.

About Nyingma sect

- It is the oldest of the four major schools of Tibetan Buddhism.
- It is also often referred to as Ngagyur, "order of the ancient translations".

- The Nyingma school is founded on the first lineages and translations of Buddhist scriptures from Sanskrit into Tibetan in the eighth century, during the reign of King Trisong Detsen (r. 710–755).
- Nyingma traditional histories consider their teachings to trace back to the first Buddha Samantabhadra (Güntu Sangpo) and Indian mahasiddhas such as Garab Dorjé, Śrī Si ha and Jñānasūtra.
- Traditional sources trace the origin of the Nyingma order in Tibet to figures associated with the initial introduction of Buddhism in the 8th century, such as Padmasambhava, Yeshe Tsogyal, Vimalamitra, Vairotsana, Buddhaguhya and Shantaraksita.
- The Nyingma tradition is also seen having been founded at Samyé, the first monastery in Tibet.
- Nyingma teachings are also known for having been passed down through networks of lay practitioners or ngagpas .
- While the Nyingma contains most of the major elements of Tibetan Buddhism as do the other Tibetan schools, they also have some unique features and teachings.
- Nyingma teachings include a distinctive classification of Buddhist vehicles to liberation, called the nine vehicles.
- This schema places the Nyingma teachings of the “Great Perfection” (Dzogchen) as the highest of all Buddhist teachings.
- As such, the Nyingmas consider the Dzogchen teachings to be the most direct, profound and subtle path to Buddhahood.
- The main Dzogchen sources (like the Seventeen tantras) are seen as communicating a path that goes beyond the methods of Highest Yoga Tantra (which are seen as supreme in other schools of Tibetan Buddhism).
- The most influential Nyingma scholar yogi of the Great Perfection is Longchenpa (1308–1364), and his voluminous works mark a turning point in the scholastic systematization and refinement of the Nyingma Dzogchen system.
- The Nyingma school also has an important tradition of discovering and revealing “hidden treasure texts” called Termas, which allows the treasure discoverers or tertöns to reveal new timely scriptures. Many Nyingma lineages are based on particular termas.
- The followers of the sect are spread across Tibet, Bhutan, Ladakh, Sikkim and other Himalayan Buddhist pockets.

Kathakar

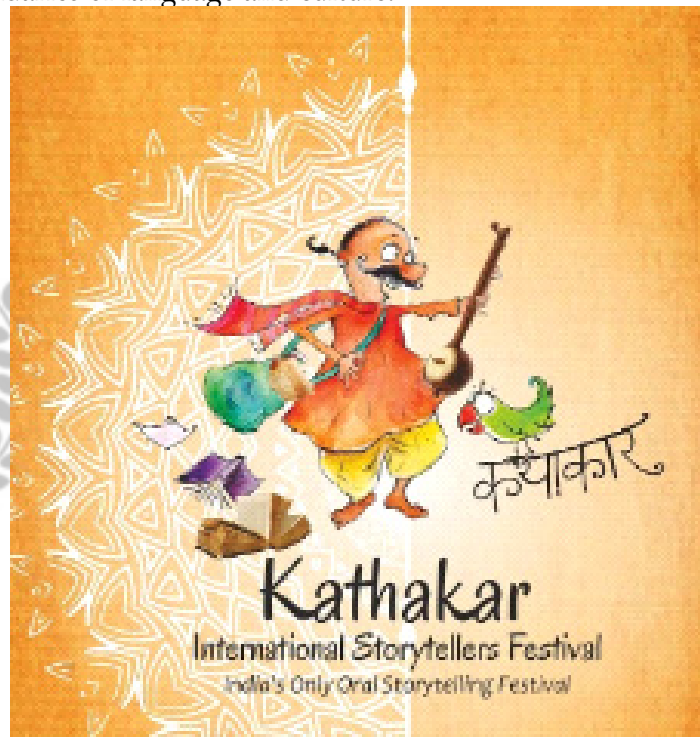
Why in News

Ministry of Culture partners with Kathakar under Azadi ka Amrit Mahotsav to take storytelling among the people.T

Important Points

- The 15th edition of Kathakar will be inaugurated by Shri Kiren Rijiju, Union Minister of Law and Justice and Smt Meenakshi Lekhi, Minister of State for External Affairs and Culture.
- This year Kathakar partners with Ministry of Culture under Azadi ka Amrit Mahotsav and the event will take place at Amphitheatre Central Vista India Gate as Kalanjali.
- The storytelling sessions will be held at Sunder Nursery, Heritage Park in Delhi and at Central Vista, India Gate.
- The festival will showcase in its pristine physical form amazing stories and music by Indian and International storytellers from seven countries—United Kingdom; Australia; Mongolia; Israel; Sierra Leone; Korea; and India.
- The art of storytelling in India has many forms and utilizes many mediums.
- Despite differences in settings, genres, or cultures, all stories ultimately aim to convey something universal.
- They serve both an educational and entertainment purpose for audiences.
- It's clear that different sections of India's culture has its own distinct approach to storytelling.
- Puppets, dance, or even musical instruments are used as props to help the narrator make storytelling more impactful. Hence, Kathakar, the sole celebration of India's rich oral storytelling tradition, which was started under the umbrella of Ghummakkad Narain Travelling Literature Festival was launched in 2010.

- This year's Kathakar 2022 aim is twofold: to ensure the conservation of oral storytelling tradition and increase its popularity. This year's Kathakar will feature big names and events, including:
 - o For the first time, powerhouse performer, Nawazuddin Siddiqui (Bollywood actor) will be narrating stories and will be in Conversation with Mohit Chauhan, noted music composer, singer who is also the patron of the festival;
 - o Sufi musical night by Satpal Wadali, son of Padmashree Pyarelal Wadali;
 - o The festival this year will have an event titled Kisse, Kahani aur Cinema, in which Prarthana Gahilote will be in conversation with ace actor Sanjay Mishra at the Central Vista at India Gate;
 - o Another scheduled event is Kisse, Kahani aur Guftagu, in which Mohit Chauhan will be in conversation with stellar film maker Imtiaz Ali from Bollywood;
 - o Kabir Vani by Prahlad Singh Tipania
 - o Shadow puppet play of the Ramayana from Kerala by Ramchandra Pulavar and team.
- Kathakar 2022—a marquee event to revive the traditional style of storytelling in a world dominated by hi-tech gizmos and gadgets—will thus feature professional and passionate storytellers from the country and abroad who will showcase their mesmerizing craft to underscore the fact that storytelling cuts across all boundaries of language and culture.



Transform IAS
Education

Chapter-

2

POLITY & GOVERNANCE

Anti-Superstition

Why in News

Where Does India Stand On Anti-Superstition And Black Magic Legislations?

Important Points

- In the aftermath of the alleged human sacrifice of two women in Kerala, the state has stressed the need for a new legislation to curb such superstitious practices and urged strict implementation of the existing laws in this regard.
- The "witchcraft killing" that took place in Elanthoor of Pathanamthitta district has recast a focus on the severity of superstitious beliefs existing in the state and the necessity for a strong fight against the menace.
- Does India's current legislative framework talk about human sacrifice?
- While presently there exists no nationwide legislation to deal with superstitious practices, black magic, or human sacrifice in particular, certain sections of the Indian Penal Code enlist penalties applicable for such incidents.
- Section 302 (punishment for murder) takes cognisance of human sacrifice, but only after the murder is committed.
- Likewise, Section 295A (Deliberate and malicious acts, intended to outrage religious feelings of any class by insulting its religion or religious beliefs) works to discourage such practices.
- Furthermore, Article 51A (h) of the Indian Constitution makes it a fundamental duty for Indian citizens to develop the scientific temper, humanism and the spirit of inquiry and reform.
- Other provisions under the Drugs and Magic Remedies Act of 1954 also aim to tackle the debilitating impact of various superstitious activities prevalent in India.

What do the state-specific laws say?

- The state of Bihar emerged the pioneer in enacting a law to deal with superstitious practices in 1999.
- The Prevention of Witch Practices Act was amongst the first in India to address witchcraft and inhumane rituals.
- The state of Maharashtra followed in 2013 to enact the Maharashtra Prevention and Eradication of Human Sacrifice and Other Inhuman, Evil and Aghori Practices and Black Magic Act, which banned the practice of human sacrifice in the state.
- A section in the legislation specifically deals with claims made by 'godmen' who say they have supernatural powers.
- Additionally, the law also makes it possible to curtail activities of so-called godmen before they become too powerful to effectively address the menace of exploitation in the name of religion.
- Likewise, the state of Karnataka too effected a controversial anti-superstition law in 2017 known as the Karnataka Prevention and Eradication of Inhuman Evil Practices and Black Magic Act.

THE ANTI-SUPERSTITION
AND BLACK MAGIC BILLDABHOLKAR
WANTED BAN ON

- Magical rites in the name of a supernatural power
- Offering talismans and charms for exorcism

- Claiming or advertising supernatural powers

- Claiming to be a reincarnation of gods or saints

- Claiming to be possessed by divine evil power and then perform miracles in the name of such powers

Punishing mentally ill patients in the belief that they are possessed by evil spirits

- Performing "Gopal Santan Vidhi" to beget a male offspring

- Opposing scientific medical treatment

- It comprehensively counters “inhumane” practices linked to religious rituals including performing any inhumane act, evil practices and black magic in search of treasure, bounty, tantric acts including physical and sexual assault, creating impression of ‘possession’ and exorcism or assaulting people under the garb of exorcism, making claims of healing power, coercing people to perform fire-walking, and so on.
- The Karnataka law also particularly lists out penalties for spreading misinformation and creating panic in the garb of ghosts or black magic.

Are there any legal precedents in this regard?

- In 2019, a district court in Chandigarh sentenced a man to life imprisonment till his natural death for brutally slitting the throat of a four-year-old girl in the name of human sacrifice.
- The court also imposed a fine of Rs 25,000 on the accused and punished him under Section 302 of the IPC.

Why is there a need for a country-wide Anti-superstition and Black Magic Act?

- Allowing the unhindered continuance of such practices violates an individual’s fundamental right to equality and right to life under Articles 14 and 21 of the Indian Constitution respectively.
- In the absence of measures to tackle superstitions, unscientific and irrational practices such as faith healing, quackery, and misinformation regarding medical procedures can also balloon up, which can have severe detrimental effects on public order and health of citizens.
- However, it is pertinent to remember that bringing a legislation to deal with this social issue shall only mean half the battle won, wherein meaningful reform will need to increase awareness among the masses through information campaigns, and by roping in community/religious leaders to debunk the myths surrounding such practices.

Indian-origin Tamils

Why in News

A pathway to citizenship for Indian-origin Tamils

Important Points

- The Supreme Court of India has now posted the 232 petitions challenging the Citizenship (Amendment) Act (CAA) to be heard on December 6, 2022.
- However, there is another issue linked to the subject, i.e., the unresolved status of Indian-origin Tamils who repatriated from Sri Lanka.
- For over four decades, nearly 30,000 Indian-origin Tamils have been classified as stateless persons, based on technicalities.
- Given their genealogical link to India, the Government of India needs to consider extending citizenship benefits to them in accordance with Indian bilateral obligations and international humanitarian principles and international conventions.
- Under the British colonial government, Indian-origin Tamils were brought in as indentured labourers to work in plantations.
- They remained mostly legally undocumented and socially isolated from the native Sri Lankan Tamil and Sinhalese communities due to the policies of the British.
- After 1947, Sri Lanka witnessed rising Sinhalese nationalism, leaving no room for their political and civil participation.
- They were denied citizenship rights and existed as a ‘stateless’ population, numbering close to 10 lakh by 1960.
- As an ethno-linguistic minority without voting rights, this resulted in a double disadvantage till the two national governments addressed this issue.

Constitutional provisions for Citizenship in India:

- Article 5: All those domiciled and born in India were given citizenship.
- Article 6: It provided the rights of citizenship of certain persons who have migrated to India from Pakistan.

- Article 7: Provided Rights of citizenship of certain migrants to Pakistan.
- Article 8: Provided Rights of citizenship of certain persons of Indian origin residing outside India.
- Article 9: Provided that if any person voluntarily acquired the citizenship of a foreign State will no longer be a citizen of India.
- Article 10: Every person who is or is deemed to be a citizen of India under any of the foregoing provisions of this Part shall, subject to the provisions of any law that may be made by Parliament, continue to be such citizen.
- Article 11: It empowers Parliament to make any provision with respect to the acquisition and termination of citizenship and all matters relating to it.

Statehood Demand

Why in News

Protests in Leh, Kargil for Statehood as Ladakh completes 3 years as U.T.

Important Points

- Ladakh's twin districts of Kargil and Leh witnessed street protests to press for demands of Statehood and special status under the Sixth Schedule, as the region completed three years of Union Territory (U.T.).
- Hundreds of protesters raised slogans like "Home Minister pay attention, we are not begging" and "Pay attention, we are demanding our rights" and marched on the streets.
- In Leh, the street protest was spearheaded by the Apex Body-Leh (ABL), an amalgam of religious and political parties in the district.
- In Kargil, the Kargil Democratic Alliance, an amalgam of religious and political parties, organised street rallies in the town.

Panel formed

- On January 6, 2021, Union Home Minister constituted a committee under Minister of State Home G. Kishan Reddy to have a dialogue with the representatives from Ladakh "to find an appropriate solution to the issues related to language, culture and conservation of land in Ladakh".
- The KDA and Apex Body-Leh (ABL) have been jointly fighting for the restoration of Statehood and special status under the Six Schedule on the lines of rights granted to the tribal areas of Assam, Meghalaya, Tripura and Mizoram to safeguard local culture, language and demography.
- Meanwhile, the government issued a notification empowering the Lieutenant Governor (L-G) of Ladakh to make rules for recruitment to the Public Services, Group-A and Group-B gazetted posts.
- The notification empowered the L-G "to regulate the recruitment of the posts and necessary qualifications for those posts and service conditions like probation, seniority confirmation and promotions of the persons appointed".
- "The UT shall obtain prior approvals from the Centre in respect of the rules, wherever it is applicable," the order said.

Constitutional Provision

- The Sixth Schedule under Article 244 provides for the formation of autonomous administrative divisions that have some legislative, judicial and administrative autonomy within a state.
- In September 2019, the National Commission for Scheduled Tribes recommended the inclusion of Ladakh under the Sixth Schedule, noting that the new UT was predominantly tribal (more than 97%), people from other



parts of the country had been restricted from purchasing or acquiring land there, and that its distinct cultural heritage needed preservation.

- Besides statehood and demographic safeguards, Ladakh also wants representation in Parliament.
- When J&K's special status was abrogated in 2019 and the state downgraded to two Union territories, Ladakh was made a Union territory without a legislature.
- Leaders say that in the absence of political supervision, bureaucrats now run the show in the two autonomous and powerful development councils for Leh and Kargil
 - o Article 2 of the Constitution of India vests in the Indian Parliament the exclusive power to admit or establish new states into the Indian Union on such terms and conditions as the Parliament may provide for. This authority is with the Indian Parliament only and the State legislatures have no power to frame laws on this subject matter.
 - o Article 3 of Indian Constitution addresses the topic of 'Formation of new States and alteration of areas, boundaries or names of existing States'. It says; Parliament may by law
 - (a) form a new State by separation of territory from any State or by uniting two or more States or parts of States or by uniting any territory to a part of any State;
 - (b) increase the area of any State;
 - (c) diminish the area of any State;
 - (d) alter the boundaries of any State;
 - (e) alter the name of any State.

Child Welfare Police Officer

Why in News

The Ministry of Home Affairs has asked the States/Union Territories to appoint a Child Welfare Police Officer (CWPO) in every police station to exclusively deal with children, either as victims or perpetrators.

Important Points

- Acting on an advisory issued by the National Commission for Protection of Child Rights, the Home Ministry referred to provisions under the Juvenile Justice (Care and Protection of Children) Act, 2015, which calls for designating at least one officer, not below the rank of an Assistant Sub-Inspector, CWPO in every police station.
- The Home Ministry said the Commission had further requested that a Special Juvenile Police Unit in each district and city headed by an officer not below the rank of a Deputy Superintendent of Police be established.
- The unit would comprise CWPOs and two social workers having experience of working in the field of child welfare, of whom one shall be a woman, to co-ordinate all functions of police in relation to children.
- The contact particulars of the CWPOs should be displayed in all police stations for the public to contact.
- Ministry also referred to provisions under the Juvenile Justice (Care and Protection of Children) Rules, 2016, which prescribed specific roles for CWPOs and the Special Juvenile Police Unit in cases of child rights violations.

Crimes against children in India

- The advisory comes in the backdrop of increasing number of crimes against children, including murders and offences under the Protection of Children from Sexual Offences (POCSO) Act.
- Going by the data published by the National Crime Records Bureau, the total number of crimes against children increased from 1,28,531 in 2020 to 1,49,404 in 2021.
- While Madhya Pradesh topped the country with 19,173 cases, Uttar Pradesh stood second with 16,838 cases.
- A total of 1,402 children were murdered in 1,279 cases reported across the country.
- More than one lakh cases of kidnapping and abduction involving around 1 lakh children were reported in 2021.
- Uttar Pradesh, Maharashtra, and Madhya Pradesh topped the list in these cases.

22nd Law Commission

Why in News

Recently, the Union Government has constituted the Law Commission of India.

Important Points

- The Centre constituted the Law Commission of India with Justice (ret'd) Rituraj Awasthi, former Chief Justice of Karnataka High Court, at its head.
- Law Minister Kiren Rijiju tweeted that the other five members on the panel would be former Kerala High Court judge Justice K T Sankaran, M Karunanithi, and law professors Anand Paliwal, D P Verma, and Raka Arya.
- The Law Commission of India had been remaining vacant since August 31, 2018, after the retirement of the Chairperson of the 21st Commission, former Supreme Court judge Justice BS Chauhan.
- The 22nd Commission was constituted two and a half years after it was approved by the Union Cabinet in 2020.
- The Commission headed by Justice Awasthi is the 22nd Law Commission of India.

Law Commission of India

- It is a non-statutory body that is constituted by a notification of the Government of India, with definite terms of reference to carry out research in the field of law.
- The Commission makes recommendations to the Government (in the form of Reports) as per its terms of reference.
- It provides excellent thought provoking and vital review of the laws in India.
- The Commission's function is to research and advise the Government of India on legal reform, and is composed of legal experts, and headed by a retired judge.
- The commission is established for a fixed tenure and works as an advisory body to the Ministry of Law and Justice.
- The first Law Commission was established during colonial rule in India, by the East India Company under the Charter Act of 1833, and was presided by Lord Macaulay.
- Few of the most important recommendations made by this First Law Commission were those on, Indian Penal Code (first submitted in 1837 but enacted in 1860 and still in force), Criminal Procedure Code (enacted in 1898, repealed and succeeded by the Criminal Procedure Code of 1973), etc.
- Thereafter three more Law Commissions were established which made a number of other recommendations, the Indian Evidence Act (1872) and Indian Contract Act (1872), etc. being some of the significant ones.
- The first Law Commission of independent India was established in 1955 for a three-year term. Since then, twenty one more Commissions have been established

Strengthening Justice Delivery System

Constitution of 22nd Law Commission of India
The Law Commission of India will:



Identify laws which are no longer relevant & can be immediately repealed



Examine the existing laws in the light of Directive Principles of **State Policy**



Undertake research for bringing reforms in the **justice delivery systems**



Convey to Govt its views on subject relating to **judicial administration**; research to any foreign countries; simplification of **Central Acts**

Gram Nyayalayas

Why in News

The Supreme Court has recently sought a reply from all high courts on a plea for the Centre and all states to take steps to set up 'Gram Nyayalayas' under the supervision of the apex court.

Important Points

- The bench was hearing a PIL filed by National Federation of Societies for Fast Justice seeking the implementation of the Gram Nyayalayas Act.
- The plea contended that sections in the Act provide that the state government in consultation with the high court will appoint a 'Nyayadhikari' for each 'Gram Nyayalaya'.

- The bench said the high courts should be made a party in the matter as they are the supervisory authority. After hearing arguments, the bench issued notice to the Registrar General of all high courts and made them parties in the case.
- The Union Government has taken a stand that the establishment of Gram Nyayalayas by the States is not mandatory as the Act uses the word “may” instead of “shall”.

About Gram Nyayalayas

- In 2008, the Parliament passed an Act for setting up ‘Gram Nyayalayas’ at the grassroots level for providing access to justice to citizens at the doorstep.
- Gram Nyayalayas Act, 2008 was enacted for establishment of Gram Nyayalayas or village courts for speedy and easy access to justice system in the rural areas of India. The Act came into force from 2 October 2009.
- As per the act Gram Nyayalayas shall exercise both civil and criminal jurisdiction in the manner and to the extent provided under the act.
- In 2020, the top court directed the state governments, which are yet to come out with notifications for establishing ‘Gram Nyayalayas’, to do so.
- It also asked the high courts to expedite the process of consultation with state governments

50th Chief Justice of India

Why in News

D.Y. Chandrachud is sworn in as the 50th Chief Justice of India

Important Points

- Succeeding the CJI UU Lalit, Justice DY Chandrachud administered oath as the 50th Chief Justice of India. He was administered the oath by President Droupadi Murmu at Rashtrapati Bhavan.
- The oath-taking ceremony was held under the presence of eminent dignitaries including Vice President Jagdeep Dhankhar, Lok Sabha Speaker Om Birla, Home Minister Amit Shah, Defence Minister Rajnath Singh, Finance Minister Nirmala Sitharaman, etc.
- He was preceded by former CJI, UU Lalit, who served a short tenure of 74 days. CJI DY Chandrachud will serve till 10 November, 2024. The retirement age of Supreme Court judges is 65 years.
- First time in history, father and son have become CJI
- CJI Chandrachud comes from a family background of lawyers and judges. His father, YV Chandrachud, served as the 16th Chief Justice of India from 2 February 1978 to 11 July 1985.
- Born on 11 November 1959, Dr Justice Dhananjaya Yashwant Chandrachud was appointed as the Supreme Court judge on 13 May 2016.
- Before that, he had served as the Chief Justice of Allahabad High Court from 31 October 2013 until his appointment to the Supreme Court.
- Before joining the Allahabad High Court, has also served as the judge of the Bombay High Court from 29 March 2000.
- He was the Additional Solicitor General of India from 1998 to 2000. He took the position of a senior advocate in the Bombay High Court in 1998.
- CJI DY Chandrachud is considered a progressive and liberal judge of the country. His appointment as the next CJI is seen as a major event by many liberals.
- He is known to be highly sensitive to the fundamental rights of citizens. His stern stance against the abusers is not hidden from anyone.
- Article 124: The Constitution of India does not mention any procedure for appointing the CJI. Article 124 (1) of the Constitution merely says, “there shall be a Supreme Court of India consisting of a Chief Justice of India.”
- Clause (2) of Article 124 of the Constitution says that every Judge of the Supreme Court shall be appointed by the President. Thus, in the absence of a constitutional provision, the procedure to appoint CJI relies on convention.
- The outgoing CJI recommends his successor – a practice, which is strictly based on seniority. The Union Law Minister forwards the recommendation to the Prime Minister who, in turn, advises the President.

- Thus, after a CJI retires at the age of 65, the senior most judge in the Supreme Court becomes the CJI. Seniority, however, is not defined by age, but by the number of years a judge has been serving in the top court of the country.
- In cases where the two judges have the same seniority, other factors, like who among the two has more years of experience in the High Court or whether any of them was nominated from the bar directly, or who took the oath first, come into play.

The Memorandum of Procedure (MoP)

- The actual procedure to appoint the next CJI is laid out in the Memorandum of Procedure (MoP) between the government and the judiciary. The MoP lays down that the appointment to the office of the Chief Justice of India should be of the senior most Judge of the Supreme Court considered fit to hold office.
- The Union Law Minister initiates the procedure by seeking the recommendation of the outgoing CJI at an 'appropriate time', as per the MoP. If the incumbent CJI has any doubts about the fitness of the senior most judge to hold the office of the Chief Justice of India, he can consult the collegium.

The government's role

- The Central government has no role to play in the appointment of the CJI except for the Union Law Minister seeking the recommendation from the incumbent CJI, before sending it to the Prime Minister.

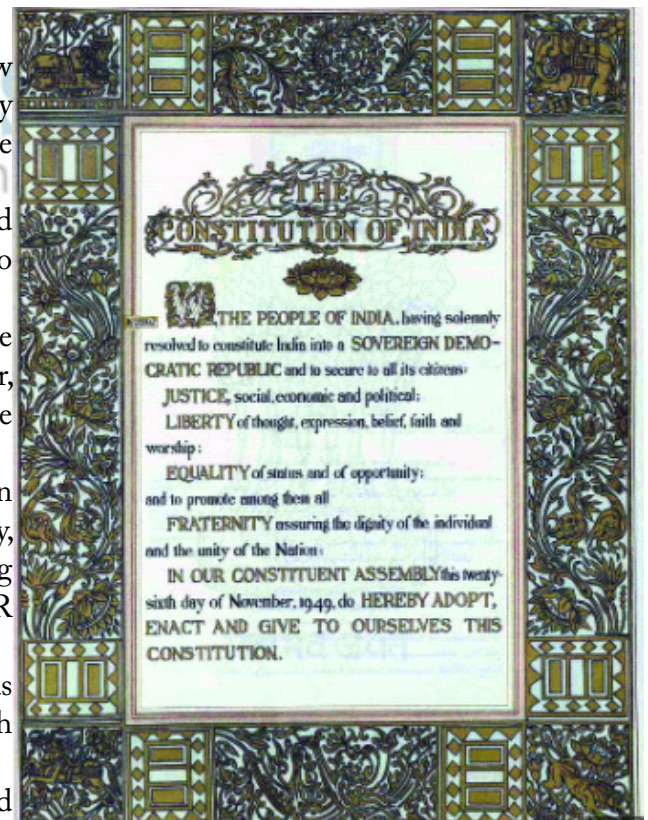
Constitution Day 2022

Why in News

The Constitution of India was adopted by the Constituent Assembly on November 26, 1949, for 'We the people of India'.

Important Points

- India celebrates Constitution Day, or National Law Day, every year on November 26 as it marks the day the Indian Constitution was adopted by the Constituent Assembly in 1949.
- It was in 2015 when the Government of India decided to establish November 26 as Constitution Day to advance "constitutional values among residents".
- The day was declared in the year which marked the 125th birth anniversary of Dr Bhimrao Ambedkar, the chairman of the Drafting Committee of the Constitution.
- Constitution Day is also known as Samvidhan Divas. After India became an independent country, the Constituent Assembly entrusted the job of drafting the Constitution to a committee chaired by Dr BR Ambedkar.
- Dr Rajendra Prasad, the first President of India, was the President of the Constituent Assembly, which was established in 1946.
- At the beginning of 1948, Dr Ambedkar completed the draft of the Indian Constitution and presented it in the Constituent Assembly. It was on November 26, 1949, that this draft was adopted with very few amendments.
- The Indian Constitution came into effect on January 26, 1950, which is observed as Republic Day.
- The Constituent Assembly took almost three years to complete the important and most historic task of drafting a Constitution for Independent India.
- Indian Constitution is the largest written constitution in the world with 1,17,360 words (in the English version).



- The Preamble of the Constitution of India declares the country as a sovereign, socialist, secular and democratic republic and aims to secure justice, liberty, and equality for all citizens and promote fraternity to maintain the unity and integrity of the nation.

Sources of Constitution:

- Swaraj Bill of 1895
- Declaration of Rights of 1918.
- Resolution of Fundamental Rights and Economic Changes at the Karachi Session of the Congress in 1931
- Government of India Act, 1935.

PIL challenging First Amendment Act 1951

Why in News

India's Apex Court has recently agreed to examine a PIL challenging changes made to the right to freedom of speech and expression by the first amendment to the Constitution in 1951

Important Points

Challenges

- In his plea, the petitioner, Senior Advocate K Radhakrishnan, contended that the amendment damages the basic structure doctrine. He objected to the following insertions-
- Section 3(1) of the 1951 Amending Act substituted original Clause (2) of Article 19 – dealing with reasonable restrictions on the freedom of speech and expression guaranteed under Article 19(1)(a) – with a new Clause (2), which contained “two objectionable insertions” allowing restrictions also “in the interest of public order” and “in relation to incitement to an offence”.
- Section 3 (2) of the amending Act effected validation of certain laws even if they took away or abridged the right to freedom of speech and expression.
- The petition contended that these two insertions protect Sections 124A (sedition), 153A (promoting enmity between different groups on grounds of religion, race, place of birth, residence, language), 295A (deliberate and malicious acts, intended to outrage religious feelings of any class by insulting its religion or religious beliefs) and 505 (statements conducing to public mischief) of the Indian Penal Code “from the vice of unconstitutionality”.
- The petition further said that the two questionable expressions inserted unduly abridge the fundamental right under Article 19 (1)(a).
- This undue abridgement “does not advance or sub serve any constitutional objectives” but “damages, inter alia democracy and republicanism and supremacy of the Constitution.
- The amendment also neglects national security by dropping the expression ‘tends to overthrow the State’.
- The glaring omission of the expression ‘tends to overthrow the State’ raises grave concern in the context of the dangers posed to the concept of secular democratic republic by radicalism, terrorism and religious fundamentalism.
- The plea urged the court to declare Section 3 (1)(a) and 3 (2) of the First Amendment “beyond the amending power of Parliament” and void since the “same damage the basic or essential features of the Constitution and destroy its basic structure”.

What is the 1st Amendment act 1951?

- The Constitution (First Amendment) Act, 1951, enacted in 1951, made several changes to the Fundamental Rights provisions of the Indian constitution.
- The First Amendment Act amended articles 15, 19, 85, 87, 174, 176, 341, 342, 372 and 376.
- It added the 9th Schedule to Indian constitution that contains a list of central and state laws which cannot be challenged in courts.
- It also inserted articles 31A and 31B.
- In total, it provided means to restrict freedom of speech and expression, validation of zamindari abolition laws, and clarified that the right to equality does not bar the enactment of laws which provide “special consideration” for weaker sections of society.

Political parties with religious connotations

Why in News

The Election Commission of India has recently told the Supreme Court that “there is no express provision which bars associations with religious connotations to register as political parties under Section 29A of the Representation of the People Act-1951”.

Important Points

- The Election Symbols (Reservation and Allotment) Order, 1968 empowers the EC to recognise political parties and allot symbols.
- Under Paragraph 15 of the Order, it can decide disputes among rival groups or sections of a recognised political party staking claim to its name and symbol.
- Under Paragraph 15, the EC is the only authority to decide issues on a dispute or a merger. The Supreme Court upheld its validity in Sadiq Ali and another vs. ECI in 1971.
- The Election Commission of India (ECI) was asked by the Supreme Court to submit its response by November 25 2022 to a petition seeking cancellation of political parties having religious symbols and names.
- In its affidavit submitted, the ECI said there was no express provision that barred associations with religious connotations from registering as political parties under Section 29A of the Representation of the People Act, 1951.
- A Bill to amend the RP Act, 1951 to ban any association with names bearing religious connotations from registering as a political party was introduced in 1994, but it was not passed and lapsed when the Lok Sabha was dissolved in 1996.
- Also, the EC generally does not have the power to deregister political parties, something which it has proposed as an electoral reform to the government many times.
- While there are some parties with religious connotations in their names, it is a “legacy” issue as the ECI said it had taken a policy decision in 2005 to not register parties with such names.
- On the issue of symbols, the Election Symbols (Reservation and Allotment) Order, 1968 bars parties from having symbols with religious or communal connotations.
- For instance, while hearing the dispute between the two factions of the Shiv Sena in October, the ECI denied both of them the use of the ‘trishul’ (trident) symbol” due to its religious connotations.
- Political parties, however, are bound to abide by the principle of secularism as one of the requisites for registration with the EC under the RP Act, 1951.
- In its affidavit, the ECI said the names of parties with religious connotations that have been in use for decades are legacy issues and whether they should continue was left up to the wisdom of the Court.

Chapter- 3

ENVIRONMENT AND ECOLOGY

Emissions Gap Report 2022

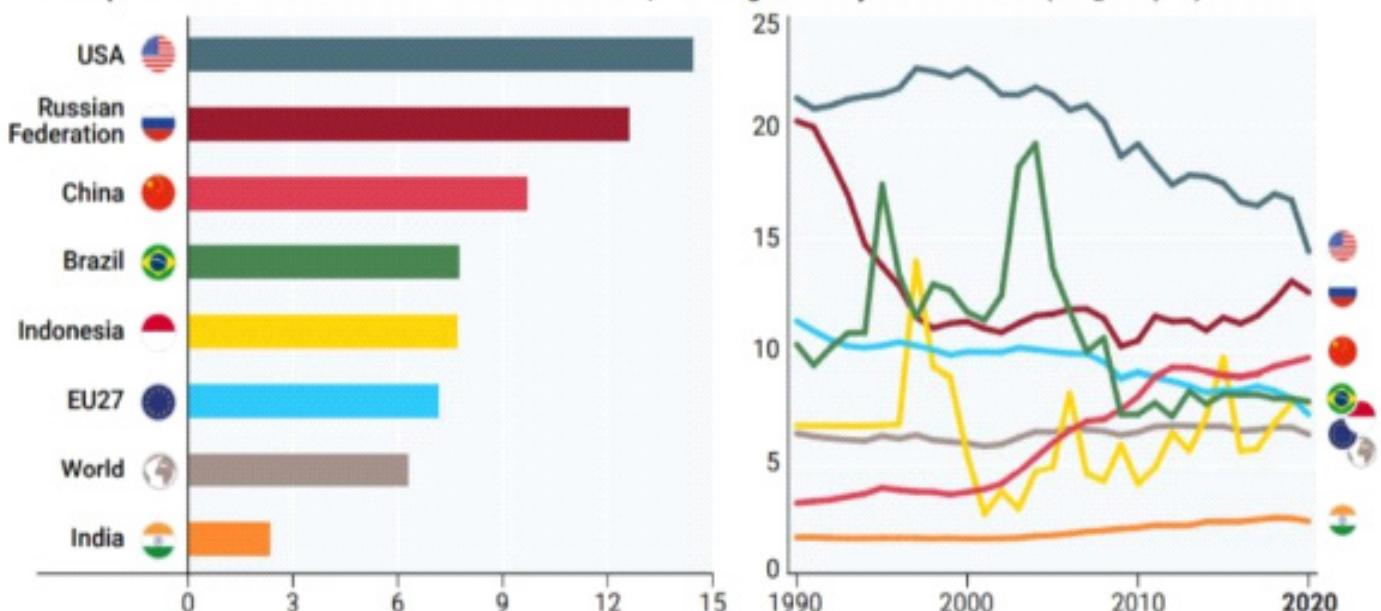
Why in News

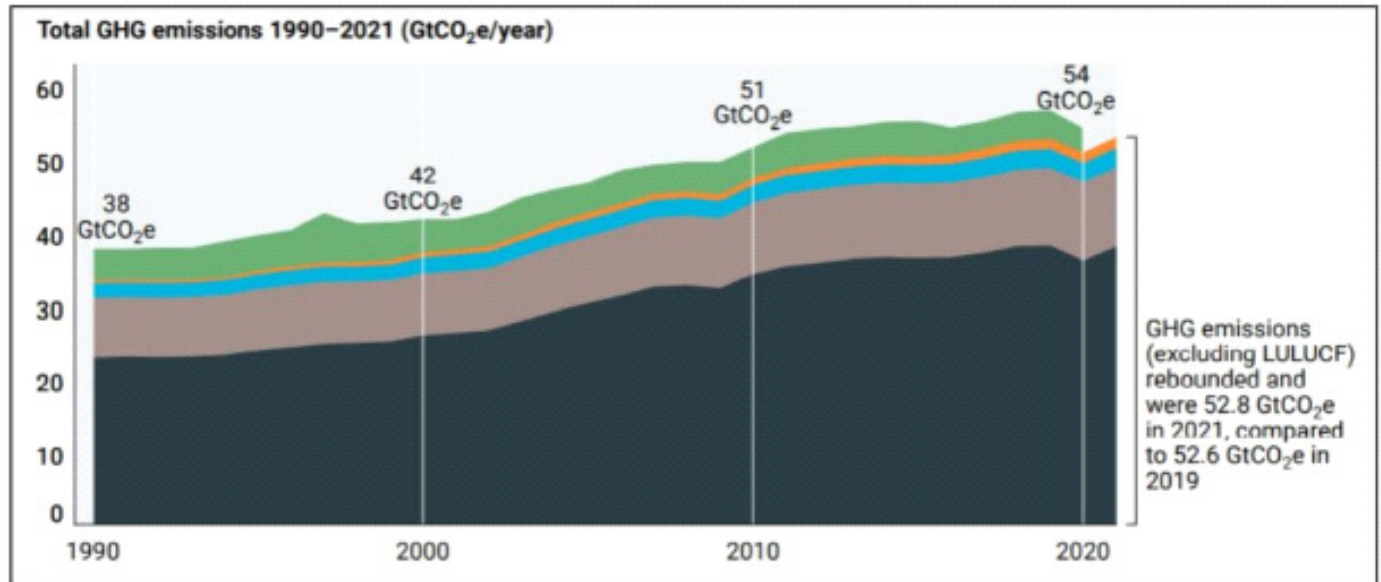
The Emissions Gap Report 2022: The Closing Window – Climate crisis calls for rapid transformation of societies was released by the UNEP recently.

Important Points

- The report is the 13th edition in an annual series that provides an overview of the difference between where greenhouse emissions are predicted to be in 2030 and where they should be to avert the worst impacts of climate change.
- The report focused on the need for countries to take significant steps to reduce greenhouse gas emissions ahead of the United Nations Climate Change Conference 2022 (UNFCCC COP 27) that will begin on November 6 in Egypt.
- The flagship report is managed by the UNEP Copenhagen Climate Centre. It serves as a “scientifically authoritative source of timely and policy-relevant information to key decision-makers,” guiding the UNFCCC process and implementing the Paris Agreement.
- The top seven emitters (China, the EU27, India, Indonesia, Brazil, the Russian Federation and the United States of America) plus international transport accounted for 55 per cent of global GHG (greenhouse gas) emissions in 2020.
- The Paris Agreement, adopted by 196 countries in 2015 at COP 21, was aimed at limiting global warming and maintaining the average global temperature rise, ideally, to below 1.5°C.
- According to the 2022 report, the national pledges taken by countries since last year only make a “negligible difference” to predicted 2030 emissions.
- These pledges or the Nationally Determined Contributions (NDC), only reduce the emissions by 1 per cent by the end of the decade.
- With the current policies, the global temperature is expected to rise by 2.8°C by the end of this century, and emissions should be cut down by 45 per cent globally to maintain the goal temperatures.
- It emphasised transformative solutions across sectors, including food systems.

Per capita GHG emissions in 2020 and trend since 1990, including inventory-based LULUCF (tCO₂e/capita)





Focus on Food systems & livestock-

- Food systems comprise all food products, derived from crop and livestock production, forestry, fisheries, and the larger socio-economic systems surrounding them.
- While other sectors are dominant in the global climate action plans, food systems are neglected.
- This often prevents the people from recognizing emissions produced as a result of their consumption and production patterns, as well as of livestock.
- In a first, New Zealand recently planned to tax agricultural emissions, which includes those from livestock burps and waste, in an attempt to “transition to a low emissions future” and fulfil its promise “to price agriculture emissions from 2025”.
- Emissions from livestock mainly include carbon dioxide (from urea), nitrous oxide (from livestock dung and urine), and methane (from belching) among others.
- They contribute towards the greenhouse effect as due to these gases, heat gets trapped around the surface of the earth and causes global warming.
- According to the Intergovernmental Panel on Climate Change (IPCC), the Global Warming Potential (GWP) of gases is a metric that helps measure “the radiative effect (determined by the ability to absorb energy) of each unit of gas” over a specific period of time such as 100 years, “as expressed relative to the radiative effect of carbon dioxide.”
- While nitrous oxide is emitted through livestock dung and urine, and carbon moves in the atmosphere in various forms, looking at the production of methane gives us a better insight into effective ways in which countries can tackle climate change.
- Manure and gastrointestinal releases account for about 32 per cent of human-caused methane emissions. In the livestock sector, popular belief says cow flatulence is a bigger source of methane than cow belching.
- Further, the cultivation of paddy, which floods the fields, prevents oxygen from penetrating the soil and creates suitable conditions for methane-emitting bacteria. This accounts for roughly 8 percent of human-linked emissions
- An IPCC research showed methane is responsible for at least a quarter of today’s global warming.
- An assessment by the UNEP and Climate and Clean Air Coalition in 2021 found that cutting human or farming-related methane emissions by “45 per cent this decade” is key in the global battle against climate change.

Mangrove Alliance for Climate (MAC)

Why in News

Dubbing mangrove forests the “most productive ecosystems” of the world, India has recently joined the MAC at the 27th Summit of the Conference of Parties (COP27) at Sharm el-Sheikh in Egypt.

Important Points

What is Mangrove Alliance for Climate (MAC)?

- Spearheaded by the United Arab Emirates (UAE) in partnership with Indonesia, MAC was launched at the COP27 Summit in Egypt to scale up and accelerate the conservation and restoration of the mangrove forests.
- The alliance will raise awareness about the role of mangroves as a “nature-based solution to climate change”.
- The alliance will be amplified at the G20 Summit that will be held between November 15 and 16 in Bali under the presidency of Indonesia.
- The MAC seeks to scale up, accelerate conservation, restoration and growing plantation efforts of mangrove ecosystems for the benefit of communities globally, and recognize the importance of these ecosystems for climate change mitigation and adaptation.

Significance of Mangroves-

- According to MAC, Mangrove forests can store ten times more carbon per hectare than terrestrial forests.
- Also, they can store carbon up to 400 per cent faster than land-based tropical rainforests.
- According to Global Mangrove Alliance (GMA), when the mangroves are cut, the carbon stored in these plants gets released into the air. So, preserving them to keep the carbon emissions levels low is necessary.
- Once the plants die, they take the stored carbon into the soil. This is called “Blue Carbon”.
- Moreover, Mangrove forests act as natural barriers against rising tides and storms. Each year, they prevent property damages of over \$65 billion.
- They also provide breeding grounds for marine biodiversity and 80% of global fish populations depend on healthy mangrove ecosystems.
- India contributes to nearly half of the total mangrove cover in South Asia.
- According to the Forest Survey report 2021 released in January, mangroves cover in the country is 4,992 square km, which is 0.15 per cent of the country's total geographical area. Since 2019, the cover has risen by only 17 sq km.
- West Bengal has the highest percentage of mangrove cover in India, mainly because it has Sundarbans, the largest mangrove forest in the world.
- It is followed by Gujarat and Andaman, and Nicobar islands.
- Other states that have mangrove cover are Maharashtra, Odisha, Andhra Pradesh, Tamil Nadu, Goa and Kerala.

Global Mangrove Alliance-

- The Global Mangrove Alliance is an ambitious initiative that seeks to increase global mangrove cover by 20% by 2030.
- Launched in June 2017, the Alliance is an unprecedented collaboration that brings together NGOs, governments, industry, local communities and funders towards a common goal.
- The goal of the Global Mangrove Alliance is to increase the global area of mangrove habitat through conservation, restoration and equitable management.
- The Alliance endeavours to implement its Global Mangrove Strategy to achieve global priorities and actions.

What is India's commitment to MAC?

- MAC aligns with India's goal to create an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide (CO₂) equivalent by adding more forest and tree cover by 2030.
- This tidal forest serves as a nursery ground for several organisms, protects the coastal erosion, sequestering the carbon and providing a livelihood for millions of people besides harbouring an array of faunal elements in its habitat.

How does India protect its mangroves?

- The global mangrove extent in 2020 was 147,359 sq km. South Asia comprises 6.4 per cent of this

cover and nearly half of that falls in India. It is home to one of the largest remaining areas of mangroves in the world, the Sundarbans.

- According to the Forest Survey report 2021 released in January, mangroves cover in India is 4,992 square kilometres, which is 0.15 per cent of the country's total geographical area. Since 2019, the cover has risen by 17 sq km, reports Business Standard.
- The mangrove forest area in Odisha has increased by eight sq km from 2019 to 2021. The state's growth rate is the highest in the country. Odisha was followed by Maharashtra (four sq km) and Karnataka (three sq km).
- In India, mangrove ecosystems are legally protected by the Coastal Regulation Zone Notification, 2011 under the Environment Protection Act, 1986.



Why are mangroves important?

- Mangroves are one of the most productive ecosystems in the world. They are the economic foundations of many tropical coastal regions.
- Mangroves are among the most carbon-rich forests in the tropics. They account for three per cent of carbon sequestered by the world's tropical forests.
- Carbon dioxide capturing and sequestration is a system of man-made processes to reduce carbon dioxide emissions from utilities which use coal and gas. Mangroves can do this as natural carbon capture and sequestration agents for mankind.
- Mangroves are powerhouses when it comes to carbon storage.
- Studies indicate that they can sequester four times more carbon than rainforests can. Most of this carbon is stored in the soil beneath mangrove trees.
- A 2018 study, published in Environmental Research Letters, found that mangrove soil held around 6.4 billion metric tons of carbon in 2000.
- This is dramatically higher than previous estimates that pegged the carbon content of mangroves (both soil and biomass) at around 4.19 billion metric tons.
- Mangroves provide breeding and nursery grounds for several species of flora and fauna. They also act as natural barriers against storm surge, coastal flooding and rise in sea levels.
- According to a 2022 report by Global Mangrove Alliance, between 2010 and 2020, around 600 sq km of mangroves were lost of which more than 62 per cent was due to direct human impacts.

The United Nations Climate Change Conference 2022 COP27

Why in News

COP27 is being held from 6 November until 18 November 2022 at Sharm el-Sheikh, Egyptian with the aim of ensuring full implementation of the Paris Agreement adopted in 2015.

Important Points

COP27-

- COP stands for the annual 'Conference of the Parties' to the UNFCCC, the Kyoto Protocol signed in 1997, or the Paris Agreement.
- The meetings review the progress made by countries in the fight against climate change and in the implementation of decisions taken in earlier COPs.
- The COP meets every year, unless the parties decide otherwise.
- The first COP meeting was held in Berlin, Germany in March 1995. COP27 marks 30 years since the adoption of the UNFCCC.
- The venue for the COP meeting rotates among the five UN-identified regions: Africa, Asia-Pacific, Eastern Europe, Latin America and Caribbean, and Western Europe and Others.
- The countries in the region propose a candidate, and a host is usually decided at least two years in advance.
- If no country agrees to be the host, Bonn, where the UNFCCC secretariat is headquartered, steps in as host.
- The rotation cycle has not been followed very strictly. The first and second COPs were held in western Europe (Berlin and Geneva), and so were the fifth and sixth (Bonn and the Hague).
- After the 2012 COP in Doha, the event has not yet returned to Asia.
- India, the third largest emitter, hosted the 2002 COP in New Delhi, much before climate change became a big thing.



About UNFCCC-

- The United Nations Framework Convention on Climate Change established an international environmental treaty to combat “dangerous human interference with the climate system”, in part by stabilizing greenhouse gas concentrations in the atmosphere.
- The Convention has near universal membership (198 Parties) and is the parent treaty of the 2015 Paris Agreement.

- The main aim of the Paris Agreement is to keep the global average temperature rise this century as close as possible to 1.5 degrees Celsius above pre-industrial levels.
- The UNFCCC is also the parent treaty of the 1997 Kyoto Protocol.
- The ultimate objective of all three agreements under the UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enables sustainable development.

Blue Flag

Why in News

Minicoy Thundi Beach and Kadmat Beach- both in Lakshadweep have recently received globally recognized and the coveted International eco-label “Blue Flag”

Important Points

- The Thundi Beach is one of the most pristine and picturesque beaches in the Lakshadweep archipelago where white sand is lined by turquoise blue water of the lagoon.
- The Kadmat Beach is especially popular with cruise tourists who visit the island for water sports.
- Both the beaches comply with all the 33 criteria as mandated by the Foundation for Environment Education (FEE).
- The other 10 Indian beaches on the list are Shivrajpur in Gujarat’s Devbhumi Dwarka district; Ghogla beach in Diu; Kasarkod (Uttara Kannada) and Padubidri (Udupi) in Karnataka; Kappad (Kozhikode) in Kerala; Eden beach in Puducherry; Kovalam (Chennai) in Tamil Nadu; Rushikonda (Visakhapatnam) in Andhra Pradesh; Golden beach in Puri, Odisha; and Radhanagar Swarajdeep in Andaman and Nicobar.
- Kovalam and Eden got the Blue Flag in 2021. The other eight beaches received the certification in 2020, and were re-certified last year.

Blue Flag certification-

- The Blue Flag is an exclusive eco-label or certification that is given to coastal locations around the world as a badge of environmental honour.
- The Blue Flag programme is run by the Copenhagen, Denmark-headquartered Foundation for Environmental Education (FEE), a nonprofit which, through its work, contributes to the Sustainable Development Goals (SDGs) of the United Nations.
- According to the FEE, the iconic Blue Flag is one of the world’s most recognised voluntary awards for beaches, marinas, and sustainable boating tourism operators.
- In order to qualify for the Blue Flag, a series of stringent environmental, educational, safety, and accessibility criteria must be met and maintained.
- The Blue Flag programme started in 1987, initially in Europe. Certification is awarded annually.
- A total 5,042 beaches, marinas, and tourism boats in 48 countries have been awarded the label so far. A marina is a small harbour where mainly pleasure boats and yachts dock.
- The certification is given by an international jury comprising members of the United Nations Environment Programme (UNEP), United Nations World Tourism Organisation (UNWTO), and International Union for the Conservation of Nature (IUCN), besides FEE.
- Central to the ideals of the Blue Flag programme is the aim of connecting the public with their surroundings and encouraging them to learn more about their environment.

Two more Indian beaches have made it to the list of Blue Beaches. Minicoy, Thundi Beach and Kadmat Beach - both in Lakshadweep - are the proud entrants in the coveted list of Blue Beaches, an eco-label given to the cleanest beaches in the world.



Adaptation Gap Report 2022

Why in News

The United Nations Environment Programme (UNEP) has released the Adaptation Gap Report, 2022 recently.

Important Points

- The seventh edition of UNEP's Adaptation Gap Report 2022 is titled: Too Little, Too Slow – Climate adaptation failure puts world at risk.
- The report looks at progress in planning, financing and implementing adaptation actions.
- At least 84 per cent of Parties to the UN Framework Convention on Climate Change (UNFCCC) have established adaptation plans, strategies, laws and policies – up 5 per cent from the previous year.
- A third of the 197 parties to the UNFCCC have incorporated quantified and time-bound targets on adaptation. And 90 per cent of them have considered gender and disadvantaged groups.

Adaptation solutions that reduce exposure to climate hazards while simultaneously sequestering carbon (e.g. mangrove restoration that reduces coastal hazards; increasing urban green spaces to reduce urban heat island effect).

Mitigation solutions that reduce GHG emissions or enhance carbon sequestration while simultaneously reducing exposure to climate hazards (e.g. reforestation that reduces landslide hazard; hydroelectric power that reduces downstream flood or drought risk).



- However, financing to turn these plans and strategies into action isn't following. International adaptation finance flows to developing countries are 5-10 times below estimated needs and the gap is widening.
- Implementation of adaptation actions – concentrated in agriculture, water, ecosystems and cross-cutting sectors – is increasing.
- According to UNEP's Emissions Gap Report – the recently released sister publication of the Adaptation Gap Report – Nationally Determined Contributions (NDCs) under the Paris Agreement point towards global warming of 2.4-2.6°C by the end of the century.
- The report also highlighted that the best way was to link actions on mitigation and adaptation in terms of planning, financing and implementation, which would provide co-benefits. One example of this could be nature-based solutions.

Terai Elephant Reserve

Why in News

The Union ministry of forest, environment and climate change (MoFECC) has recently given its nod to the Terai Elephant Reserve (TER) in Uttar Pradesh.

Important Points

Terai Elephant Reserve

- It is spread in a 3,049 sq km area, including Dudhwa Tiger Reserve (DTR) and Pilibhit Tiger Reserve (PTR).
- It will be the second elephant reserve in UP and India's 33rd.
- The Centre approved three elephant reserves in the country in 2022, including TER, on the occasion of 30th foundation year of the elephant project, initiated in 1992.
- The other two reserves are Lemru ER in Chhattisgarh and Agasthyamalai ER in Tamil Nadu.

The Dudhwa Tiger Reserve

- It is a protected area in Uttar Pradesh that stretches mainly across the Lakhimpur Kheri and Bahraich districts and comprises the Dudhwa National Park, Kishanpur Wildlife Sanctuary and Katarniaghat Wildlife Sanctuary.
- It covers an area of 1,284.3 km (495.9 sq mi) and includes three large forest fragments amidst the matrix dominated by agriculture.
- It shares the north-eastern boundary with Nepal, which is defined to a large extent by the Mohana River.
- The area is a vast alluvial floodplain traversed by numerous rivers and streams flowing in south-easterly direction.

Pilibhit Tiger Reserve

- It is located in Pilibhit district of Uttar Pradesh and was notified as a tiger reserve in 2014. It forms part of the Terai Arc Landscape in the upper Gangetic Plain along the India-Nepal border.
- Some rivers originate from the reserve, which is also the catchment of several others like Sharda, Chuka and Mala, Khannot.
- The habitat is characterized by Sal Forests, tall grasslands and swamp maintained by periodic flooding from rivers.
- The Sharda Sagar Dam extending up to a length of 22 km (14 mi) is on the boundary of the reserve.
- It lies along the India-Nepal border in the foothills of the Himalayas and the plains of the Terai in Uttar Pradesh.

Mauna Loa

Why in News

The ground is shaking and swelling at Mauna Loa, the largest active volcano in the world, indicating that it could erupt.

Important Points

- The ground is shaking and swelling at Mauna Loa, the largest active volcano in the world, indicating that it could erupt.
- Scientists say they don't expect that to happen right away but officials on the Big Island of Hawaii are telling residents to be prepared in case it does erupt soon.

Where is Mauna Loa?

- Mauna Loa is one of five volcanoes that together make up the Big Island of Hawaii, which is the southernmost island in the Hawaiian archipelago.
- It's not the tallest (that title goes to Mauna Kea) but it's the largest and makes up about half of the island's land mass.
- It sits immediately north of Kilauea volcano, which is currently erupting from its summit crater.
- Kilauea is well-known for a 2018 eruption that destroyed 700 homes and sent rivers of lava spreading across farms and into the ocean.
- Mauna Loa last erupted 38 years ago.
- Hawaii's volcanoes are called shield volcanoes because successive lava flows over hundreds of thousands of years build broad mountains that resemble the shape of a warrior's shield.
- Shield volcanoes are also found in California and Idaho as well as Iceland and the Galapagos Islands.
- Alaska's Wrangell-St. Elias National Park has eight shield volcanoes including Mount Wrangell. Volcanoes like Mount St. Helens are called composite or stratovolcanoes.
- Their steep, conical slopes are built by the eruption of viscous lava flows and rock, ash and gas. Japan's Mount Fuji is another example of a composite volcano.

How do scientists monitor Mauna Loa?

- The Hawaiian Volcano Observatory has more than 60 GPS stations on Mauna Loa taking measurements

to estimate the location and the amount of magma accumulating beneath the surface.

- Scientists use tiltmeters to track long-term changes in the tilting of the ground, helping them identify when the ground is swelling or deflating.
- A rapid change in tilt can indicate when an eruption will occur.
- There's also a thermal webcam at Mauna Loa's summit that will identify the presence of heat. And satellite radar can keep track of ground swelling and deflation.

FAO'S State of Food and Agriculture report 2022

Why in News

Inaccessibility of agri-automation to small-scale producers can deepen inequalities

Important Points

- Agricultural automation, which includes anything from tractors to artificial intelligence, play an important role in making food production more efficient and environmentally friendly.
- But it can also deepen inequalities if it remains inaccessible to small-scale producers and other marginalised groups, said a new report.
- The 2022 edition of the State of Food and Agriculture report by the Food and Agriculture Organization (FAO) of the United Nations looked at how automation in our agrifood systems can contribute to achieving sustainable development goals.
- It also offered recommendations to policymakers on how to maximise benefits and minimise risks. The available statistics on the number of tractors per 1,000 hectares of arable land highlighted the unequal regional progress towards mechanisation.
- High-income countries in North America, Europe and Oceania were highly mechanised by the 1960s. But regions dominated by low-and middle-income countries were less mechanised.
- The report looked at 27 case studies from all over the world, representing different technologies. Only 10 of the 27 service providers are profitable and financially sustainable, the report revealed.
- These ten providers — mostly based in high-income countries — used solutions that are in the mature phase (widely adopted). These solutions mostly served large-scale producers.
- “Crucially, there are wide disparities in the spread of automation between and within countries, with adoption being particularly limited in sub-Saharan Africa,” the report said.
- For instance, Japan had more than 400 tractors per 1,000 hectares of arable land, compared with just 0.4 in Ghana in 2005, it added.
- Agriculture reliant on human and animal power continues to dominate in sub-Saharan Africa, limiting productivity. Sustainable rental mechanisms are key for aiding mechanisation in these regions, the report noted.
- Thousands of individuals across the region own tractors and can provide tractor-hire services to farmers. TROTRO Tractor in Ghana is a case in point.
- TROTRO Tractor Limited (TTL) is a platform that connects farmers and tractor operators. It allows tractor owners to monitor their equipment's movement and operations.
- Based on this analysis, the publication suggested policies to ensure that agricultural automation is inclusive and contributes to sustainable and resilient agrifood systems.
- The report also addressed concerns about the possible negative impacts of labour-saving technological change in terms of job displacement and unemployment.
- Agricultural automation can lead to unemployment in places where rural labour is abundant and wages are low. Policymakers should avoid subsidising automation in such labour-abundant contexts, the report added.
- They should focus on creating an enabling environment for adopting automation. Social protection should be provided to the least skilled workers, who are more likely to lose their jobs during the transition, the report noted.

Beaver Blood Moon

Why in News

Recently, a rare spectacle of a 'Beaver Blood Moon' took over the night skies of East Asia to North America.

Important Points

- The eclipse, dubbed the Beaver Blood Moon lunar eclipse since it occurred during November's Full Beaver Moon.
- This lunar eclipse got its name from Algonquian languages once spoken by Native Americans in the New England territory.
- It coincides with what they called the "Beaver moon" – a moniker for the November full moon adopted by the Old Farmer's Almanac.
- As the Earth casts a shadow on the full moon, blocking reflection of all direct sunlight to form the total eclipse, it dims the color of the moon, giving it a reddish hue which is why it is called the "blood moon".
- During a total solar eclipse, some sunlight will still reach the Moon. This light will pass through the Earth's atmosphere, where blue light will be scattered in all directions due to a phenomenon known as Rayleigh scattering.
- This allows the redder light to pass through and reflect off the Moon, causing it to appear reddish during the eclipse.
- According to US space agency NASA, total lunar eclipses occur about once every year and a half, on an average but it can vary.
- 2022, for instance, witnessed two blood moons. It was visible across North America, the Pacific, Australia and Asia.
- This total lunar eclipse was the last one for the next three years(until 2025). The lunar eclipse has ended and the Moon is no longer in Earth's shadow.
- A lunar eclipse happens when the Earth moves in between the Sun and the Moon, partially or completely blocking sunlight from reaching the Moon.
- This causes a shadow on the Moon's surface, which is what we see from Earth.

World Heritage Glaciers Sentinels of Climate Change

Why in News

A study conducted by the UN body has found that a third of the glaciers on the UNESCO World Heritage list are under threat, regardless of efforts to limit temperature increases.

Important Points

- The UNESCO study, in partnership with the International Union for Conservation of Nature (IUCN), showed that these glaciers have been retreating at an accelerated rate since 2000 due to CO2 emissions, which are warming temperatures.
- They are currently losing 58 billion tons of ice every year – equivalent to the combined annual water use of France and Spain – and are responsible for nearly 5% of observed global sea-level rise.
- Researchers have identified a total of 18,600 glaciers in these 50 sites. Together, these glaciers cover around an area of 66,000 sq km.
- The glaciers under threat are in Africa, Asia, Europe, Latin America, North America and Oceania.
- The study said, it was still possible to save the other two-thirds, if the rise in global temperatures did not exceed 1.5 degrees Celsius compared to the pre-industrial era.
- In addition to drastically reduced carbon emissions, UNESCO is advocating for the creation of a new international fund for glacier monitoring and preservation.
- Such a fund would support comprehensive research, promote exchange networks between all stakeholders and implement early warning and disaster risk reduction measures.
- Half of humanity depends directly or indirectly on glaciers as their water source for domestic use, agriculture, and power.
- This study highlights the urgent need to cut greenhouse gas emissions and invest in nature-based solutions, which can help mitigate climate change and allow people to better adapt to its impacts.
- Fifty UNESCO World Heritage sites are home to glaciers, representing almost 10% of the Earth's total glacier area.
- They include the highest (next to Mt Everest), the longest (in Alaska), and the last remaining glaciers in Africa.

Climate change and health

Why in News

Recently a report was released titled Lancet countdown on health and climate change: health at the mercy of fossil fuels, showing that from 2000-2004 to 2017-2021, heat-related deaths increased by 55% in India.

Important Points

- According to a fact sheet on the specific impacts on India which uses data from the report but is not itself a part of the report climate change is affecting almost every pillar of food security.
- Ahead of this year's United Nations climate change conference (COP27), a major new report has said that the continued dependence on fossil fuels is compounding the health impacts of the multiple crises the world is facing — including the fallouts of the Covid-19 pandemic, the war in Ukraine, the cost of living crisis, and climate change.
- This report comes ahead of this year's United Nations climate change conference (COP27), to be held in Sharm El Sheikh, Egypt.
- The report represents the work of 99 experts from 51 institutions, including the World Health Organisation (WHO) and the World Meteorological Organisation (WMO).

Lancet Countdown on Health and Climate Change Report

- The Lancet Countdown on Health and Climate Change, published annually, is an international, multidisciplinary collaboration, dedicated to monitoring the evolving health profile of climate change, and providing an independent assessment of the delivery of commitments made by governments worldwide under the Paris Agreement.
- The countries considered in the modelling study represent 50% of the world's population and 70% of the world's emissions – Brazil, China, Germany, India, Indonesia, Nigeria, South Africa, the UK and the US.
- The Lancet Countdown report was established following the 2015 Lancet Commission on Health and Climate Change.
- It tracks 43 indicators across five key domains:
- Climate Change impacts, Exposures and Vulnerability; adaptation, Planning, and resilience for health; mitigation actions and health co-benefits; economics and finance and public and political engagement.

Findings of the report related to India

- Food Security-The duration of the growth season for maize has decreased by 2%, compared to a 1981-2010 baseline, while rice and winter wheat have each decreased by 1%.
- Health of Infants and old age-From 2012-2021, infants under one year old experienced an average of 72 million more person-days of heatwaves per year, compared to 1985-2005.
- For the same period, adults over 65 experienced 301 million more person-days.
- On average, from 2012-2021, each infant experienced an additional 0.9 heatwave days per year while adults over 65 experienced an additional 3.7 per person, compared to 1986-2021.
- Heat related deaths-From 2000-2004 to 2017-2021, heat-related deaths increased by 55% in India.
- Pollution-An estimated over 3,30,000 people died in India due to exposure to particulate matter from fossil fuel combustion in 2020, says the 2022 report.
- Productivity-In 2021, Indians lost 167.2 billion potential labour hours due to heat exposure with income losses equivalent to about 5.4% of national GDP.
- Diseases- From 1951-1960 to 2012-2021, the number of months suitable for dengue transmission by Aedes aegypti rose by 1.69%, reaching 5.6 months each year.

Challenges in India

- India had a net negative carbon price, indicating that the government was effectively subsidising fossil fuels.
- India allocated a net 34 billion USD [around 2,80,000 crore] to this in 2019 alone, equivalent to 37.5% of the country's national health spending that year.
- Biomass accounted for 61% of household energy in 2019, while fossil fuels accounted for another 20%.
- With this high reliance on these fuels, average household concentrations of particulate matter exceeded the World Health Organisation (WHO) recommendation by 27-fold nationally and 35-fold in rural homes.

Great Nicobar development project

Why in News

Recently, the Ministry of Environment, Forest and Climate Change gave environmental clearance for the development project on the strategically important Great Nicobar Island.

Important Points

What is Great Nicobar development project?

- A total 166.1 sq km along the southeastern and southern coasts of the island have been identified for project along a coastal strip of width between 2 km and 4 km. Some 130 sq km of forests have been sanctioned for diversion, and 9.64 lakh trees are likely to be felled.
- Development activities are proposed to commence in the current financial year, and the port is expected to be commissioned by 2027–28.
- The project is to be implemented in three phases over the next 30 years.
- A “greenfield city” has been proposed, including an International Container Transshipment Terminal (ICTT), a greenfield international airport, a power plant, and a township for the personnel who will implement the project.
- Under the project, the proposed port will be controlled by the Indian Navy, while the airport will have dual military-civilian functions and will cater to tourism as well.
- The island has a lot of tourism potential, but the government’s greater goal is to leverage the locational advantage of the island for economic and strategic reasons.
- The proposal to develop Great Nicobar was first floated in the 1970s, and its importance for national security and consolidation of the Indian Ocean Region has been repeatedly underlined.
- Increasing Chinese assertion in the Bay of Bengal and the Indo-Pacific has added great urgency to this imperative in recent years.

The concerns

- The proposed massive infrastructure development in an ecologically important and fragile region, including the felling of almost a million trees, has alarmed many environmentalists.
- As per the union government, the project site is outside the eco-sensitive zones of Campbell Bay and Galathea National Park.
- The Centre has said that the development area is only a small percentage of the area of the island and its forest cover, and that 15 per cent of the development area itself will be green cover and open spaces.

The Great Nicobar Island

- Great Nicobar, the southernmost of the Andaman and Nicobar Islands, has an area of 910 sq km.
- The Andaman and Nicobar Islands are a cluster of about 836 islands in the eastern Bay of Bengal, the two groups of which are separated by the 150-km wide Ten Degree Channel.
- The Andaman Islands lie to the north of the channel, and the Nicobar Islands to the south.
- Indira Point on the southern tip of Great Nicobar Island is India’s southernmost point, less than 150 km from the northernmost island of the Indonesian archipelago.
- Great Nicobar is home to two national parks, a biosphere reserve, and the Shompen and Nicobarese tribal peoples, along with ex-servicemen from Punjab, Maharashtra, and Andhra Pradesh who were settled on the island in the 1970s.
- The Shompen are hunter-gatherers who depend on forest and marine resources for sustenance.
- The Nicobarese, who lived along the west coast of the island were mostly relocated after the 2004 tsunami.
- An estimated 237 Shompen and 1,094 Nicobarese individuals now live in a 751 sq km tribal reserve, some 84 sq km of which is proposed to be denotified.
- The Great Nicobar Island has tropical wet evergreen forests, mountain ranges reaching almost 650 m above sea level, and coastal plains.
- Fourteen species of mammals, 71 species of birds, 26 species of reptiles, 10 species of amphibians, and 113 species of fish are found on the island, some of which are endangered.
- The leatherback sea turtle is the island’s flagship species.

The Climate Change Performance Index 2023

Why in News

Germanwatch, NewClimate Institute & Climate Action Network released the Climate Change Performance Index 2023 (CCPI).

Important Points

- The CCPI evaluates 59 countries and the European Union, which together generate over 90 per cent of global greenhouse gas emissions.
- Using standardised criteria, the CCPI looks at four categories, with 14 indicators:
 - o Greenhouse Gas Emissions.
 - o Renewable Energy.
 - o Energy Use.
 - o Climate Policy.
- It tracks the implementation of the Paris Agreement by various countries.
- In the overall standings, no country ranked first, second or third on the index. Denmark, with a score of 79.61, ranked fourth, followed by Sweden with 73.28 points. India scored 67.35 points.
- The worst performers in the overall ranking were Iran, Saudi Arabia and Kazakhstan. They ranked particularly poorly in renewables and heavily reliant on oil.
- Saudi Arabia was found to be the nation with the highest per capita GHG emissions among the G20 nations.

India's rank

- India rose two spots to rank eighth out of 63 countries in the CCPI. In the Greenhouse Gas Emissions and Energy Use categories, the country was rated "high".
- In the Climate Policy and Renewable Energy categories, it earned a "medium" rating.
- The index said that the country is on track to meet its 2030 emissions targets (compatible with a well-below 2°C scenario).
- India ranked at top in the grouping of top 10 emitter, followed by Germany and Japan at 2 and 3 positions of this grouping
- In 2022 and 2021, India stood in the 10th spot. In 2020, it ranked ninth on the list.
- Since signing the Paris Agreement in 2015, India has updated its Nationally Determined Contribution (NDC).
- At the COP26 Summit in Glasgow, the country announced its commitment to achieving net zero carbon emissions by 2070.
- In Greenhouse Gas Emissions, India ranked ninth. Under the category of Renewable Energy and Energy Use, it stood at the 24th and ninth spot, respectively. And on Climate Policy, India ranked eighth.
- The report added that India must adopt a carbon pricing mechanism and develop more capacities at the subnational level to improve its performance. Also, a concrete action plan for achieving the targets must be determined.

Global Offshore Wind Alliance (GOWA)

Why in News

Nine new countries have joined GOWA, an international alliance at the United Nations-Conference of Parties (UN-COP27) climate summit.

Important Points

GOWA

- It was initiated in September 2022 by the International Renewable Energy Agency (IRENA), Denmark and the Global Wind Energy Council (GWEC).
- The countries which joined GOWA during COP27 include Belgium, Colombia, Germany, Ireland, Japan, the Netherlands, Norway, the United Kingdom, and the United States of America.
- Offshore wind energy is the clean and renewable energy obtained by taking advantage of the force of the wind that is produced on the high seas, where it reaches a higher and more constant speed than on land due to the absence of barriers.

- Electricity produced by offshore wind turbines travels back to land through a series of cable systems that are buried in the sea floor.
- According to forecasts by IRENA and the International Energy Agency (IEA), offshore wind capacity will need to “exceed 2000 GW in 2050, from just over 57 GW today”, to limit the rise in global temperatures to 1.5 degree Celsius above pre-industrial era.
- This is why a new multi-stakeholder alliance has been created whose ambition is to create a global driving force for the uptake of offshore wind, through political mobilisation and the creation of a global community of practice.
- The aim of GOWA is to contribute to achieving a total global offshore wind capacity of a minimum of 380 GW by 2030, with 35 GW on average each year across the 2020s and a minimum of 70 GW each year from 2030, culminating in 2,000 GW by 2050.
- The alliance is supported by a number of organizations which are actively promoting the offshore wind industry in their different regions.
- Germany, which is the third-biggest offshore wind power producer in the world, plans to leverage the know-how and skills in the offshore space and help other countries in building or increasing their own offshore wind power generation capacity.

MARS

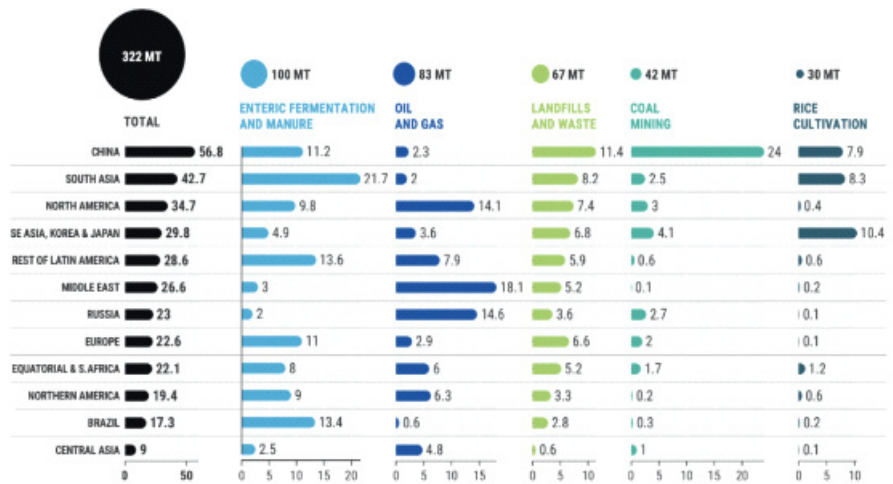
Why in News

A satellite data system will help detect, act on methane emissions

Important Points

- A new satellite-based system will now help governments detect methane emissions and tackle them.
- The Methane Alert and Response System (MARS) was launched at the 27th Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change in Sharm El-Sheikh, Egypt.
- MARS is a part of global efforts to slow climate change by tackling the global warming gas.
- The data-to-action platform was set up as part of the UN Environment Programme’s (UNEP) International Methane Emissions Observatory (IMEO) strategy to get policy-relevant data into the right hands for emissions mitigation.
- Methane is an 80 times more potent greenhouse gas than carbon dioxide. It accounts for a small portion of human-induced greenhouse gas emissions compared to carbon dioxide.
- But it is thought to be 80 times more efficient than carbon dioxide at trapping atmospheric heat in the 20 years following its release.
- The system will be the first publicly available global system to connect methane detection to notification processes transparently.
- It will use state-of-the-art satellite data to identify significant emission events, notify relevant stakeholders, and support and track mitigation progress.
- Cutting methane is the fastest opportunity to reduce warming and keep 1.5°C within reach, and this new alert and response system is going to be a critical tool for helping all of us deliver on the Global Methane Pledge.
- Global Methane Pledge participants agree to take voluntary actions to contribute to a collective effort to reduce global methane emissions by at least 30 per cent from 2020 levels by 2030, which could eliminate over 0.2°C warming by 2050. This is a global, not a national reduction target.
- If requested, MARS partners will also provide technical or advisory services, such as help in assessing mitigation opportunities.
- UNEP will continue to monitor the event location and make the data and analysis available to the public between 45 and 75 days after detection.

- The past eight years are on track to be the eight warmest on record, fuelled by ever-rising greenhouse gas concentrations and accumulated heat, a recent report by World Meteorological Organization said.
- The global mean temperature in 2022 is currently estimated to be about 1.15 degrees Celsius (°C) above the 1850-1900 pre-industrial average,” with a range of 1.02°C to 1.28°C, it added.



- Launched at the G20 Summit, the International Methane Emissions Observatory (IMEO) is a data-driven, action-focused initiative by the UN Environment Programme (UNEP) with support from the European Commission to catalyse dramatic reduction of methane emissions, starting with the energy sector.
- It is a project which tackles the problem of methane emissions by collecting, integrating, and reconciling methane data from different sources, including scientific measurement studies, satellites, industry reporting through the Oil and Gas Methane Partnership 2.0, and national inventories.
- IMEO creates a public global dataset of empirically verified methane emissions, with an initial focus on fossil fuel sources, and interconnects this data with actions on research, reporting, and regulation.
- IMEO serves as an implementing vehicle for the Global Methane Pledge.

Water Resources Of India

Why in News

The Union Minister of Jal Shakti has released the Dynamic Ground Water Resource Assessment Report for the entire country for the year 2022.

Important Points

- The assessment was carried out jointly by Central Ground Water Board (CGWB) and States/UTs, which can be used for taking suitable interventions by various stake-holders.
- As per the 2022 assessment report, the total annual ground water recharge for the entire country is 437.60 billion cubic meters (BCM) and annual ground water extraction for the entire country is 239.16 BCM.
- Further, out of the total 7089 assessment units in the country, 1006 units have been categorized as 'Over-exploited'.
- A detailed analysis of the information collected from the assessment indicates increase in ground water recharge which may mainly be attributed to increase in recharge from canal seepage, return flow of irrigation water and recharges from water bodies/tanks & water conservation structures.
- Further, analysis indicates improvement in ground water conditions in 909 assessment units in the country when compared with 2017 assessment data.
- In addition, overall decrease in the number of over-exploited units and decrease in the stage of groundwater extraction level have also been observed.
- The main source of replenishable ground water resources is recharge from rainfall, which contributes to nearly 61 % of the total annual groundwater recharge. India receives about 119 cm. of rain annually on average, with high spatial variation.
- Over 75% of the annual rainfall is received in the four rainy months for June to September only thereby leading to large variations on temporal scale.
- GroundWater Resources Assessment is carried out at periodical intervals jointly by State Ground Water Departments and Central Ground Water Board under the guidance of the respective State Level

Committee on Ground Water Assessment at State Levels and under the overall supervision of the Central Level Expert Group.

- Such joint exercises have been taken up earlier in 1980, 1995, 2004, 2009, 2011, 2013, 2017 and 2020.
- Assessment of water resources of the country dates back to 1901 when the First Irrigation Commission assessed the Surface Water Resources as 144 million hectare meters (M.ham) (NABARD, 2006).
- In 1949, Dr. A. N. Khosla, based on empirical formulae, estimated the total average annual runoff of all the river systems of India including both surface and ground water resources as 167 M.ham (CGWB, 1995).

Champions of the Earth award-2022

Why in News

Indian wildlife biologist Dr Purnima Devi Barman is among the honourees of Champions of the Earth award-2022, the U.N.'s highest environmental honour.

Important Points

- The annual 'Champions of the Earth' prize is awarded to outstanding leaders from government, civil society and the private sector whose actions have had a positive impact on the environment.
- Since its inception in 2005, the annual Champions of the Earth award has been awarded to trailblazers at the forefront of efforts to protect our natural world.
- Champions of the Earth are celebrated in four categories:
- Policy leadership – individuals or organizations in the public sector leading global or national action for the environment. They shape dialogue, lead commitments and act for the good of the planet.
- Inspiration and action – individuals or organizations taking bold steps to inspire positive change to protect our world. They lead by example, challenge behavior and inspire millions.
- Entrepreneurial vision – individuals or organizations challenging the status quo to build a cleaner future. They build systems, create new technology and spearhead a groundbreaking vision.
- Science and innovation – individuals or organizations who push the boundaries of technology for profound environmental benefit. They invent possibilities for a more sustainable world.
- It is the UN's highest environmental honour. To date, the award has recognised 111 laureates: 26 world leaders, 69 individuals and 16 organisations.

Dr Purnima Devi Barman

- Dr. Barman has been honoured with the UN Environment Programme's (UNEP) 2022 Champions of the Earth award in the Entrepreneurial Vision category.
- A wildlife biologist, Dr. Barman leads the "Hargila Army", an all-female grassroots conservation movement dedicated to protecting the Greater Adjutant Stork from extinction.
- The women create and sell textiles with motifs of the bird, helping to raise awareness about the species while building their own financial independence.
- Dr. Barman is also Senior Project Manager of the Avifauna Research and Conservation Division, Aaranyak.
- Barman's pioneering conservation work has empowered thousands of women, creating entrepreneurs and improving livelihoods while bringing the greater adjutant stork back from the brink of extinction.
- In order to protect the stork, Dr. Barman knew she had to change perceptions of the bird, known locally as "hargila" in Assamese (meaning "bone swallower") and mobilised a group of village women to help her.
- Today the "Hargila Army" consists of over 10,000 women. They protect nesting sites, rehabilitate injured storks which have fallen from their nests and arrange "baby showers" to celebrate the arrival of newborn chicks.

Greater Adjutant Stork

- The greater adjutant is a member of the stork family, Ciconiidae. Its genus includes the lesser adjutant of Asia and the marabou stork of Africa.
- Once found widely across southern Asia and mainland southeast Asia, the greater adjutant is now restricted to a much smaller range with only three breeding populations; two in India, with the largest

colony in Assam, a smaller one around Bhagalpur; and another breeding population in Cambodia.

- They disperse widely after the breeding season. This large stork has a massive wedge-shaped bill, a bare head and a distinctive neck pouch.
- During the day, it soars in thermals along with vultures with whom it shares the habit of scavenging.
- They feed mainly on carrion and offal; however, they are opportunistic and will sometimes prey on vertebrates.
- IUCN status: Endangered.

The Shiveluch volcano of Russia

Why in News

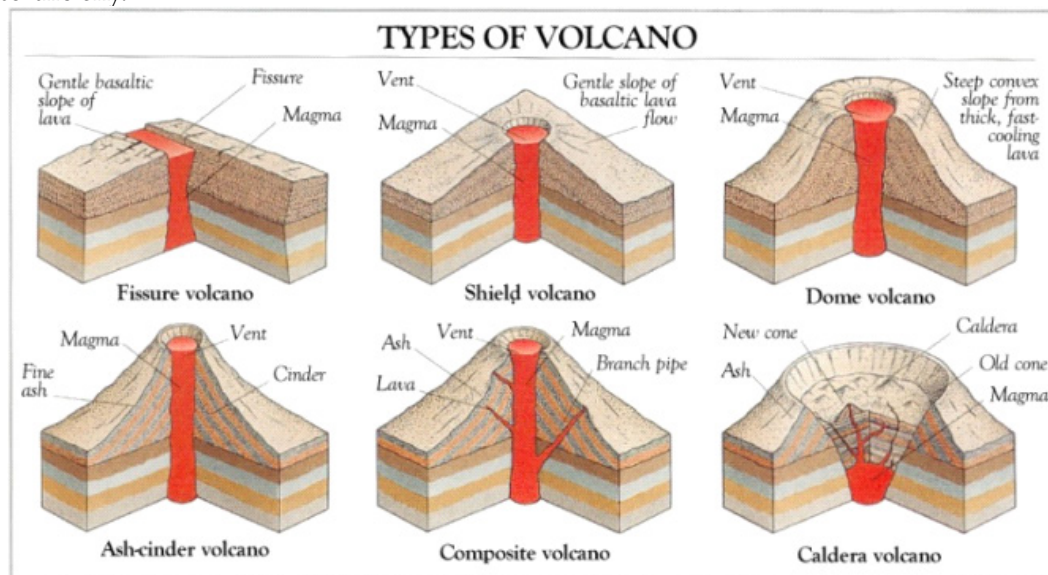
The Shiveluch volcano in Russia's far eastern Kamchatka peninsula may be gearing up for its first powerful eruption in 15 years.

Important Points

- Kamchatka is home to 29 active volcanoes, part of a vast belt of Earth known as the "Ring of Fire" which circles the Pacific Ocean and is prone to eruptions and frequent earthquakes.
- Most of the peninsula's volcanoes are surrounded by sparsely populated forest and tundra, so pose little risk to local people, but big eruptions can spew glass, rock and ash into the sky, threatening aircraft.
- According to the United States Geological Survey (USGS), these kinds of eruptions typically happen three or four times a year in Kamchatka, requiring air traffic to be rerouted.
- Six volcanoes in Russia's northeast are currently showing signs of increased activity, including Eurasia's highest active volcano Klyuchevskaya Sopka, which began erupting.

Shiveluch

- Shiveluch is one of the largest and most active volcanoes in Kamchatka, having erupted at least 60 times in the past 10,000 years.
- It has two main parts: Old Shiveluch, which tops 3,283 metres (10,771 ft), and Young Shiveluch – a smaller, 2,800-metre peak protruding from its side.
- Young Shiveluch lies within an ancient caldera – a large crater-like basin that likely formed when the older part underwent a catastrophic eruption at least 10,000 years ago.
- It is this part that has become extremely active and has been warned that the volcano's lava dome continues to grow and that stronger "fumarole activity" has been observed.
- Domes are mounds that form from accumulating lava, and fumaroles are openings through which hot sulphurous gases emerge.
- The volcano has been continuously erupting since August 1999, but occasionally undergoes powerful explosive events, including in 2007, when NASA said it ejected a large ash cloud 9,750 metres (32,000 ft) into the sky.



Chapter- 4

ECONOMY

UNCTAD Global Investment Trend Monitor Report – 2022

Why in News

Recently the United Nations Conference on Trade and Development (UNCTAD) has published the Global Investment Trend Monitor Report – 2022

Important Points

- As per the report, the number of climate mitigation and adaptation investment projects declined 7 per cent and 12 per cent respectively from January through September 2022, as the world grapples with an economic slowdown.
- Shrinking investments across industries, especially those that play a major role in tackling climate change, was in stark contrast to the growth seen in 2021.
- The gap between mitigation and adaptation financing was also huge in 2022, the UNCTAD analysts observed: Mitigation projects accounted for 94 per cent of international climate investments.
- It has said that the shift from fossil-fuel to green investments to support the energy transition risks a setback, due to the loss of momentum in renewables and high oil and gas prices.
- As much as two-thirds of the international project finance deals and greenfield investments in renewables went to developed economies.
- North America and developing Asia attracted about 200 projects each, while Latin America, the Caribbean and Africa had about 150 and 100 respectively.
- The global economic downturn has also affected fossil-fuel based energy generation and extraction projects, which reduced 16 per cent during the first three quarters of 2022.
- But the energy crisis facing many countries and the higher profits made by these industries can lead to the world falling back on polluting fuels. This can lead to more investment in the fossil-fuel sector and derail the shift to renewable energy.
- The overall decline in new project investment during the period also indicated “tightening financial conditions and higher investor uncertainty”.
- Developed countries as well as Latin America and Central Asia recorded the biggest declines.
- Extractives and petrochemicals industries were among the few that bucked the trend of dwindling project numbers, the observers wrote.
- The number of greenfield projects shrank 10 per cent in the first three quarters of 2022 but grew in value due to some big-ticket announcements in electricity and gas supply.
- UNCTAD has said that food, fuel and finance crises around the world, the Ukraine war, rising inflation and interest rates and fears of a coming recession were among reasons for the drying up of funds.
- It has noted that foreign direct investment (FDI) flows in the second quarter of 2022 reached an estimated \$357 billion. This was 31 per cent lower than the first three months of 2022.
- FDI flow declined 22 per cent in developed economies but grew 6 per cent in the developing economies combined.
- But the fund distribution was uneven in the developing world: Latin America and developing Asia maintained previous upward FDI momentum, while flows to Africa nearly dried up completely.

The United Nations Conference on Trade and Development (UNCTAD)

- It was established in 1964 by UNGA as an intergovernmental organization intended to promote the interests of developing states in world trade.
- Its Headquarters : Geneva, Switzerland.
- 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”.

- The primary objective of UNCTAD is to formulate policies relating to all aspects of development including trade, aid, transport, finance and technology.
- The conference ordinarily meets once in four years; the permanent secretariat is in Geneva.
- One of the principal achievements of UNCTAD has been to conceive and implement the Generalized System of Preferences (GSP).
- UNCTAD is the part of the United Nations Secretariat dealing with trade, investment, and development issues.
- It reports to the UN General Assembly and United Nations Economic and Social Council.

India's First Floating Financial Literacy Camp

Why in News

India Post Payments Bank (IPPB) has recently conducted India's First Floating Financial Literacy Camp with an initiative called 'Niveshak Didi'.

Important Points

- IPPB, in collaboration with Investor Education and Protection Fund Authority (IEPFA) under the aegis of Ministry of Corporate Affairs (MCA), launched the initiative called 'Niveshak Didi' to promote Financial Literacy "By the women, for the women" concept.
- 'Niveshak Didi' initiative is based on the ideology of women for women as rural area women feel more comfortable to share their queries with a female herself
- As part of launch of 'Niveshak Didi' initiative, IPPB conducted India's First Floating Financial Literacy Camp by a newly appointed 'Niveshak Didi'.
- The Floating Financial Literacy Camp was conducted among the local residents around the world-famous Dal Lake of Srinagar, J&K.



Investor Education and Protection Fund Authority

- It was established by the Government of India in September, 2016 for administration of Investor Education and Protection Fund under the provisions of section 125 of the Companies Act, 2013.
- The Authority is entrusted with the responsibility of administration of the Investor Education Protection Fund (IEPF).
- It makes refunds of shares, unclaimed dividends, matured deposits/debentures etc. to investors.

The IEPF is to be utilized for

- The refund in respect of unclaimed dividends, matured deposits, matured debentures, the application money due for refund and interest thereon.
- Promotion of investors' education, awareness and protection.
- Distribution of any disgorged amount among eligible and identifiable applicants for shares or debentures, shareholders, debenture-holders or depositors who have suffered losses due to wrong actions by any person, in accordance with the orders made by the Court which had ordered disgorgement.

India Post Payments Bank (IPPB)

- IPPB was established under the Department of Posts, Ministry of Communication with 100% equity owned by the Government of India.
- It was launched by the Prime Minister of India in September 2018.
- The bank has been set up with the vision to build the most accessible, affordable and trusted bank for the common man in India.
- The fundamental mandate of IPPB is to remove barriers for the unbanked and under-banked and reach the last mile leveraging a network comprising 160,000 post offices (145,000 in rural areas) and 400,000 postal employees.
- IPPB's reach and its operating model is built on the key pillars of India Stack – enabling Paperless, Cashless and Presence-less banking in a simple and secure manner at the customers' doorstep, through a CBS-integrated smartphone and biometric device.
- Leveraging frugal innovation and with a high focus on ease of banking for the masses, IPPB delivers simple and affordable banking solutions through intuitive interfaces available in 13 languages.

Electronic Bank Guarantees (E-BGs)

Why in News

NHAI has recently started accepting Electronic Bank Guarantees (E-BGs) and has also digitalized all its existing Bank Guarantees.

Important Points

- In a boost to digital technology, NHAI has started accepting Electronic Bank Guarantees (E-BGs) and has also digitised all its existing Bank Guarantees to further improve efficiency and transparency of internal processes and take forward the adoption of e-governance.
- The National Highways Authority of India (NHAI) is utilising the E-BG services of National e-Governance Services Limited (NeSL), which facilitates reduction in physical paper movement, elimination of physical storage needs and easy access for Bank Guarantee life cycle events like invocation, renewal and closure.
- Few E-BGs have already been issued by the Banks in favour of NHAI.
- Bank Guarantee (BG) is a commercial instrument used as a legal contract in which a bank acts as a guarantor and undertakes an obligation to pay the beneficiary a certain amount of money specified in the guarantee if the debtor from the original contract does not fulfill his contractual obligations.
- An e-BG is a substitute to paper-based guarantees.
- It can be processed, stamped, verified and delivered instantly, compared with the time-consuming paper-based process.
- Paper-based bank guarantees typically take 3-to-5 day as the process involves physical pick up from the bank, courier to the beneficiary, stamping and re-verifying.
- An e-BG eliminates physical stamping and replaces it with e-stamping.
- The applicant and beneficiary can instantly view a bank guarantee.
- An e-BG also provides for enhanced security and reduces the possibility of fraud.
- Organisations like NHAI require BG, generally for faithful fulfillment of contractual obligations. The physical form of the BG presents challenges like time consuming verification process and possibility of frauds.
- However, NHAI has been dealing with BG related issues and challenges effectively and efficiently through its internal processing mechanism.
- HDFC Bank, in September 2022, issued the country's first e-BG in partnership with National e-Governance Services Limited (NeSL).

National e-Governance Services Limited (NeSL)

- NeSL is India's first Information Utility and is registered with the Insolvency and Bankruptcy Board of India (IBBI) under the aegis of the Insolvency and Bankruptcy Code, 2016 (IBC).
- The company has been set up by leading banks and public institutions and is incorporated as a union government company.

- The primary role of NeSL is to serve as a repository of legal evidence holding the information pertaining to any debt/claim, as submitted by the financial or operational creditor and verified and authenticated by the parties to the debt.

NeSL works towards

- Time-bound resolution by providing verified information to creditors and to Adjudicating Authorities that do not require further authentication.
- Default intimation to Creditors linked to a debtor when any creditor files a default against a debtor.
- Mitigation of information asymmetry between parties to a debt.
- Superior credit monitoring by creditors.
- An agreed statement of outstanding balance between parties to a debt.
- Facilitate all stakeholders of the IBC ecosystem by leveraging Information Technology to achieve objective of code.



Record high Currency in circulation

Why in News

Despite the increase in digitization, cash with the public is at a record high of over 30 lakh cr, six years since demonetisation (over 71% higher than the level for November 2016).

Important Points

- Demonetisation is the process by which the demonetised notes cease to be accepted as legal currency for any kind of transaction.
- Six years ago, the Government of India announced the demonetisation of all banknotes of Rs 500 and Rs 1,000, as a step against accumulation and circulation of domestic black money.
- Prime Minister Narendra Modi, in his televised address to the nation on November 8, 2016, said that the two banknotes will be “just worthless piece of paper,” with immediate effect, and went on to introduce new notes of Rs 2,000 and Rs 500 for public circulation.
- While many have pegged it as a “bold” move, the Opposition, over the years, has criticised the BJP government, calling the decision a “failure”.

Demonetisation: A digital push?

- Union Finance Minister Nirmala Sitharaman had hailed the move as a “major push to digital economy” in 2020.
- As India went into stringent lockdowns during the Covid-19 pandemic-hit years – 2020 and 2021 – people, however, started accumulating cash to meet their essential needs.
- Although currency with the public, which stood at Rs 17.97 lakh crore on November 4, 2016, declined to Rs 7.8 lakh crore in January 2017 soon after demonetisation, cash in system recorded a steady increase in the year 2020.
- In the fortnight ended October 23, 2020, the currency with public rose by Rs 10,441 crore.
- As of October 8, 2021, currency with the public stood at Rs 28.30 lakh crore. Moreover, as The Indian Express has reported, currency in circulation (CIC) increased to a high of 14.4 per cent of GDP in 2020-21, a jump from 10.7 per cent of GDP in 2017-18.

Purchase of Gold

Why in News

Central Banks the world over are buying Gold as the economic uncertainty grows.

Important Points

- India bought 191.7 tonnes of gold worth Rs 85,010 crore in Q3 2022 and also defied the international gold investment trend by posting a positive gold investment figure, the World Gold Council (WGC) has said in its report.
- The WGC Q3 gold demand trends report shows that the demand for gold, excluding over the counter (OTC) values is up by 28 per cent to 1,181 tonnes. As a result of this strong demand, the tally of the gold year-to-date (YTD) total has reached its pre-Covid era levels.
- Although most of the gold demand was a result of demand from consumers and central banks, the demand for gold as an investment demand remained subdued with a notable contraction in demand.
- The demand for gold as an investment was down by 47 per cent on a year-on-year (y-o-y) basis.
- The report further noted that in India, gold investment demand in Q3 2022 was at Rs 20,150 and was about 10 per cent up as compared to the corresponding period a year ago.
- India Demanded Gold Worth Rs 85,010 Crore In Q3 2022.
- India's demand for gold for Q3 2022 was up by 14 per cent at 191.7 tonnes. In Q3 2021, the demand was 168 tonnes.
- In terms of valuation, the Q3 2022 value of gold was Rs 85,010 crore, and in Q3 2021, it was Rs 71,630 crore.
- Credit expansion added impetus to this demand, with bank loan growth touching a nine-year high by quarter-end.
- Demand For Gold Jewellery In India Up By 17 per cent
- The total jewellery demand in India for Q3 2022 was 146.2 tonnes, up by 17 per cent as compared to the Q3 2021 figure of 125.1 tonnes, the report said.
- In terms of valuation, the demand for gold jewellery was worth Rs 64,860 crore, while in Q3 2021, it was Rs 53,330 crore.
- The total gold recycled in India was, however, down by 23 per cent at 16 tonnes in Q3 2022. In Q3 2021, it was 20.7 tonnes.
- Highlighting the reasons as to why the demand for gold jewellery in India was high, Somasundaram said that the recovery in gold jewellery demand was primarily driven by urban India, more specifically southern parts, underpinned by robust economic activities.

India's Future Outlook For Gold

- The demand for gold bars and coins also saw a 6 per cent improvement, as "retail investors responded to gold price drop and weaker equity markets, along with festivities around Ganapati and Puja festivals."
- Somasundaram believes there is optimism in the overall outlook for gold demand in India due to various factors. Also, the Indian retail investment is "likely to continue to benefit from safe-haven demand amid rising interest rates and a weakening rupee."
- Besides, there is optimism for a rise in demand for gold in India. That said, the record-breaking Q4 2021 numbers will in all probability not to be matched this year, he says.
- "There's optimism in the overall outlook for the rest of the year with weddings and Diwali demand in Q4, but it is unlikely to match last year's record-breaking Q4."
- Our gold demand estimate for the full year is around 750-800 tonnes similar to last year," Somasundaram further says.

Domestic Inflation

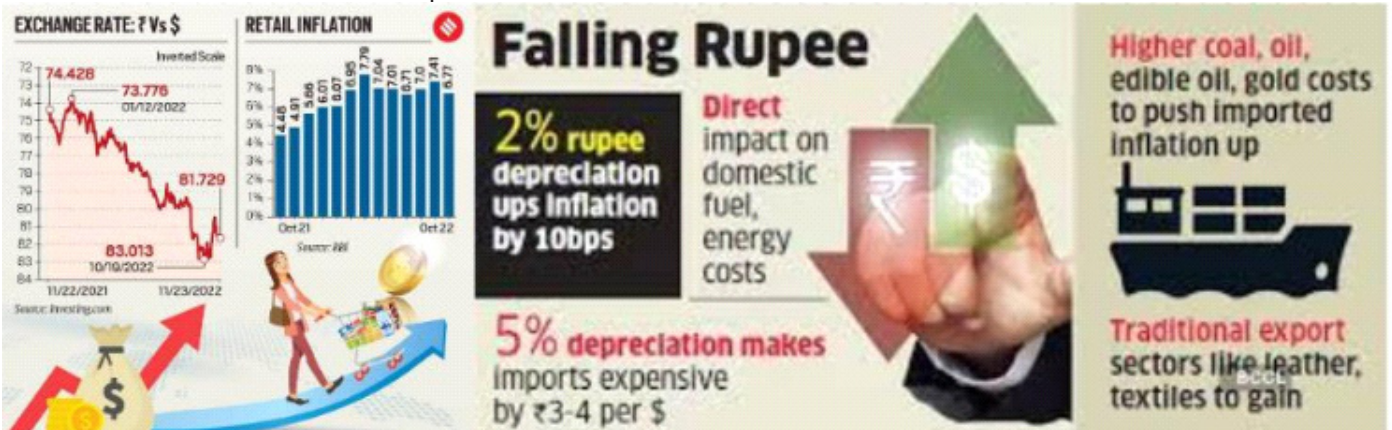
Why in News

C Rangarajan bats for maintaining hawkish stance on interest rates hikes

Important Points

- C Rangarajan, the former Governor of the Reserve Bank of India, advocated maintaining the ongoing hawkish stance by the RBI to curb inflation and avert recessionary fears.

- The former RBI governor also expected that the Indian currency will strengthen with resumption of capital inflow.
- Rangarajan also said India will have to clock an 8-9% year-on-year growth for the next five years to achieve the target of a \$5-trillion economy.
- Speaking at the Samar Kanti Paul Memorial Lecture at the Ramkrishna Mission Institute of Culture on Saturday evening, the 90-year-old economist said he would be happy if the country's economic growth reaches seven per cent in the current fiscal
- The current policy stance should continue. Developed countries are also taking steep rate hikes.
- The retail inflation is at 7 per cent.



On rupee trend

- Speaking on the rupee trend, Rangarajan said, there was a sharp fall in rupee value against the US Dollar to Rs 79-80 with the outflow of capital.
- There was a positive inflow of Rs 22,000 crore from foreign portfolio investors in August 2022, after months of relentless selling.
- The rupee declined by 7 paise to close at 79.78 against the US dollar.
- At the interbank foreign exchange market, the domestic currency opened at 79.80 per dollar. It hovered in a range of 79.71 to 79.85 during the session.
- The domestic unit finally settled at 79.78, down 7 paise over its previous close of 79.71.
- Rangarajan stressed on the need to increase the investment rate to 33%, which has slipped to 27-28%, to achieve a higher growth rate.
- Asserting that reforms must continue in various sectors like power and agriculture marketing.
- He also called for harmony in the Centre-state relationship.
- He urged the government to address challenges for adaptation to new technology and issues related to employment generation.
- Citing an example, Rangarajan said that switching to electric vehicles may be beneficial with a reduction in fossil fuel use but the country may have to import other products for EVs.

Framework for safeguarding consumer interest

Why in News

Union government has recently launched the framework for safeguarding and protecting consumer interest from fake and deceptive reviews in e-commerce.

Important Points

- The Department of Consumer Affairs launched a set of rules to protect the consumer interest from fake and deceptive reviews in e-commerce.
- Department of Consumer Affairs Secretary Rohit Kumar Singh has launched the framework that will be applicable to every online platform that have reviews of the consumers.
- The framework would first be voluntary for compliance by all e-commerce platforms.
- The Ministry of Consumer Affairs, Food & Public Distribution said the standards will have guiding principles as integrity, accuracy, privacy, security, transparency, accessibility and responsiveness.
- The consumers who would review the products will have to first accept the terms and conditions, providing contact information.

- The review administrator will have to ensure the safeguarding personal information and training of the staff.
- The ministry said, "Once made mandatory, if required, the violation of the standards by any entity may be considered as an unfair trade practice or violation of consumer rights and a consumer may submit such grievances to the National Consumer Helpline, Consumer Commissions or the CCPA."
- The standard provides for responsibilities of organization including developing a code of practice, and necessary stipulations for terms and conditions like accessibility, criteria, and ensuring content does not contain financial information etc.
- The standard also provides for methods for verification of review author through email address, identification by telephone call or SMS, confirming registration by clicking on a link, using captcha system etc. to check traceability and genuineness of the review author.
- For the publication, the content would be reviewed by the review administrator at the time of publication process and after the publication process.
- The standards charted out by the ministry will help build the confidence among the consumers to decide and purchase the goods online.
- The framework is titled Indian Standard (IS) 19000:2022 'Online Consumer Reviews — Principles and Requirements for their Collection, Moderation and Publication.'
- The standard will initially be voluntary for compliance by all e-commerce platform. BIS will also develop a Conformity Assessment Scheme for the standard to assess compliance.

Central Depositories Services India Ltd (CDSL)

Why in News

Certain services at CDSL were disrupted due to a suspected cyber attack recently.

Important Points

- Certain services at CDSL were disrupted due to a suspected cyber attack over the weekend, media reports said. The problem had been fixed by Sunday evening, the reports said.
- What is CDSL?
- CDSL, or Central Depositories Services India Ltd, is a government-registered share depository, alongside its other state-owned counterpart National Securities Depository Ltd (NSDL).
- Share depositories hold shares in an electronic or dematerialised form and are an enabler for securities transactions, playing a somewhat similar role to what banks play in handling cash and fixed deposits.
- While banks help customers keep their cash in electronic form, share depositories help consumers store shares in a dematerialised form.
- CDSL was founded in 1999.
- It is a Market Infrastructure Institution or MII that is deemed as a crucial part of the capital market structure, providing services to all market participants, including exchanges, clearing corporations, depository participants, issuers and investors.

National Securities Depository Ltd(NSDL)

- NSDL is one of the largest Depositories in the World, established in August 1996 has established a state-of-the-art infrastructure that handles most of the securities held and settled in dematerialized form in the Indian capital market.
- The enactment of Depositories Act in August 1996 paved the way for establishment of NSDL.
- Using innovative and flexible technology systems, NSDL works to support the investors and brokers in the capital market of the country.
- NSDL aims at ensuring the safety and soundness of Indian marketplaces by developing settlement solutions that increase efficiency, minimize risk and reduce costs.
- In the depository system, securities are held in depository accounts, which is more or less similar to holding funds in bank accounts.
- NSDL provides bouquet of services to investors, stock brokers, custodians, issuer companies etc. through its nation wide network of Depository Partners.

Regulatory framework for Online Bond Platform Providers

Why in News

Securities and Exchange Board of India (Sebi) has recently came out with regulatory framework for online bond platform providers in a bid to streamline their operations.

Important Points

Regulatory framework

- Online Bond Platform Providers (OBPPs) are companies incorporated in India and they should register themselves as stock brokers in the debt segment of the stock exchange, as per the framework that would be effective immediately.
- SEBI has said that an entity acting as an OBPP prior to the new rules coming into force, cannot offer products or services on its platform except listed debt securities and debt securities proposed to be listed through a public offering.
- After obtaining registration as a stock broker in the debt segment of a stock exchange, an entity would have to apply to the bourse to act as an OBPP.
- In its application, the entity will have to ensure that roles and obligations, technology, operating framework — access and participation, Know Your Client (KYC) for on-boarding investors and sellers and risk profiling of investors — are complied with.
- The entity would have to ensure compliance with the minimum disclosure requirements. It would also have to disclose on its platform all instances of conflict of interest, if any, arising from its transactions or dealings with related parties.
- Further, the entity needs to have a comprehensive risk management framework covering all aspects of its operations and would have to ensure that risks associated with its operations are identified properly and managed prudently.
- The OBPP concerned would be required to have appropriate safeguards to deal with exigencies like suspension of trading in debt securities, cancellation of orders by the investors and sellers, and malfunctions in the use of its systems by investors and sellers.
- Further, the OBPP would have to keep the stock exchanges informed of events resulting in disruption of activities or market abuse without undue delay.
- The entity is required to maintain all data relating to its activities in an easily retrievable media and maintain confidentiality and security of all data relating to its activities and strictly control access to such data.

IEC

Why in News

India wins IEC vice presidency and chair of Strategic Management Board for 2023-25 terms

Important Points

- In yet another achievement on the international front, India has won the vice presidency of International Electrotechnical Commission (IEC) and the chair of Strategic Management Board (SMB) for the 2023-25 term, according to the Ministry of Consumer Affairs, Food & Public Distribution.
- International Electrotechnical Commission (IEC) is an international standard setting body that publishes international standards for all electrical, electronic and related technologies.
- Standardization Management Board (SMB) is an apex governance body of IEC responsible for technical policy matters.
- Vimal Mahendru will be the IEC Vice President representing India.
- By securing over 90 percent of the votes cast by full members of International Electrotechnical Commission (IEC) during its general meeting held recently in San Francisco, USA, India's representative, a member of the Indian National Committee of the International Electrotechnical Commission (IEC) and various technical committees of Bureau of Indian Standards (BIS-India), was elected.

- Representation of BIS (India) in policy and governance bodies of International Organization for Standardization (ISO) and IEC ensures that Indian viewpoints on the important strategic and policy matters are put forth and it also provides opportunities to align the national standardization priorities with international best practices.
- BIS is continually expanding its international footprints by working on the growth mantra provided by the Minister of Commerce and Industry, Consumers Affairs, Food & Public Distribution and Textiles.
- Currently, BIS (India) is represented in various policy and governance bodies of International Organization for Standardization (ISO) and IEC such as ISO Council, ISO Technical Management Board (TMB), IEC SMB, IEC Market Strategy Board (MSB), IEC Business Advisory Committee (BAC), etc.

India's first multimodal logistics park

Why in News

India's first multimodal logistics park (MMLP) in Chennai, Tamil Nadu.

Important Points

- Reliance Industries Ltd (RIL) has been awarded the work to develop the first multi-modal logistics park (MMLP) at Mappedu in Thiruvallur district of Tamil Nadu.
- MMLP will be spread over 184 acres and cost Rs 1,424 crore.
- The project will get adequate connecting infrastructure support through a special purpose vehicle (SPV) formed between central and state agencies..
- MMLP at Chennai which is strategically located 52 Km from Chennai Port, 80 Km from Ennore Port.
- It is estimated to cater to 7.17 Million Metric Tonne (MMT) cargo in a horizon period of 45 year.
- Moreover, it is one of the several flagship projects announced under the Bharatmala Project of the Ministry of Road Transport and Highways, which envisions the building of 35 such MMLPs.
- The Centre plans to build 15 of these within the next two years. Under the National Logistics Policy (NLP) and PM-GatiShakti, it wants to bring down logistics costs to under 10 per cent of the GDP in a bid to make exports competitive and supply chains more efficient.
- MMLPs will act as centres for freight aggregation and distribution, storage and warehousing, providing added incentives to logistics companies such as customs clearances.
- These parks will also facilitate intermodal transportation – roads, railways, and inland waterways, with the aim of strengthening and diversifying the logistics system.

Citizen Perception Survey 2022

Why in News

Minister Housing and Urban Affairs launched the Transport 4 All Challenge Stage-2 and Citizen Perception Survey 2022 recently.

Important Points

Citizen Perception Survey 2022

- It is part of the Ease of Living Index seeking to directly capture the perception of citizens with respect to the quality of life in their cities.
- The survey helps government administrations understand the opinion of citizens and help improve service delivery and governance of cities.
- MoHUA launched the Urban Outcomes Framework 2022 in April, 2022 as an initiative to undertake a transparent and comprehensive assessment of cities based on cross-city outcomes across major sectors.
- The Framework also includes the third round of Ease of Living Index.
- The Ease of Living Index, as a 360-degree assessment, aims to evaluate cities across India based on the Quality of Life, Economic Ability, and Sustainability.
- As part of the Ease of Living Index, a Citizen Perception Survey is being conducted (which carries 30% of the marks under the Ease of Living Index).
- These views would highlight how citizens feel about different aspects of their cities including public transport, education facilities, healthcare services, water availability, cost of living, employment opportunities, among others.

- This survey, which is being administered both online and offline, commenced from 9th November 2022 and will continue till 23rd December 2022.
- This survey was first conducted in 2020 and had a target of 16 lakh responses.
- In 2022, the Survey is being carried out across 264 cities with an aim to capture and reflect opinions of from more than 21 lakh citizens across the length and breadth of the country.
- The top performing cities will be rewarded under the 'City Engagement Award'.
- The National Institute of Urban Affairs (NIUA) is anchoring the program, along with its agency Quality Council of India (QCI), who are supporting MoHUA in undertaking the exercise.

Transport 4 All Challenge Stage-2

- Minister Housing and Urban Affairs has also launched the Transport 4 All Challenge Stage-2.
- It is an initiative of the Ministry of Housing and Urban Affairs, Government of India, that aims at enhancing the mobility experience of citizens.
- The Challenge focuses on digital innovation and invites cities, citizens, and innovators to join hands to develop contextual digital solutions to improve formal as well as informal public transport to better serve the mobility needs of all citizens.



Interest-free banking

Why in News

Finance Minister of Pakistan has recently announced that the government would introduce interest-free banking in the country.

Important Points

Interest-free banking

- Islamic banking refers to banking activity that conforms to laws and values laid down by Islamic law or Sharia.
- The basis of Islamic finance is the rejection of usury (the levying of unreasonable high interest rates) while lending money, along with the requirement that there must not be any engagement with immoral businesses.
- Interest free banking is a narrow concept within this system, that denotes a number of banking operations which avoid interest.
- Riba is the Islamic term for interest charges on loans, and according to the current interpretation, covers all interest, not just excessive interest.
- Under Islamic law, a Muslim is prohibited from paying and accepting interest on a predetermined rate.
- As per Islamic banking, money can only be parked in a bank without interest and cannot be used for speculative trading, gambling, or trading in prohibited commodities such as alcohol or pork.

How does it work?

- While banking is premised on charging interest while lending, and paying interest on deposits, there are a number of financial institutions even in the West, that also structure their accounts in Sharia compliant ways. In 2015, Germany opened its first Sharia compliant bank in Frankfurt.
- Various instruments are available for those who want to take credit from a Sharia compliant bank. In an Ijarah contract, a bank purchases the asset on behalf of the client and allows its usage for a fixed rental rate. After a mutually agreed time, the ownership of the asset is transferred to the client.
- Another instrument is Murabaha, which means a sale on mutually agreed profits. In this financing technique, an asset is purchased by the bank at a market price and sold to the customer at a mutually decided marked-up cost. The client is allowed to repay in instalments.

- Musharaka refers to a joint investment by the bank and the client. Under the agreement, an Islamic bank provides funds, which are mixed with the funds of the business enterprise and others.
- The bank and the client both contribute to the funding of an investment of purchase, and agree to share the profit or loss in agreed-upon proportions.

Interest-free banking in India

- In a report submitted to the government in 2008, a committee headed by Raghuram Rajan had, without naming Sharia banking, suggested the need to have interest-free banking in India.
- The non-availability of interest-free banking products (where the return to the investor is tied to the bearing of risk, in accordance with the principles of that faith) results in some Indians, including those in the economically disadvantaged strata of society, not being able to access banking products and services due to reasons of faith.
- This non-availability also denies India access to substantial sources of savings from other countries in the region.
- The Reserve Bank of India (RBI) in 2016 had suggested that given the complexities of Islamic finance and various regulatory challenges involved, Islamic banking could be gradually introduced through the opening of an “Islamic window” in conventional banks.
- In 2017, the RBI however said that it had decided to not pursue the proposal for introducing Islamic banking in the country.



TRANSFORM IAS
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Chapter- 5

SCIENCE AND TECHNOLOGY

AMR Salmonella

Why in News

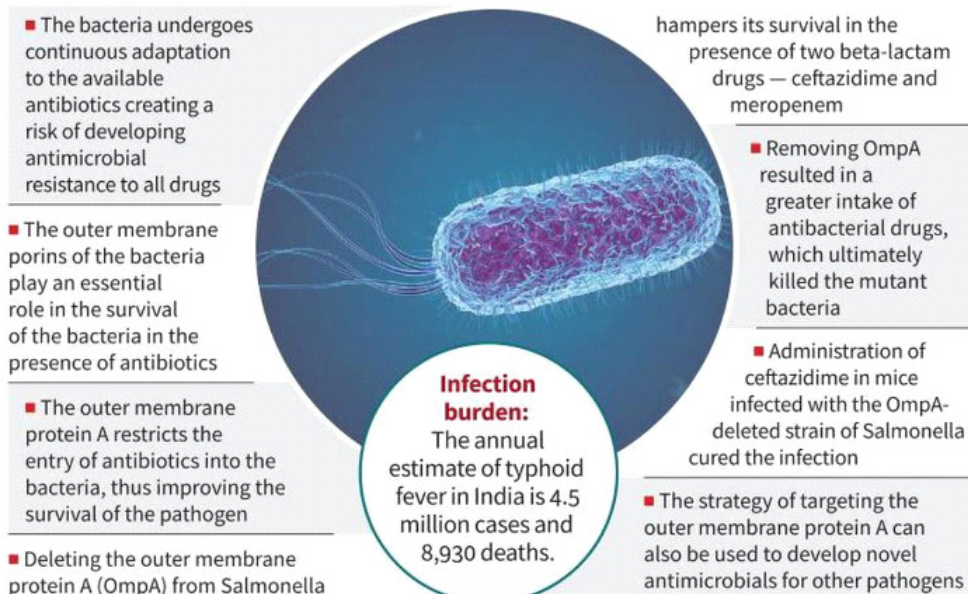
Recently a new target was found to combat AMR Salmonella.

Important Points

- Recent studies have found the emergence of multi-drug resistant Salmonella typhimurium DT104 that causes infections in humans and cattle.
- In this study, scientists showed that deleting outer membrane protein A (OmpA) from Salmonella hampered its survival in the presence of two β -lactam drugs — ceftazidime and meropenem.
- OmpA is one of the most abundant barrel-shaped porin proteins localised in the outer membrane of Salmonella.
- The absence of OmpA in Salmonella hampers the stability of the bacterial outer membrane and reduces the expression of efflux pump genes.
- The study further showed that the outer membrane protein A could restrict the entry of antibiotics into the bacteria, thus improving the survival of the pathogen under antibiotic treatment.
- Removing OmpA resulted in a greater intake of ceftazidime and meropenem, which ultimately killed the mutant bacteria by disrupting its outer envelope.
- Most importantly, this study showed that disruption of OmpA can also effectively reduce the antibiotic-resistant persister population of Salmonella.
- The loss of integrity of the bacterial outer membrane in the absence of OmpA made the bacteria highly susceptible to killing by the host's innate immune system.
- Other Gram-negative pathogens (Escherichia coli, Acinetobacter baumannii, Klebsiella pneumoniae, Pseudomonas aeruginosa, etc.) use outer membrane porins for various purposes, ranging from maintaining outer membrane stability to developing antimicrobial resistance.
- As demonstrated in the study, the strategy to target outer membrane protein A (OmpA) of Salmonella can also be used to develop novel antimicrobials for other pathogens that can effectively reduce the risk of antimicrobial resistance (AMR) in the future.

Neutralising multi-drug resistant Salmonella

The bacteria causes bloodstream infection in malnourished and immunocompromised people



AMR Salmonella & its threat-

- The rapid and unselective use of traditional antibiotics gives rise to the emergence of drug resistant phenotype in typhoidal and non-typhoidal Salmonella serovars, which has increased the difficulties in curing Salmonella-induced food-borne illnesses (majorly typhoid or paratyphoid fever, gastroenteritis, and diarrhoea) worldwide.
- Salmonella typhimurium ST313, an invasive non-typhoidal Salmonella serovar, causes bloodstream infection in the malnourished and immunocompromised population of sub-Saharan Africa.
- Recent studies have reported the emergence of multi-drug resistant (MDR) phenotype in Salmonella typhimurium DT104, which causes infection in humans and cattle.
- The MDR phenotype in this pathogen was provided by Salmonella Genomic Island-1 (SGI-1), which confers protection against a wide range of antibiotics, including ampicillin (pse-1), chloramphenicol/florfenicol (floR), streptomycin/spectinomycin (aadA2), sulphonamides (sul1), and tetracycline (tetG) (ACSSuT).
- Further emergence of extensively drug-resistant (XDR) S. Typhimurium ST313 (having multi-drug resistant (MDR) and resistance against extended-spectrum beta-lactamase and azithromycin) in Africa posed a significant threat to global health.
- Recent studies reported an annual incidence of as many as 360 cases of typhoid fever per 1,00,000 people with 8,930 deaths (0.2% fatality rate) in India.
- The continuous adaptation of this bacteria to the available antibiotics creates a risk of developing antimicrobial resistance in the future.

China's Mengtian module

Why in News

China has recently launched a lab module called Mengtian or "Dreaming of the Heavens", the last of the three modules that will comprise its space station.

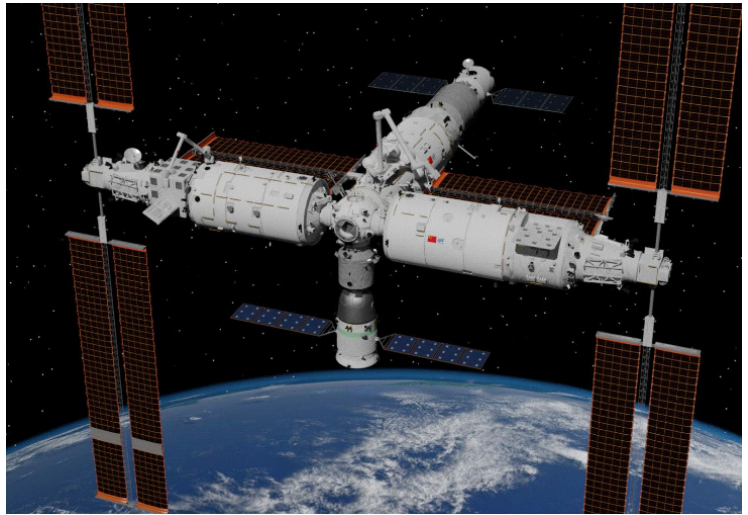
Important Points

- China launched the Mengtian laboratory cabin module into space, where it will join the Tiangong modular space station.
- This module, whose name translates to "Dreaming of the Heavens," is the second laboratory and final addition to Tiangong ("Palace in the Sky").
- This successful launch places China one step closer to completing its first long-term space station, roughly one-fifth the mass of the International Space Station (ISS) and comparable in size to Russia's decommissioned Mir space station.
- China's space station is the third installment in China's Tiangong program, which began with the launch of Tiangong-1 in September 2011.
- The launch of Tiangong-2 followed in September 2016 – a few months before its predecessor was deorbited and burned up in the atmosphere – and deorbited by July 2019.
- The lessons learned from these two stations informed the creation of Tiangong-3, which began with the deployment of the Tianhe ("Harmony of the Heavens") core module in April 2021.
- This was followed by multiple crewed and uncrewed missions to the station to develop expertise in rendezvous' and short-term stays.
- This year, China began adding laboratory cabin modules, starting with the Wentian ("Quest for the Heavens") science module in July 2022.
- The Mengtian module is similar in terms of size and weight to Tianhe and Wentian, measuring 17.9 meters (65 ft) long, 4.2 meters (13.8 ft) in diameter (at its widest point), and weighing about 23 metric tons (25.35 US tons).
- Unlike the Tianhe and Wentian modules, the laboratory cabin modules are mainly designed for scientific experiments.
- Their interior layout consists of four sections: a working cabin, a payload cabin, a resource cabin, and an airlock cabin – but no sleeping cabin.
- When the next taikonaut crews arrive, they will use these labs to conduct microgravity research, including fluid physics, materials and combustion science, and aerospace technology experiments.

- China hopes this station will succeed the ISS once it is decommissioned (currently scheduled for 2030).

What is the Mengtian module?

- Scientific equipment in the Mengtian module will be used for studying microgravity and carrying out experiments in fluid physics, materials science, combustion science and fundamental physics.
- Also, the Mengtian will carry the world's first space-based set of cold atomic clocks consisting of a hydrogen clock, a rubidium clock and an optical clock.
- It was launched by Long March-5B Y4, one of China's biggest rockets from Wenchang Spacecraft Launch Site on the coast of the southern island province of Hainan.
- If successful, the cold atomic clocks will form the most precise time and frequency system in space, which should not lose one second in hundreds of millions of years.



Global Climate Observing System(GCOS)

Why in News

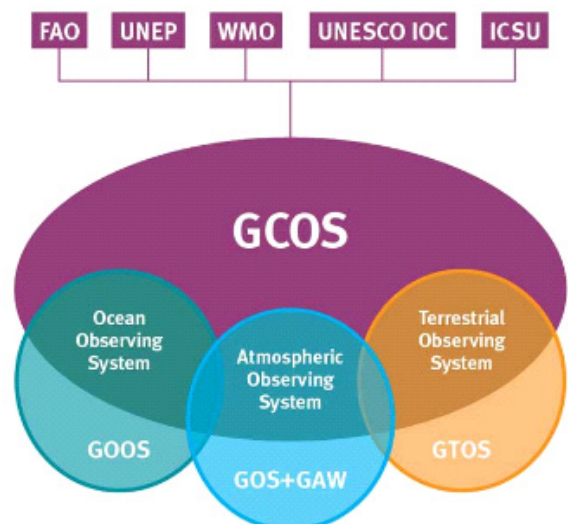
The declaration released by the Global Climate Observing System conference has recently stated that Sustainable and long-term funding is essential to ensure the continuity and expansion of observations.

Important Points

- GCOS conference was hosted by Exploitation of Meteorological Satellites (EUMETSAT).
- Operational monitoring of the climate and detection of global climatic changes are the fundamental objectives of EUMETSAT.
- According to State of Global Observation Systems, 2021, the status of climate observation systems has not improved much in Africa, South America and Southeast Asia since 2015.
- GCOS Implementation Plan 2022, released by the WMO, also identified gaps in earth observations and areas that require improvement. The plan will be presented at COP27.
- The Global Climate Observing System programme (GCOS) has published The 2022 GCOS Implementation Plan and the 2022 ECV Requirements.
- The GCOS Implementation Plan (GCOS-244) is a response to the findings of the 2021 GCOS Status Report, implications arising from the IPCC 6th assessment report and recent scientific studies on the climate cycles.
- The publication provides recommendations for a sustained and fit for purpose Global Climate Observing System.

What is the Global Climate Observing System?

- The GCOS is co-sponsored by the World Meteorological Organization (WMO), the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO), the United Nations Environment Programme (UNEP), and the International Science Council (ISC).
- It regularly assesses the status of global climate observations of the atmosphere, land and ocean and produces guidance for its improvement.
- GCOS expert panels maintain definitions of Essential Climate Variables (ECVs) which are required to systematically observe Earth's changing climate.



- The observations supported by GCOS contribute to solving challenges in climate research and also underpin climate services and adaptation measures.

The European Organization for the Exploitation of Meteorological Satellites (EUMETSAT)

- It is an intergovernmental organisation created through an international convention agreed by a current total of 30 European Member States.
- EUMETSAT's primary objective is to establish, maintain and exploit European systems of operational meteorological satellites.
- It is responsible for the launch and operation of the satellites and for delivering satellite data to end-users as well as contributing to the operational monitoring of climate and the detection of global climate changes.
- The activities of EUMETSAT contribute to a global meteorological satellite observing system coordinated with other space-faring nations.

8% of Human DNA is Virus

Why in News

A new study has found that remnants of ancient viral pandemics in the form of viral DNA sequences embedded in our genomes are still active in healthy people.

Important Points

- HERVs, or human endogenous retroviruses, make up around 8% of the human genome, left behind as a result of infections that humanity's primate ancestors suffered millions of years ago. They became part of the human genome due to how they replicate.
- Like modern HIV, these ancient retroviruses had to insert their genetic material into their host's genome to replicate.
- Usually this kind of viral genetic material isn't passed down from generation to generation. But some ancient retroviruses gained the ability to infect germ cells, such as egg or sperm, that do pass their DNA down to future generations.
- By targeting germ cells, these retroviruses became incorporated into human ancestral genomes over the course of millions of years and may have implications for how researchers screen and test for diseases today.
- Viruses insert their genomes into their hosts in the form of a provirus. There are around 30 different kinds of human endogenous retroviruses in people today, amounting to over 60,000 proviruses in the human genome.
- They demonstrate the long history of the many pandemics humanity has been subjected to over the course of evolution.
- Scientists think these viruses once widely infected the population, since they have become fixed in not only the human genome but also in chimpanzee, gorilla and other primate genomes.
- Research has demonstrated that HERV genes are active in diseased tissue, such as tumors, as well as during human embryonic development. But how active HERV genes are in healthy tissue was still largely unknown.
- To answer this question, the scientists decided to focus on one group of HERVs known as HML-2. This group is the most recently active of the HERVs, having gone extinct less than 5 million years ago.
- Even now, some of its proviruses within the human genome still retain the ability to make viral proteins.
- It was found that each tissue sample also contained genetic material from at least one provirus that could still produce viral proteins.
- Researchers have spotted viruslike particles from HML-2 in cancer cells, and the presence of HERV genetic material in diseased tissue has been associated with conditions such as Lou Gehrig's disease, or amyotrophic lateral sclerosis, as well as multiple sclerosis and even schizophrenia.
- This study adds a new angle to this data by showing that HERV genes are present even in healthy tissue. This means that the presence of HERV RNA may not be enough to connect the virus to a disease.
- Importantly, it also means that HERV genes or proteins may no longer be good targets for drugs.

The role of HERVs in human health and disease

- HERVs have been explored as a target for a number of potential drugs, including antiretroviral medication, antibodies for breast cancer and T-cell therapies for melanoma.
- Treatments using HERV genes as a cancer biomarker will also need to take into account their activity in healthy tissue.
- On the other hand, the research also suggests that HERVs could even be beneficial to people. The most famous HERV embedded in human and animal genomes, syncytin, is a gene derived from an ancient retrovirus that plays an important role in the formation of the placenta. Pregnancy in all mammals is dependent on the virus-derived protein coded in this gene.
- Similarly, mice, cats and sheep also found a way to use endogenous retroviruses to protect themselves against the original ancient virus that created them.
- While these embedded viral genes are unable to use their host's machinery to create a full virus, enough of their damaged pieces circulate in the body to interfere with the replication cycle of their ancestral virus if the host encounters it.
- Scientists theorize that one HERV may have played this protective role in people millions of years ago. Our study highlights a few more HERVs that could have been claimed or co-opted by the human body much more recently for this same purpose.



Malaria Vaccine

Why in News

The World Health Organization’s (WHO) recently approved RTS, S/AS01 (Mosquirix) developed by GlaxoSmithKline.

Important Points

- Malaria kills nearly 600,000 people every year, the majority of whom are children under the age of five in sub-Saharan Africa.
- The need to develop an effective vaccine against the disease has long been a top priority — but given the highly complex life cycle of the parasite, characterisation of key elements that correlate with protective immunity has been very difficult.

Promising breakthroughs

- After decades of slow progress, there seems to be light at the end of the long tunnel. WHO approval in October 2021 for RTS,S/AS01 (Mosquirix) developed by GlaxoSmithKline for immunising children was a major milestone.
- Although RTS,S/AS01 has modest efficacy and reduces severe malaria cases by only about 30 per cent after four doses given to children under age 5, it still provides significant public health benefits, and could save thousands of lives every year.
- It took more than 30 years and approximately \$700 million for this breakthrough, which underscores the scientific and logistic challenges in developing a vaccine against a parasitic disease like malaria.
- GSK has granted Bharat Biotech licence to manufacture Mosquirix, and by 2029, the Hyderabad-based company is expected to be the sole global manufacturer of this vaccine.

- However, RTS,S/AS01 fails to meet the WHO's own benchmark for malaria vaccine efficacy of 75 per cent set in 2015.
- In September 2021, another malaria vaccine, R21/Matrix M, developed by the University of Oxford in the UK, demonstrated an efficacy of 77 per cent in phase 1 and 2 trials among 450 children in Burkina Faso.
- In early September 2022, this vaccine once again made headlines after publication of results of a booster dose of R21/Matrix-M in the journal *Lancet Infectious Diseases* showed a high efficacy of 80 per cent was maintained after two years.

Ways the vaccines work

- RTS,S and R21 are similar in that they both contain the same part of a major protein that is found on the surface of the liver stage parasite, called sporozoite.
- Both also contain hepatitis B virus surface antigen (HBsAg), a protein that has an ability to self-assemble and that helps as the formation of virus-like particles of the CSP antigen fused with it.
- The important difference between the two vaccines is in the amount of the HBsAg.
- RTS,S has about 20 per cent of the fusion protein, with the remaining 80 per cent made up of HBsAg antigen, produced separately.
- R21, on the other hand, is made up entirely of the CSP fusion protein moieties, resulting in much higher proportion of CSP antigen displayed on the virus-like particle surface, which significantly raises its exposure to the immune system of the host.
- To boost immune responses, all protein based recombinant vaccines rely heavily on a strong adjuvant.
- RTS,S is formulated with an adjuvant called AS01 developed at GSK; R21 employs an adjuvant called Matrix-M
- developed by Novavax (Sweden).
- Matrix M contains saponin-plant based material and stimulates both antibody and cellular immune responses to vaccines.
- Both adjuvants have shown high levels of efficacy and safety.
- Matrix-M has been used in a variety of vaccine formulations against influenza, and more recently in the Novovax Covid-19 vaccine.

Phase 3 results awaited

- While the recent results of a booster dose of R21 have created well-deserved excitement, the results of a larger phase 3 trial of the vaccine will be keenly awaited.
- Phase 3 trials of R21 are already underway in children aged 5-36 months in four African countries, including two in which malaria is a year-round threat.
- In these trials, efficacy and safety of R21 will be tested in 4,800 children across five sites in Burkina Faso, Kenya, Mali, and Tanzania. The first results are expected by the end of 2023.
- Large-scale, well-collected safety data will be required to build the risk-benefit assessment.
- The SARS-CoV-2 experience has served as a reminder that significant adverse events may not be detected until millions of immunisations have been recorded.
- The road ahead is long, but R21, alone or in combination with an efficacious blood stage or transmission stage vaccine candidate, can continue to be developed to achieve the ultimate goal of malaria eradication.
- It is clear that Indian companies will play a central role in the development and/ or production of efficacious malaria vaccines at an affordable cost.

Why has India not been more successful in developing vaccines against diseases including malaria?

- A major gap is in the establishment of safe and scientifically robust control human infection models in India for diseases like malaria or influenza.
- All malaria vaccines under development need to be tested in the safe and scientific robust Controlled Human Malaria Infection (CHMI) model after completing phase 1 safety studies.
- This has been established in many countries of Europe, the UK, Colombia, and Thailand. Both RTS, S and R21 were tested in CHMI before further safety and efficacy field trials.
- Scientists at the International Centre for Genetic Engineering and Biotechnology (ICGEB) Delhi have carried out phase 1 safety trials of two experimental blood stage malaria vaccines developed and produced in the country.

- But further development of these vaccines has been a challenge in the absence of the CHMI model in India.
- Scientific, long term continuous funding, regulatory and logistic processes need to be better coordinated to assist scientists in the development of novel vaccines against infectious diseases.
- With a highly successful and deeply committed vaccine-producing biopharma industry and a strong scientific base, India should be able to lead the world in developing and producing vaccines.

Beidou satellite navigation system of China

Why in News

Beidou Satellite Navigation System: China's Version of GPS

Important Points

- China has recently outlined plans to further expand the global reach of its home-grown Beidou satellite navigation system, billed as its alternative to America's Global Positioning System (GPS).
- The BeiDou Navigation Satellite System (BDS) is a project built and operated by China as a component of the country's national security and economic and social development strategy.
- After many years in development, it has become an important new element of China's infrastructure, providing high-accuracy, round-the-clock positioning, navigation and timing services to global users in all weathers.

About Beidou satellite navigation system(BDS)

- It consists of two separate satellite constellations.
- The first BeiDou system, officially called the BeiDou Satellite Navigation Experimental System and also known as BeiDou-1, consisted of three satellites which, beginning in 2000, offered limited coverage and navigation services, mainly for users in China and neighboring regions.
- BeiDou-1 was decommissioned at the end of 2012. The second generation of the system, officially called the BeiDou Navigation Satellite System (BDS) and also known as COMPASS or BeiDou-2, became operational in China in December 2011 with a partial constellation of 10 satellites in orbit.
- Since December 2012, it has been offering services to customers in the Asia-Pacific region.
- In 2015, China launched the third generation BeiDou system (BeiDou-3) for global coverage. The first BDS-3 satellite was launched on 30 March 2015.
- On 27 December 2018, BeiDou Navigation Satellite System started providing global services
- BDS, which now has a "constellation" of 30 satellites in orbit, began its international outreach once the set up was finished in 2018.
- It is now in use "in more than half of the world's countries".
- Pakistan in 2014 became the first foreign country to set up a Beidou network.
- Beidou has set up a first of three Continuously Operating Reference Stations (CORS) for its network in Thailand in 2013, to serve as a hub for ASEAN.
- China and Sri Lanka also agreed plans to set up 10 CORS.
- Its application in China now included use in guiding drones, autonomous cars, in agriculture and forestry, as well as launching with Chinese mobile phone companies, using Chinese chips, satellite-powered messaging for smartphones that provides for connectivity in remote areas even in the absence of ground reception.

China's three-step BDS strategy

- China began to develop its own navigation satellite system in 1994.
- BDS-1 entered service and began providing positioning services in China at the end of 2000. At this point, China became the third country in the world with a navigation satellite system.
- BDS-2 was completed in 2012, providing passive positioning services to the Asia-Pacific region.
- In 2020, BDS-3 was formally commissioned to provide satellite navigation services worldwide. This marked the successful conclusion of the three-step BDS strategy.

Nano-biosensor for detecting 'lycopene'

Why in News

A team of researchers from the Institute of Nano Science and Technology (INST), Mohali, has developed a nano-biosensor for detecting 'lycopene', a phytochemical with high commercial value.

Important Points

- The sensor uses a portable smartphone-based upconverting reusable fluorescent paper strip.
- This transparent Upconversion Nanoparticles (UCNP) strip has been found to be sensitive to lycopene.
- A simple smartphone camera can be used for detection.
- Upconversion is a process where light can be emitted with photon energies higher than the light generating the excitation.
- The research team has found the newly developed transparent strip offering minimal scattering with maximum sensitivity despite not using any metal quenchers, in comparison to previous paper strips.
- An increase in strip hydrophobicity during the fabrication process complements the strip to selectively permeate and present an extraction-free substitute analysis for chromatography.
- Hydrophobicity endows the strip with the capability to reuse the strip with approximately 100 per cent luminescence recovery.

What is Lycopene ?

- Lycopene is a carotenoid found in tomatoes, grapefruit, watermelons and papaya.
- It is also synthesised by plants and microorganisms but cannot be synthesised by the human body and can only be obtained via diet.
- It is a potent antioxidant that helps prevent cancer and heart diseases.
- Several epidemiologic studies have suggested a strong association between a high intake of lycopene-rich foods and a reduced risk of several cancers, notably prostate cancer.
- However, there are not many well-designed clinical trials conducted and the data remain inconclusive.
- As lycopene has potent antioxidant effects, it may interfere with chemotherapy and radiation therapy.
- The undesirable degradation of lycopene affects the health benefit of tomato and other tomato-based foods for the human body.
- The quality of the produce is rated on the basis of the lycopene present in it and is priced accordingly.

Artemis lunar-exploration programme

Why in News

After 50 years of NASA's Apollo mission, NASA launched the next-generation Artemis mission to the moon that took off recently.

Important Points

What is the Artemis mission?

- The three-week Artemis I mission marks the first flight of the combined SLS rocket and the Orion capsule together, built by Boeing Co and Lockheed Martin Corp, respectively, under contract with NASA.
- After decades with NASA focused on low-Earth orbit with space shuttles and the International Space Station, Artemis I also signals a major change in direction for the agency's post-Apollo human spaceflight program.
- Named for the ancient Greek goddess of the hunt and Apollo's twin sister — Artemis aims to return astronauts to the moon's surface as early as 2025.
- As part of the mission a rocket was attached with an empty crew capsule and sent into a wide orbit around the moon; it will return to Earth in December if everything goes well.
- The Artemis I mission entails a 25-day Orion flight bringing the capsule to within 97 km of the lunar surface before flying 64,400 km beyond the moon and looping back to Earth. The capsule is expected to splash down at sea on December 11.



- The space agency is aiming to send four astronauts around the moon on the next flight, in 2024, and land humans there as early as 2025.
- The 322-foot (98-meter) Space Launch System (SLS) is the most powerful rocket ever built by NASA, with more thrust than either the space shuttle or the mighty Saturn V that carried men to the moon.
- After coming within 80 miles (130 kilometers) of the moon, the Orion capsule will enter a far-flung orbit stretching about 40,000 miles (64,000 kilometers) beyond.
- NASA has hired Elon Musk's SpaceX to develop Starship, the 21st-century answer to Apollo's lunar lander.
- Starship will carry astronauts back and forth between Orion and the lunar surface, at least on the first trip in 2025.
- The plan is to station Starship and eventually other companies' landers in orbit around the moon, ready for use whenever new Orion crews pull up.

Carbon border tax

Why in News

India opposes 'carbon border tax' arguing market distortion & widening trust deficit.

Important Points

- With the COP27 climate summit in Sharm El Sheikh nearing its final stages, efforts are being made to arrive at certain conclusions and agreements.
- In this process, the European Union (EU) has proposed a policy- called the 'Carbon Border Adjustment Mechanism' to tax extremely carbon intensive products like cement and steel with effect from 2026.
- A number of countries consider carbon prices the most cost-effective way to fight climate change, which has already caused havoc across the globe, creating food crisis, energy crisis, water crisis, heat waves among others.
- However, a group of countries that include India, China, Brazil, South Africa, is opposed to this proposal, stating that carbon border taxes could result in market distortion besides aggravating the already widened trust deficit amongst parties, which must be avoided to come out with an effective solution to climate change.

What is Carbon border tax?

- It involves imposing an import duty on a product manufactured in a country with more lax climate rules than the one buying it.
- While its advocates, like the EU, claim the tax will benefit the environment and provide a level playing field to companies, those opposing it call the tax unfair and protectionist.
- They say it puts the burden of climate compliance on developing countries, when historically, they have done much less to pollute the environment and yet are often more vulnerable to effects of climate change.
- Some developed nations, in efforts to cut emissions, impose high costs on carbon-intensive businesses in their own countries.
- Businesses can potentially sidestep this simply by moving production to a country with less stringent rules, a practice called carbon leakage.

Carbon-intensive products

- This consortium of countries is opposed to the idea to levy on imported carbon-intensive products, as they consider that imposing carbon border tax may shape the role of trade in the coming years in the fight against climate change with some terming them 'green protectionism'.
- A carbon border adjustment tax is a duty on imports based on the amount of carbon emissions that result from the production of the products in question.
- It is imposed to discourage emissions.

Protectionist device

- Many think as a trade-related measure, carbon border tax may affect both production and exports of certain carbon intensive products.

- The idea of this tax was deliberated by experts for years in the process of reaching an effective solution to climate change which threatens the very existence of the humanity.
- There is also an apprehension that if this tax is designed unilaterally, it may be seen as unfair by trading partners and there is the risk it becoming a protectionist device, which may inspire a few countries to unduly shield local industries from foreign competition, which is being termed as green protectionism.
- The EU may claim to promote fair competition, creating a level playing field between EU and non-EU businesses, but this is increasingly becoming a debatable issue among the member countries.

EU's Carbon Border Adjustment Mechanism(CBAM)

- The EU came up with the Carbon Border Adjustment Mechanism in 2021.
- As per EU, it was designed in compliance with World Trade Organization (WTO) rules and other international obligations of the EU, the CBAM system will work as follows: EU importers will buy carbon certificates corresponding to the carbon price that would have been paid, had the goods been produced under the EU's carbon pricing rules.
- Conversely, once a non-EU producer can show that they have already paid a price for the carbon used in the production of the imported goods in a third country, the corresponding cost can be fully deducted for the EU importer.
- On carbon leakage, it says, "As we raise our own climate ambition and less stringent environmental and climate policies prevail in non-EU countries, there is a strong risk of so-called 'carbon leakage' – i.e. companies based in the EU could move carbon-intensive production abroad to take advantage of lax standards, or EU products could be replaced by more carbon-intensive imports."
- The CBAM, it says, "will equalise the price of carbon between domestic products and imports and ensure that the EU's climate objectives are not undermined by production relocating to countries with less ambitious policies."

What is India's position?

- India has maintained that developed countries cannot push the burden of doing more to tackle climate change while they evade responsibilities themselves.
- At COP27, India said all fossil fuels needed to be phased down and not just coal, which has been targeted by the developed countries and which India is heavily reliant on.

LOFTID mission

Why in News

NASA completed the technology demonstration of its Low-Earth Orbit Flight Test of an Inflatable Decelerator (LOFTID) mission.

Important Points

LOFTID mission

- It is a NASA mission to test inflatable reentry systems. It is the first such test of an inflatable decelerator from Earth-orbital speed.
- LOFTID was launched on an Atlas V 401 in November 2022 as a secondary payload, along with the JPSS-2 weather satellite.
- NASA's LOFTID, is demonstrating a cross-cutting aeroshell a type of heat shield for atmospheric re-entry.
- For destinations with an atmosphere, one of the challenges NASA faces is how to deliver heavy payloads (experiments, equipment, and people) because current rigid aeroshells are constrained by a rocket's shroud size.
- One answer is an inflatable aeroshell that can be deployed to a scale much larger than the shroud.
- This technology enables a variety of proposed NASA missions to destinations such as Mars, Venus, Titan as well as return to Earth.
- The "inflatable aerodynamic decelerator," or "aeroshell" technology could one day help land humans on Mars.

- When a spacecraft or anything else enters a planet's atmosphere, drag acts upon the body and slows it down, converting kinetic energy into heat.
- The large size of the HIAD device means that it creates more drag and starts the deceleration process higher in the atmosphere than traditional aeroshells.
- Not only will this allow payloads that are much heavier, but it can also allow landings starting at higher altitudes.
- Further, it could also be used to bring back massive objects back from Earth's orbit, like items from the International Space Station.
- NASA says the technology could also potentially be used for bringing back rocket assets after they are launched.
- A HIAD device will have an inflatable structure that is capable of holding its shape against drag forces.
- It will also have a protective flexible thermal protection system that will protect it from the heat generated during re-entry.
- Its structure is made with a stack of pressurised concentric rings that are strapped to form a cone-shaped structure.
- According to NASA, these rings are made from braided synthetic fibres that are 15 times stronger than steel. This entire system is foldable, packable, and deployable, meaning that it will take up less room on rockets. This also allows its design to be scalable.

Why in News

Important Points

About Cor-AuNPs

- These nanoparticles, derived from the synthesis of the extracts of *Cordyceps militaris* and gold salts, could make drug delivery in the human body faster and surer.
 - *Cordyceps militaris* is a high value parasitic fungus, lab-grown at the Department of Biotechnology's Technology Incubation Centre (TIC) in Bodoland University, one of the collaborators of the patented research work.
 - Gold salts are ionic chemical compounds of gold generally used in medicine.
 - Penetration in the cells is more when the drug particles are smaller. *Cordyceps militaris*, called super mushroom because of its tremendous medicinal properties, adds bioactive components to the synthesis of gold nanoparticles for better penetration.
 - The collaborative study has validated its [the super mushroom's] medicinal and nutraceutical properties. Biosynthesised nanogold particles indicate a new application of nanoparticles in the development of therapeutic drugs which can be delivered as ointments, tablets, capsules, and in other forms.
- 



Global Vaccine Market Report 2022

Why in News

World Health Organization(WHO) has released the Global Vaccine Market Report 2022 recently.

Important Points

- This is the first report to capture the implications of COVID-19 for vaccine markets.
- As per the report, critical vaccines in demand by high-income countries continue to be in short supply for low-income countries.
- Decades-long progress in development, supply and access to doses remains overshadowed by an unfavourable environment.
- The burden of cervical cancer is higher in low-income countries in spite of which the human papillomavirus vaccine has been introduced only in 41 percent of these countries.
- In comparison, 83 percent of high-income countries have access to the HPV vaccine.
- The right to health includes the right to vaccines, this new report shows that free-market dynamics deprive some of the world's poorest and most vulnerable people of that right.
- The COVID-19 vaccine accounted for most of the 16 billion vaccine doses, worth \$141 billion, supplied in 2021.
- This was a major push for the market — with the volume rising three-fold compared to 2019 and nearly three-and-a-half times the 2019 market value.
- More than 90 manufacturers were supplying vaccines to WHO member states across the world in 2021.
- However, less than 10 managed a bulk of the supply due to “broad portfolios, global reach and a diversity of deployable technology.”
- Only two manufacturers are supplying key vaccines such as pneumococcal vaccines, measles and rubella-containing vaccines across the world.
- Policies and supply chains in specific regions dictate access to vaccines, due to which the African and eastern Mediterranean regions fare the worst.
- These regions rely on international manufacturers for 90 per cent of their procured vaccines.
- The Global Vaccine Market Report listed possible changes which can be made to initiate a paradigm shift in the vaccine market.
- These include: “clear immunisation plans and more aggressive investment and stronger oversight of vaccine development, production and distribution.”

Challenger space shuttle disaster

Why in News

NASA's Kennedy Space Center has recently announced the recovery of debris from the Challenger spaceship that exploded 73 seconds after liftoff killing all seven astronauts aboard 37 years ago.

Important Points

Challenger space shuttle disaster

- The spacecraft broke apart on January 28, 1986 after it suffered a major malfunction less than 2 minutes into its flight with investigations revealing freezing temperatures having affected the integrity of O-ring seals in the solid rocket booster segment joints.
- The O-ring seals are used to keep fluids from leaking and components sealed.
- The last Challenger mission, dubbed STS-51L, was commanded by Francis R “Dick” Scobee and piloted by Michael J Smith.
- The mission was given a go-ahead despite concerns raised by some shuttle program employees. Ice had formed on the shuttle amid freezing temperatures as Challenger remained on the launch pad overnight.
- The shuttle mission, which was NASA's 25th, was supposed to be a six-day mission wherein, the seven-member crew was to deploy a large communications satellite, deploy and retrieve an astronomy payload to study Halley's Comet.
- The teacher, also the first civilian to head to space, was to conduct lessons for schoolchildren from orbit.
- The primary objective of the STS-51L mission was to launch the second Tracking and Data Relay System (TDRS) satellite into orbit.

The Columbia space shuttle accident

- Seventeen years later, in 2003, NASA witnessed another catastrophic disaster after Columbia, which was into its 28th and final flight, got lost during the spacecraft's re-entry into Earth's atmosphere on February 1, killing all seven crew members.
- On a 16-day mission launched from Kennedy Space Center in Florida on January 16, Columbia conducted a series of international scientific experiments in orbit.
- After completing STS-107, the space shuttle disintegrated as it reentered the atmosphere over Texas.
- It was the fourth human spaceflight program carried out by NASA, which undertook routine transportation for Earth-to-orbit crew and cargo from 1981 to 2011.
- India-born Kalpana Chawla and six other astronauts perished in one of the worst US space mishaps.

India's first privately developed launch vehicle

Why in News

India's first privately developed launch vehicle— Vikram is set to make its maiden flight from Indian Space Research Organisation's (ISRO) launchpad at Sriharikota.

Important Points

- It was developed by Hyderabad-based space startup Skyroot Aerospace.
- The maiden mission of Skyroot Aerospace, named 'Prarambh' (the beginning), will carry three customer payloads.
- With this mission, Skyroot Aerospace is set to become the first private space company in India to launch a rocket into space, heralding a new era for the space sector which was opened up in 2020 to facilitate private sector participation.
- The Vikram-S rocket is a single-stage sub-orbital launch vehicle which would carry three customer payloads and help test and validate the majority of the technologies in the Vikram series of space launch vehicles.
- Skyroot was the first startup to sign a memorandum of understanding with ISRO for launching its rockets.
- Its launch vehicles have been crafted specially for the small satellite market, and are named 'Vikram' as a tribute to Vikram Sarabhai, founder of the Indian space programme.
- They come in three forms, Vikram I, II, and III.
- Skyroot claims a Vikram rocket can be assembled and launched within 24 hours from any launch site, and has the "lowest cost in the payload segment".
- Based in Hyderabad, Skyroot builds state-of-the-art space launch vehicles for launching commercial satellites to space.
- It aims to disrupt entry barriers to cost-efficient satellite launch services and space-flight by advancing its mission to make spaceflights affordable, reliable and regular for all.
- Although Skyroot will be the first private company to launch its rocket, others are not far behind.
- Take for example Agnikul Cosmos, whose semi-cryogenic Agnilet engine was test-fired recently at ISRO's vertical testing facility at Thumba Equatorial Rocket Launching Station (TERLS), Thiruvananthapuram.
- ISRO's Small Satellite Launch Vehicles (SSLV) are also likely to be manufactured and operated by private players soon.

Curcumin Compound against mastitis in cattle

Why in News

Researchers of the Transdisciplinary University of Health Sciences & Technology (TDU), Bengaluru, have successfully validated immunity-boosting ability of 'curcumin compound' against mastitis in cattle.

Important Points

- Research findings revealed that the natural product offers immunity in dairy cattle against infectious diseases including mastitis by increasing complementary protein, Interferon, Immunoglobulin (IgM), lymphocytes and monocytes.

- Antibiotics have been used to manage various infections in cattle. However, it has been noticed that the uncontrolled use of antibiotics results in increased antibiotic resistance.
- The irrational use of antibiotics for treating mastitis resulted in inter-species and inter-genus transfer of antibiotic resistance and creation of various multi-drug resistant microorganisms in the environment, which affects immunity of livestock and human health as well.
- Ethnoveterinary practices based on the Ayurveda concepts were found to be very effective in managing infections without using synthetic antibiotics and thereby help in reducing antibiotic residues in animal products.
- The compound with curcumin can be used to control mastitis as a prophylactic measure during pre-partum and post-partum stage along with cattle feed under scientific management practices.
- This will create appropriate immunity against mastitis and facilitate increased milk production by 10 percent.
- There is no vaccination available against mastitis.
- For the states like Kerala where more than 96 % cattle are crossbreds, control of mastitis assumes more significance.

What is Mastitis disease?

- It is an infectious disease of dairy cattle.
- Bovine mastitis is a condition typified by the persistent and inflammatory reaction of the udder tissue due to either physical trauma or infections caused by microorganisms.
- The most obvious symptoms of clinical mastitis are abnormalities in: The udder such as swelling, heat, hardness, redness, or pain.
- The milk has a watery appearance, flakes, clots, or pus.

Earth Observation Satellite & PSLV C54

Why in News

The Indian Space Research Organisation (ISRO) has recently launched PSLV-C54 carrying Oceansat-3 also known as Earth Observation Satellite (EOS)-6, and 8 nanosatellites.

Important Points

EOS-6

- The third generation Indian satellite for monitoring the oceans is formally named as Earth Observation Satellite-6 (EOS-6).
- The ocean observing mission is a follow up to OceanSat-1 or IRS-P4 and OceanSat-2 launched in 1999 and 2009, respectively.
- The satellite was launched aboard the proven launch vehicle PSLV (Polar Satellite Launch Vehicle) on its 56th flight (24th flight of the PSLV-XL version).
- The current launch, designed as PSLV-C54, also accommodated other small satellites along with Oceansat-3.
- The Oceansat-3 was placed in the polar orbit at the height of about 740 kilometres above sea level.
- While at ~1100 kilograms, it is only slightly heavier than Oceansat-1, for the first time in this series it houses three ocean observing sensors viz
 - o Ocean Color Monitor (OCM-3).
 - o Sea Surface Temperature Monitor (SSTM), and
 - o Ku-Band scatterometer (SCAT-3).
- There is also an ARGOS payload. All these sensors have their own importance for India's blue economy aspirations.
- The advanced 13 channel OCM with 360 m spatial resolution and 1400 km swath will observe the day side of the earth every day and will provide crucial data on distribution of ocean algae which is the base of the food chain within marine ecosystems.
- The OCM-3 with high signal-to-noise ratio is expected to provide improved accuracy in daily monitoring of phytoplankton having a wide range of operational and research applications including fishery resource management, ocean carbon uptake, harmful algal bloom alerts, and climate studies.

- The SSTM will provide ocean surface temperature which is a critical ocean parameter to provide various forecasts ranging from fish aggregation to cyclone genesis and movement.
- The Ku-Band Pencil beam scatterometer onboard EOS-6 will provide high resolution wind vector (speed and direction) at the ocean surface, something which any seafarer would like to know of, whether its fishermen or shipping company.
- ARGOS is a communication payload jointly developed with France and it is used for low-power (energy-efficient) communications including marine robotic floats (Argo floats), fish-tags, drifters, and distress alert devices useful for conducting effective search and rescue operations.
- While ISRO will continue to maintain the orbit of the satellite and its standard procedures for data reception, archive etc the major operational user of this satellite would be MoES institutions viz Indian National Centre for Ocean Information Services (INCOIS), Hyderabad and National Centre for Medium Range Weather Forecasting (NCMRWF), Noida that provide a bouquet of services every day for lakhs of stakeholders across the nation.
- The launch of Oceansat-3 today is also significant since this is the first major ocean satellite launch coming from India since the initiation of the UN Decade of Ocean Science for Sustainable Development (UNDOSSD, 2021-2030).
- The satellite also supports value added products such as potential fishing zone using chlorophyll, SST and wind speed, and land based geophysical parameters.
- The eight nano satellites include ISRO Nano Satellite-2 for Bhutan (INS-2B), Anand, Astrocast (four satellites), and two Thybolt satellites.

Mycobacterium leprae

Why in News

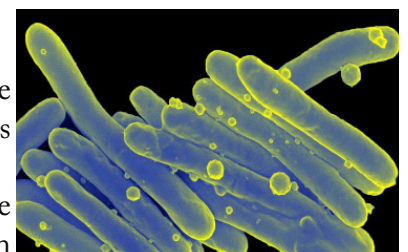
A group of researchers have found that armadillo livers grew substantially when infected with Mycobacterium leprae.

Important Points

- The pathogen was able to maintain liver function and keep its exquisite architecture intact, giving rise to something that looked like stem cells.
- The researchers documented the in-vitro discovery of Mycobacterium leprae's ability to reprogram adult Schwann cells, the bacteria's preferred host niche in the peripheral nervous system, "to a stage of progenitor/stem-like cells".
- Armadillos came into the picture because they are among the few animals that leprosy bacteria infect.
- The bacteria was performing something akin to 'biological alchemy' — a bacterial pathogen was changing the biology of infected cells to become more 'valuable' such that it can promote the growth of a vital organ like the liver in living animals.
- No currently available cell therapy can rival this mysterious mechanism, which researchers describe as a natural process stemming from evolutionary training.
- The leprosy bacteria need functional cells to function within it because of its dependency on the host to survive and replicate.
- The bacteria have evolved and perfected the system to grow the tissues for them to live.
- Several researchers remain sceptical about how the leprosy bacteria will impact a human liver, while others point out that a longer-term study is needed to gauge any adverse effects.
- Since the bacteria's functions do not involve tumour formation or any adverse effects like fibrosis, it appears safe for now.
- Now that this ability has been identified, the next step is to understand its mechanism.

Mycobacterium leprae

- Mycobacterium leprae, is one of the two species of bacteria that cause Hansen's disease, a chronic but curable infectious disease that damages the peripheral nerves and targets the skin, eyes, nose, and muscles.
- It is an acid-fast, Gram-positive, rod shaped bacterium and an obligate intracellular parasite, which means, unlike its relative Mycobacterium tuberculosis, it cannot be grown in cell-free laboratory media.



- This is likely due to gene deletion and decay that the genome of the species has experienced via reductive evolution, which has caused the bacterium to depend heavily on its host for nutrients and metabolic intermediates.
- It has a narrow host range and apart from humans, the only other natural hosts are nine-banded armadillo and red squirrels.
- The bacteria infect mainly macrophages and Schwann cells, and are typically found congregated as a palisade.

Red Planet Day & Mars missions

Why in News

November 28 is marked as Red Planet Day or Mars day.

Important Points

Red Planet Day

- On this day in 1964, the United States launched the space probe Mariner 4 on a course towards Mars, which it flew past in July 1965, sending back pictures of the red planet.
- This was the first time that a spacecraft undertook the first flyby of the red planet, becoming the first-ever spacecraft to take close-up photographs of another planet.

Crucial Mars missions

Early 19th century

- In one of the earliest known cases of a fascination with the planet in the late 19th century, Italian astronomer Giovanni Schiaparelli claimed to have observed linear patterns on the surface of the planet that he called canali.
- This was mistranslated into English as canals, leading some to believe canals were built by intelligent beings on Mars — an early instance of Mars being thought to have life, similar to Earth.
- Although that idea fell out of favour among scientists by the early 20th century, it did permeate into science fiction as well as popular culture, helped by the fact that Mars was at a similar distance from the sun as the earth was and thus, shared certain structural characteristics.

1964: Mariner 4

- After an eight-month voyage to Mars, the Mariner 4 helped humans see images showing lunar-type impact craters, some of them touched with frost.
- A television camera onboard took 22 pictures, covering about 1% of the planet. These photos were transmitted to Earth in four days.
- Although originally not expected to survive much past the Mars flyby encounter, Mariner 4 lasts about three years in solar orbit, continuing long-term studies of the solar wind environment and making coordinated measurements with Mariner 5.
- The photographs also revealed a cratered surface resembling the Moon, although because of their limited range, they failed to cover the more geologically diverse features that we know about now.

Viking missions of the 1970s and the 1980s

- The Viking missions in the mid-seventies carried out the first chemical analysis of Martian soil, as well as four biology experiments to detect biological activity.
- In the early 1980s, scientists hypothesised, based on mineralogic composition and rock texture, that certain meteorites might have a source region in Mars.
- In 1984, a study showed that the isotopic composition of rare gases (Xenon, Krypton, Neon and Argon) matched the isotopic ratios of the Martian atmosphere measured by the Viking spacecraft.
- This discovery provided a way for geochemists to study Martian samples – and provided a huge boost to our understanding of the geochemical evolution of Mars.

Odyssey, 2001 and water on Mars

- In 2001, the Gamma Ray Spectrometer on board the Mars Odyssey spacecraft detected a fascinating hydrogen signature that seemed to indicate the presence of water ice.
- But there was ambiguity – this was because hydrogen can be part of many other compounds as well.
- NASA's Phoenix landed on the Martian North Pole in May 2008, and survived for about 150 days.

- The robotic arms of Phoenix scooped soil and ice from the surface, heated the material in eight ovens, and measured the composition of the gases with a mass spectrometer.
- The Phoenix mission established conclusively that the initial discovery of hydrogen by Mars Odyssey in 2002 was indeed water ice.

Beyond the West

- After the Cold War, which saw intense competition between the USSR and the US in terms of deepening their forays into space, other countries also launched their explorations.
- NASA has a lander (Mars Insight), a rover (Curiosity), and three orbiters (Mars Reconnaissance Orbiter, Mars Odyssey, MAVEN); India has an orbiter (Mangalyaan-1); the EU has 2 orbiters (Mars Express and ExoMars Trace Gas Orbiter); and China and UAE will have an orbiter each (Hope and Tianwen-1 respectively).
- UAE became the first mission to Mars by any West Asian, Arab or Muslim-majority country.
- The UAE mission will study the Martian atmosphere, and will seek to address the billion-dollar question of how and why Mars lost its atmosphere.
- India's Mars Orbiter Mission (MOM)— a technology demonstration venture — carried five scientific payloads (total 15 kg) collecting data on surface geology, morphology, atmospheric processes, surface temperature and atmospheric escape process.



TRANSFORM IAS
Transforming Lives with Education

ASHA worker's vision for India@100

Why in News

ASHA workers envision India on its completion of 100 years of Independence.

Important Point

- At 100, India to have a hospital in every village. The goal for the next 25 years should be to funnel resources and attention into rural India.
- One of the biggest issues facing rural health services is lack of information.
- ASHA workers were put in charge of quarantining people during the Covid-19 pandemic. Community members wouldn't let ASHA workers to touch their gates and would hurl abuse and threaten violence.
- Channels of communication between the government and the rural population need to be robust. A deadly pandemic makes the value of these channels obvious — but in order to get people on board, information needs to be sent out much more effectively and in a hands-on manner. ASHA workers play a crucial role in aiding this effort.
- Another area of concern is the lack of resources. Over the years, with the closest hospital being 9 km away and ambulances taking hours to respond.
- Medical facilities are understaffed and lack adequate equipment for various basic procedures like deliveries. Simple tests, like for sickle cell anaemia and HIV, cannot be conducted in rural areas.
- For ASHA workers, two issues remain critical. First, ASHA workers should have a fixed income, giving stability in a job where one can spend between eight to twelve hours daily.
- Secondly, ASHA workers are recognised as “volunteers” currently. The role needs to be formalised. Recognising ASHA workers as workers allows dignity and protection, and helps them to be taken seriously — by the state, the gram panchayat responsible for the disbursement of our funds, and patients.
- For people in the village, ASHA workers have become lifelines. ASHA workers have led innumerable immunisation drives and are everybody's first call in a medical emergency.
- ASHA workers have laboured to build trust and serve as a bridge with the state.
- Recognition, like being named a “Guardian of the Year” by Time magazine in 2020 has given them some leverage to circumvent the system and seek funds for people in the community. However, using accolades as a crutch to resolve structural issues is a short-term fix.
- The World Health Organisation has recognised the country's 10.4 lakh ASHA (Accredited Social Health Activist) workers as ‘Global Health Leaders’ for their efforts in connecting the community to the government's health programmes.

About ASHA workers

- ASHAs are the grassroot health workers assisting the Ministry of Health and Family Welfare (MoHFW) in delivering primary healthcare, particularly for women and children, in both rural and urban areas.
- ASHA workers were instituted as community-based health functionaries under the National Rural Health Mission (NRHM) launched in 2005. One of the key components of the National Rural Health Mission is to provide every village in the country with a trained female community health activist – ASHA.

The Foot Soldiers

2005: Government of India's National Rural Health Mission launched an Accredited Social Health Activists (ASHA) programme

1 million-plus: Number of ASHA workers in India

1 ASHA worker for 1,000 people (ratio)

₹4,000-4,500 Approximate salary per month

Responsibilities
Health educator, implementing government schemes on ground, promoting family planning, facilitating services like antenatal check-ups, post-natal check-ups, immunisation, sanitisation, promoting hygiene, conducting surveys, monitoring Covid-19 patients, taking patients to hospitals and convincing villagers for Covid-19 vaccination, among others

Challenges
Walking on foot, at least for 15 km every day; greater responsibilities and low salaries, delayed incentives; lack of PPE kits/gloves, and other difficulties

- ASHA is primarily a woman resident of the village, preferably in the age group of 25 to 45 years. She should be a literate woman, qualified up to 10 standard.
- ASHA workers are chosen through a rigorous selection process involving various community groups, self-help groups, Anganwadi Institutions, the Block Nodal officer, District Nodal officer, the village Health Committee and the Gram Sabha. Once selected, they undergo a series of training episodes to acquire the necessary knowledge, skills and confidence for performing their role
- The frontline workers go door-to-door to create awareness about health and its social determinants like nutrition, sanitation and hygiene.
- They mobilise the community with information on existing health services available to them and the need for timely use of health services.
- They also act as a depot holder for essential health products that a local community might need at any point in time. This includes Oral Rehydration Therapy (ORS) packet, Iron Folic Acid (IFA) tablets, chloroquine, Disposable Delivery Kits (DDK), oral pills and condoms.

Mental health crisis in India

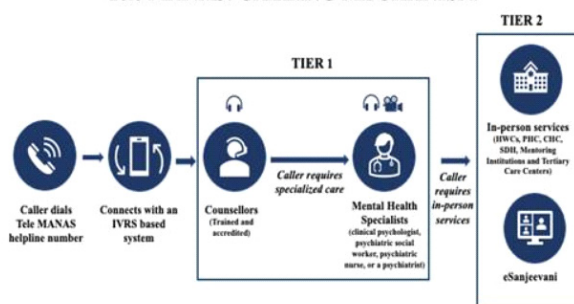
Why in News

Tele Mental Health Assistance and Networking across States (Tele-MANAS) initiative launched on occasion of World Mental Health Day.

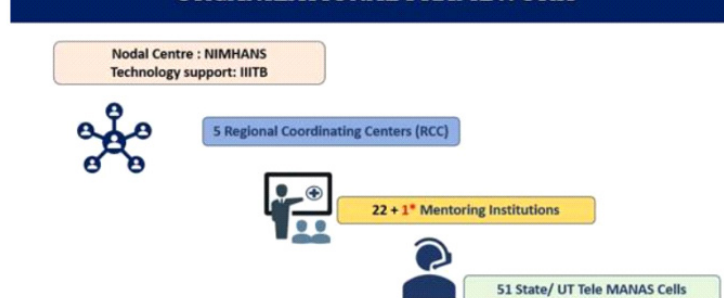
Important Points

- According to the World Health Organisation (WHO), mental health is a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.
- The World Health Organisation reported in 2017 that there were about 9,000 psychiatrists practising in India, which equates to 0.75% per lakh of people.
- WHO estimates that the ideal ratio is three psychiatrists for every lakh of people. Similarly, India has 1.93 mental health care professionals per 10,000 residents, compared to the global average of 6.6.
- An estimated 15% of working-age adults have a mental disorder at any point in time.
- Depression and anxiety are estimated to cost the global economy \$1 trillion each year driven predominantly by lost productivity, according to the WHO.

Tele MANAS: CALLING MECHANISM



ORGANIZATIONAL FRAMEWORK



Tele-MANAS

- Acknowledging the mental health crisis in wake of the COVID-19 pandemic and an urgent need to establish a digital mental health network that will withstand the challenges amplified by the pandemic, Government of India announced National Tele Mental Health Programme (NTMHP) in the Union Budget 2022-23.
- Tele-MANAS aims to provide free tele-mental health services all over the country round the clock, particularly catering to people in remote or under-served areas.
- The programme includes a network of 23 tele-mental health centres of excellence, with NIMHANS being the nodal centre and International Institute of Information Technology-Bangalore (IIITB) providing technology support.
- Indian Institute of Technology (IIT) Bengaluru and National Health Systems Resource Centre (NHRSC) will provide the technical support.

- The Union Government aims to open at least one Tele-MANAS Cell in each State/UT.
- A toll-free, 24/7 helpline number (14416) has been set up across the country allowing callers to select the language of choice for availing services. Service is also accessible with 1-800-91-4416.
- The calls would be routed to Tele-MANAS cells in the respective state and union territory.
- Tele-MANAS will be organised in two tier system; Tier 1 comprises of state Tele-MANAS cells which include trained counsellors and mental health specialists. Tier 2 will comprise of specialists at District Mental Health Programme (DMHP)/Medical College resources for physical consultation and/or e-Sanjeevani for audio visual consultation.
- Presently there are 5 regional coordination centres along with 51 State/UT Tele MANAS cells.
- The initial rollout providing basic support and counselling through centralized Interactive Voice Response system (IVRS) is being customized for use across all States and UTs.
- This will not only help in providing immediate mental healthcare services, but also facilitate continuum of care.
- Specialised care is being envisioned through the programme by linking Tele-MANAS with other services like National tele-consultation service, e-Sanjeevani, Ayushman Bharat Digital Mission, mental health professionals, Ayushman Bharat health and wellness centres and emergency psychiatric facilities.
- Eventually, this will include the entire spectrum of mental wellness and illness, and integrate all systems that provide mental health care. NIMHANS has conducted training for 900 Tele MANAS counsellors from majority of States/UTs.

Hindi imposition and its discontents

Why in News

The 11th volume of the Report of the Official Language Committee headed by Home Minister Amit Shah, which was submitted to President Droupadi Murmu last month, has triggered angry reactions.

Important Points

- The origin of the linguistic row goes back to the debate on official languages.
- In the Constituent Assembly, Hindi was voted as the official language by a single vote. However, it added that English would continue to be used as an associate official language for 15 years.
- The Official Languages Act came into effect on the expiry of this 15-year period in 1965. This was the background in which the anti-Hindi agitation took place.
- However, as early as in 1959, Jawaharlal Nehru had given an assurance in Parliament that English would continue to be in use as long as non-Hindi speaking people wanted it.

About language panel

- The Committee of Parliament on Official Language was set up in 1976 under Section 4 of The Official Languages Act, 1963.
- Section 4 of the Act says “there shall be constituted a Committee on Official language, on a resolution to that effect being moved in either House of Parliament with the previous sanction of the President and passed by both Houses”.
- The Committee is chaired by the Union Home Minister, and has, in accordance with the provisions of the 1963 Act, 30 members — 20 MPs from Lok Sabha and 10 MPs from Rajya Sabha. T
- The job of the Committee is to review the progress made in the use of Hindi for official purposes, and to make recommendations to increase the use of Hindi in official communications.
- The Committee of Parliament on Official Language constituted by the Home Ministry submits its report to the President.

Recommendations of the Language committee

- The language used for communication in the administration should be Hindi, and efforts should be made to teach the curriculum in Hindi, but the latter is not mandatory.
- High Courts in other states, where proceedings are recorded in English or a regional language can make available translations in Hindi, because verdicts of High Court of other states are often cited in judgments.

- The panel wants state governments to warn officials that their reluctance to use Hindi would reflect in their Annual Performance Assessment Report (APAR).
- Communication, which includes letters and emails, question papers for recruitment exams, events organised by the government and its departments, will have to be in Hindi.
- There are specific proposals to make the language in official letters and invitations simpler.
- The “crux” of the recommendations is that “there should be a deliberate attempt to reduce the usage of the English language in official communication and to increase the usage of Hindi”.
- Knowledge of Hindi would be compulsory in a number of government jobs.
- English, as a medium of instruction in all technical and non-technical institutions, will be permitted only where it is absolutely essential, as the idea is to replace the language gradually with Hindi in those institutions.
- The removal of English as one of the languages in examinations held for recruitment to the Central services. It has stated that the requisite knowledge of Hindi among candidates should also be ensured.
- States like Tamil Nadu and Kerala are exempt as per The Official Languages Act, 1963 and the Rules and Regulations (of the Act), 1976. The law is implemented only in ‘A’ category states, in which the official language is Hindi.
- According to the Rules, region ‘A’ includes the states of Bihar, Haryana, Himachal Pradesh, Madhya Pradesh, Chhattisgarh, Jharkhand, Uttarakhand, Rajasthan, and Uttar Pradesh, and the Union Territories of Delhi and Andaman and Nicobar Islands.
- Region ‘B’ includes Gujarat, Maharashtra, and Punjab, and the Union Territories of Chandigarh, Daman and Diu and Dadra and Nagar Haveli.
- Other states, where the use of Hindi is less than 65 per cent, are listed under region ‘C’.
- The Committee has suggested that efforts should be made to use Hindi “100 percent” in the ‘A’ states.
- The medium of instruction in IITs, central universities, and Kendriya Vidyalayas in the ‘A’ states should be Hindi, while the regional language should be used in other states, the Committee is learnt to have recommended.
- The use of Hindi in Ministries like Defence and Home are 100 per cent but the Education Ministry has not yet come to that level.
- The Committee had certain parameters to assess the usage of language and it has found that in many central universities including Delhi University, Jamia Millia Islamia, BHU, and AMU, the usage is just 25-35 per cent when it should have been 100 percent.

Linguistic Importance

- Cultural Identity: For individuals, language is constitutive of cultural identity. Any destruction to language impacts the identity of individuals leading to identity crisis. This impacts their ability to grow and develop as an individual.
- Cultural Diversity: Diversity in languages reflects and enhances cultural diversity. This in turn enriches the world. Unwritten languages rich in oral traditions, stories, songs, poetry, and ritual passed down through the generations constitute cultural diversity of a nation.
- Human rights: Since language is central to identity, one’s freedom to use one’s language is seen as inherent in the dignity of the human person.
- A glimpse of our past: Languages provide a glimpse of our history. Once a language is lost it is a loss of history and culture associated with that language.
- Cognitive abilities: Research has shown a strong correlation between improved cognitive abilities in children when they are taught in their mother tongue in primary school.

Inclusion in Scheduled Castes

Why in News

Commission on inclusion of Dalit Muslims and Christians as Scheduled Castes

Important Points

- The government of India has appointed a three-member commission to consider the inclusion of Dalit Muslims and Dalit Christians as Scheduled Castes (SCs).

- Earlier, the Attorney General had submitted before the Supreme Court that the government lacks data on the two minority groups. This is a classic case of blacking out the substantive by foregrounding the trivial.
- One doesn't need data to see the bias built into the constitutional provisions on identifying SCs.
- Thus, the crucial question before the constitutional bench of the apex court is the validity or lack thereof of the Constitution (Scheduled Castes) Order, 1950, sub-clause three under Article 341, which expressly forbids the inclusion of persons who follow a religion other than Hinduism, Buddhism, and Sikhism.
- The said clause must be assessed against the fundamental rights of equality before the law and non-discrimination based on religion, race, or caste.
- The question of the inclusion of a particular caste and the requirement for data to study it would arise only after that.
- The problem endures as the colonial understanding of the relationship between caste and religion persists.
- The British colonial administration firmly believed that caste was an exclusively Hindu phenomenon since the scriptures of any other religion did not extend legitimacy to this birth-based hierarchy.
- Hence, only Hindus were allowed to be included in the Scheduled Castes as part of the Government of India Act of 1935.
- After Independence, the Presidential Order of 1950 gave a new lease of life to caste-religion congruence by relying on the same criteria.
- The two amendments to include Sikhs and Buddhists in 1956 and 1990 did not strike at the underlying premise.
- The Scheduled Castes order is a shining example of the colonial understanding of an Indian institution that has persisted 75 years after Independence.
- There is an excellent opportunity before the Supreme Court and the Government of India to decolonise the understanding of caste by quashing Clause 3 of the Presidential Order.
- For too long, administrations have been hiding behind the excuse of a lack of data, a handicap that did not enable them to take a policy decision.
- It was not even a vicious cycle of the absence of data paralysing policy formulation. Once the inherent discrimination in the Constitution is removed, all other steps will follow independently.
- The inclusion of castes would happen on a case-to-case basis, using data collected by the Registrar General of India.
- The claim that there is no data on these caste groups is also not tenable.
- Several studies have underlined the persistence of caste or caste-like hierarchy among Muslims and Christians after conversion to these religions and the existence of a group of people at the bottom facing untouchability.
- For instance, 'Dalits in the Muslim and Christian Communities', commissioned by the National Commission for Minorities, reviewed a body of social science evidence to reach a similar conclusion.
- Based on NSSO 61st round data, the report found Dalit Muslims to be the worst-off in terms of poverty, occupational pattern and educational attainments compared to Dalits belonging to other major religions.

T N Seshan

Why in News

The Supreme Court, mooting the idea of including the Chief Justice of India in the selection process for the Chief Election Commissioner.

Important Points

- Mooting the idea of including the Chief Justice of India in the appointment committee to select the Chief Election Commissioner (CEC) to ensure "neutrality", the Supreme Court said it wants a CEC of strong character like the late T N Seshan.
- The apex court said the Constitution has vested enormous powers on the "fragile shoulder" of the CEC and the two Election Commissioners, and added that the CEC should be someone who "does not allow himself to be bulldozed".

- A five-judge Constitution bench, headed by Justice K M Joseph, said its endeavour was to put a system in place so the “best man” is selected as the CEC.

Who was T N Seshan?

- Tirunellai Narayana Iyer Seshan, or T N Seshan as he was commonly called, was appointed the Chief Election Commissioner (CEC) on December 12, 1990 with a tenure till December 11, 1996.
- Born in Palakkad district of Kerala, Seshan is widely credited for ushering in electoral reforms that changed the face of Indian elections.
- Before becoming the CEC, Seshan had served many bureaucratic positions including the secretary to the Atomic Energy Commission and joint secretary at the Department of Space.
- Established in 1950 as the constitutional authority to hold free and fair elections in India, the Election Commission of India was not more than an observer of elections until 1990.
- At a time when it was normal to bribe voters, Seshan enforced the authority of the EC as per its powers laid out in the Constitution.
- He changed the process of conducting elections in the nation and introduced a list of 150 malpractices during elections, including distribution of liquor, bribing voters, ban on writing on walls, use of religion in election speeches etc.
- He introduced voter ID cards, the Model Code of Conduct, and enforced a limit to poll expenses.
- During the process, Seshan also had several rifts with the ruling government.
- In 1993, the then government under P V Narasimha Rao brought in an Ordinance with the President's assent under Article 342(2)[3] of the Indian Constitution fixing the number of EC's at two and appointed M S Gill and G V G Krishnamurthy as the two EC's.
- Opposing this, Seshan approached the Supreme Court alleging that the move was introduced to curb his powers.
- His petition was dismissed by the court, and it held, “the concept of plurality is writ large on the face of Article 324, clause (2) whereof clearly envisages a multi-member Election Commission comprising the CEC and one or more ECs.
- In 1996, Seshan received the Ramon Magsaysay Award for his role in cleaning up the electoral process in the country. He also unsuccessfully contested the presidential elections against K R Narayanan in 1997.
- He breathed his last on November 10, 2019 in Chennai.

THE MAN WHO CLEANED UP INDIAN ELECTIONS

LEGENDARY CHIEF ELECTION COMMISSIONER TN SESHAN WAS BORN ON THIS DAY IN 1932

“Politicians are afraid of only two things, one God and the second TN Seshan

A retired 1955 batch IAS officer of Tamil Nadu cadre, also served as 18th Cabinet Secretary of India in 1989

During 1990-96, pioneered election reforms – the introduction of electors' photo ID cards was a measure towards this direction

Ruthlessly ensured the model code of conduct, then considered a document of academic interest, was taken seriously by parties & candidates

Despite facing criticism over exceeding his brief, demonstrated that his post was no pushover

Won the Ramon Magsaysay Award for his services to the government in 1996

TOI

About Election Commission of India

- The Election Commission of India is an autonomous constitutional authority responsible for administering Union and State election processes in India.
- The body administers elections to the Lok Sabha, Rajya Sabha, State Legislative Assemblies in India, and the offices of the President and Vice President in the country.
- Article 324 of the Constitution provides that the power of superintendence, direction and control of elections to parliament, state legislatures, the office of president of India and the office of vice-president of India shall be vested in the Election Commission.
- The Election Commission was established in accordance with the Constitution on 25th January 1950.
- Article 324 to 329 of the constitution deals with powers, function, tenure, eligibility, etc of the commission and the member.

Police Commissionerate system

Why in News

UP govt to implement Police Commissionerate system in Agra, Ghaziabad and Prayagraj

Important Points

- On the lines of Lucknow, Kanpur, Varanasi and Noida the Uttar Pradesh government has decided to implement a Police Commissionerate system in Agra, Ghaziabad and Prayagraj.
- As per the proposal the entire area of these districts will be declared as metropolitan areas after which the commissionerate system will be implemented.
- Agra has been included in the list considering its growing population, its significance in terms of national and international tourism besides its importance from industries point of view.
- Ghaziabad was chosen keeping in view its growing population, it being a busy district of the National Capital Region and its new industrial scenario.
- Prayagraj was selected because of its population and religious and cultural significance.
- With the inclusion of these three, Uttar Pradesh now will have seven districts where police commissionerate system has been implemented.
- It was in January 2020 that Lucknow and Noida adopted the police commissionerate system followed by Kanpur and Varanasi in March 2021.
- Director general of police (ADGP)-rank officials will be assigned all three commissionerates and officers with the IG rank will become joint commissioners.
- The districts will be divided into several zones and ACPs will be posted in place of circle officers (COs), while their rights will also increase as they will also be able to make decisions in the investigation of any case, it is learnt.
- Also, the police commissioners will have the powers of a magistrate. This means that the rights related to law and order will now be with the commissioner.
- Police Commissionerates
- State is always divided into Commissionerates and districts for ease of Administration and Policing.
- In a district: Speaking of policing, due to the simpler demography of districts and relatively simpler crime pattern, the head of policing is given to a Superintendent ranked Officer -SP.
- Districts is generally considered as rural policing. It's an unsaid concept as all the big cities are now under commissionerates (Mumbai, Delhi, Hyderabad, Bengaluru etc) due to high rate of urbanisation and change in nature of crime.
- Commissionerate is needed as there is much wider scope of crime And many problems related to law and order in the developed urban areas. So there is a senior officer needed to handle the law and order, crime, vehicular traffic, etc. Commissionerates are headed by Police Commissioners and Districts are headed by Superintendents.
- Generally Police Commissioner Portfolio is given to officers of ranks DIG and above depending on state governments.

Ayushman Bharat Digital Mission

Why in News

Ayushman Bharat Digital Mission crosses landmark of three crore digitally linked health records

Important Points

- The ABDM is creating a seamless online platform through the provision of a wide range of data, information and infrastructure services, duly leveraging open, interoperable and standards-based digital systems.
- Under it, citizens are able to create their ABHA (Ayushman Bharat Health Account) numbers to which their digital health records can be linked.
- It enables the creation of longitudinal health records for individuals across various healthcare providers and improves clinical decision-making by healthcare providers.

Ayushman Bharat Digital Mission

- The Ayushman Bharat Digital Mission (ABDM) aims to develop the backbone necessary to support the integrated digital health infrastructure of the country.
- It will bridge the existing gap amongst different stakeholders of Healthcare ecosystem through digital highways.

ABDM Components

ABHA Number

- It is important to standardize the process of identification of an individual across healthcare providers.
- This is the only way to ensure that the created medical records are issued to the correct individual or accessed by Health Information User through appropriate consent.
- In order to issue the UHID, the system must collect certain basic details including demographic and location,
- family/relationship, and contact details. Ability to update contact information easily is the key.
- The ABHA(Ayushman Bharat Health Account) Number will be used for the purposes of uniquely identifying persons, authenticating them, and threading their health records (only with the informed consent of the patient) across multiple systems and stakeholders.

Healthcare Professionals Registry (HPR)

- It is a comprehensive repository of all healthcare professionals involved in delivery of healthcare services across both modern and traditional systems of medicine.
- Enrolling in the Healthcare Professionals Registry will enable them to get connected to India's digital health ecosystem.

Health Facility Registry (HFR)

- It is a comprehensive repository of health facilities of the nation across different systems of medicine.
- It includes both public and private health facilities including hospitals, clinics, diagnostic laboratories and imaging centers, pharmacies, etc. Enrolling in the Health Facility Registry will enable them to get connected to India's digital health ecosystem.

Unified Health Interface (UHI)

- UHI is envisioned as an open protocol for various digital health services.
- UHI Network will be an open network of End User Applications (EUAs) and participating Health Service Provider (HSP) applications.
- UHI will enable a wide variety of digital health services between patients and health service providers (HSPs) including appointment booking, teleconsultation, service discovery and others.

ABHA Mobile App (PHR)

- A PHR is an electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and that can be drawn from multiple sources while being managed, shared, and controlled by the individual.
- The most salient feature of the PHR, and the one that distinguishes it from the EMR and EHR, is that the information it contains is under the control of the individual.

National Milk Day 2022

Why in News

The Department of Animal Husbandry and Dairying is celebrating “National Milk Day” on 26th November to commemorate the 101st birth anniversary of the “Father of the White Revolution in India”.

Important Points

- On 26 November, National Milk Day is observed throughout India in honour of Dr. Verghese Kurien, the man credited with spearheading the white revolution.
- He was a key player in 'Operation Flood', which boosted India's dairy industry towards the status of the country's largest self-sustaining industry.
- National Milk Day has been observed in India since 2014 under the initiative taken by the Indian Dairy Association (IDA).

Significance of the day

- According to the Economic Survey of India 2021-2022, India is ranked first in milk production and contributes about 23 per cent of global milk production.
- Not just that, Dairy is the single largest agricultural commodity that contributes 5 per cent to the national economy, employing more than 8 crore farmers directly.
- Milk production in India has grown at a rate of 6.2 per cent annually, and all of this is achieved today because of Dr. Verghese Kurien's initiative in making Indian self-sufficient in milk production.
- His idea doubled the milk available for each person and increased milk output four-fold in 30 years.
- He started the production of milk powder from buffalo milk instead of from cow milk, which was in short supply in India.



Who was Dr. Verghese Kurien?

- He was born in Kozhikode, Kerala, on 26 November 1921, to a wealthy Syrian Christian family. Due to his leadership of Operation Flood, the largest agricultural programme in the world, Dr. Kurien is known as the "Father of the White Revolution" in India.
- In order to fix the prices charged, he helped organise the Delhi Milk Scheme and formed 30 organisations, all that was managed by farmers and employees.
- He is credited with industrialising dairy production and founding the Amul brand. Due to Dr. Kurien's work, India surpassed the US to become the world's largest milk production in 1998.
- Dr. Kurien has received numerous awards, including the Krishi Ratna, the Ramon Magsaysay Award, and the World Food Prize.
- He has earned the Padma Shri, Padma Bhushan, and Padma Vibhushan, India's three highest civilian honours.

What is 'Operation Flood'?

- Operation Flood, which was started in 1970, has assisted dairy farmers in managing their own development and taking ownership of the resources they produce.
- A National Milk Grid connects customers in more than 700 towns and cities with milk farmers across India, minimising seasonal and regional price differences while ensuring that the producer consistently receives fair market rates in a transparent manner.
- Village milk producers' cooperatives, that purchase milk, offer inputs and services, and give members access to contemporary management and technology, have formed the foundation of Operation Flood. The goals of Operation Flood included:
 1. Increase milk production ('a flood of milk')
 2. Augment rural incomes
 3. Reasonable prices for consumers

Manipur's Ima market

Why in News

External Affairs minister visited Manipur's Ima market and called it a "great example of nari shakti (women's power) powering economic growth".

Important Points

About Manipur's Ima market

- Ima Keithel, or Mothers' Market, is an all-women market, said to be the largest such shopping complex in Asia.
- A unique all women's market, having 3,000 "Imas" or mothers who run the stalls, it is split [into] two sections on either side of the road.
- Vegetables, fruits, fish and household groceries are sold on one side and exquisite handlooms and household tools on the other.
- Not far away is a street where beautiful wicker works and basketry are sold.
- Male vendors and shopkeepers are barred here. In 2018, the state government announced that legal action would be taken under the Manipur Municipalities Act, 2004 if any male vendor was found selling goods at the market.
- While the Keithel was earlier a collection of stalls, in 2010, the government moved it to the Khwairamband Bazaar, where it has taken a more organised and safer shape.
- The Ima Market is centuries-old, and has its origins in Lallup Kaba, an ancient bonded labour system.
- Under the system, Meitei men had to compulsorily serve some time working in the military and on other civil projects, keeping them away from home.
- The women, thus, were left to manage on their own, and they developed a market system which is today the Ima Keithel.
- While the system is centuries-old, it had continued till the time of the British.
- Policies of the British government had interfered with the functioning of the Ima market too, but were met with stiff resistance from the women.

Meitei people

- The Meitei people also known as the Manipuri people, is the predominant ethnic group of Manipur in Northeast India.
- They speak Meitei language, one of the 22 official languages of the Indian Republic and the sole official language of Manipur.
- The Meiteis primarily settled in the Imphal Valley region in modern-day Manipur, though a sizable population has settled in the other Indian states of Assam, Tripura, Nagaland, Meghalaya, and Mizoram.
- There is also a notable presence of Meitei in the neighboring countries of Myanmar and Bangladesh.

Chapter- 7

INTERNATIONAL RELATION

India-Australia

Why in News

Australia parliament ratify trade pact with India.

Important Points

- Australia's Parliament passed bilateral free trade agreement with India.
- The deals are crucial for Australia to diversify its exports from the troubled Chinese market to India and to forge new bilateral trade relations.
- The pact also ensures that Australia will not be excluded from improved trade and market access which may arise from agreements India subsequently negotiates with other nations.
- As Australia moves towards a Comprehensive Economic Cooperation Agreement, the Committee has noted the importance of improved tariff reductions, greater access to services, and on broader matters like intellectual property, cultural heritage, the environment, and labour rights.
- The Committee, however, has expressed concerns regarding the extent and quality of consultation, transparency of negotiations, and lack of independent modelling and analysis of trade agreements.
- The Joint Standing Committee on Treaties has been appointed by the Commonwealth Parliament to review and report on all treaty actions proposed by the Government before action which binds Australia to the terms of the treaty is taken.
- The agreement, once implemented, will provide duty-free access to the Australian market for over 6,000 broad sectors of India, including textiles, leather, furniture, jewellery and machinery.
- Under the pact, Australia is offering zero-duty access to India for about 96.4 per cent of exports (by value) from day one. This covers many products that currently attract 4-5 per cent customs duty in Australia.
- Labour-intensive sectors which would gain immensely include textiles and apparel, few agricultural and fish products, leather, footwear, furniture, sports goods, jewellery, machinery, electrical goods and railway wagons.
- India's goods exports stood at USD 8.3 billion and imports aggregated to USD 16.75 billion in 2021-22.
- The agreement would help in taking bilateral trade from USD 27.5 billion at present to USD 45-50 billion in the next five years.
- Australia is an important strategic partner of India and both the democracies are part of the four nation QUAD, Trilateral Supply Chain Initiative and the Indo-Pacific Economic Forum (IPEF).
- The trade relationship facilitated through ECTA will open a new chapter on India-Australia Comprehensive Economic Partnership between two vibrant economies with shared interest and trade complementarities.
- This agreement initiated by the Hon'ble Prime Ministers of both the sides, is the cornerstone of our multi-faceted bilateral relations. ECTA is the first trade agreement of India with a developed country after more than a decade.
- The Agreement encompasses cooperation across the entire gamut of bilateral economic and commercial relations between the two friendly countries.
- This will also connect with more than seven lakhs of Australia's Indian diaspora, second highest taxpaying diaspora, which makes a significant contribution to Australia's society and economy.
- ECTA provides for an institutional mechanism to encourage and improve trade between the two countries.
- For the first time, decisions completely based on extensive stakeholder consultations with every industry, Ministries, trade associations etc unlike the previous FTAs was undertaken.

- It is expected that with this agreement, the total bilateral trade will cross US\$ 45-50 bn in 5 years from existing US\$ 31 bn. India's Merchandise Exports is likely to increase by 10 billion by 2026-27.
- Moreover, since the labour-intensive sectors will be benefitted, it is expected to create an additional employment of atleast 10 lakhs jobs in India, create ample opportunities for investment, promotion of start-ups.
- Similarly, it would provide enhanced job opportunities for Indians in Australia and increased remittance flows to India.
- Around 96% of Australia's exports are raw materials and intermediate products which will allow many Indian industries to get cheaper raw materials and make them competitive.
- Investments will help increasing presence of higher value products of advanced technology, thereby promoting vertical Movement in the value chain (Engineering, Electronics, Pharmaceuticals & Medical devices).
- Another major gain is in Pharmaceuticals sector, where Drugs approved in other developed jurisdiction will get fast track approval for patented, generic and biosimilar medicines.
- As regards trade in services, Australia has offered wide ranging commitments in around 135 sub sectors. which cover key areas of India's interest like IT, ITES, Business services, Health, Education, and Audio visual.
- Some of the key offers from Australia in the services space include: Quota for chefs and yoga teachers; Post study work visa of 2-4 years for Indian students on reciprocal basis; mutual recognition of Professional Services and Other licensed/regulated Occupations; and Work & Holiday visa arrangement for young professionals.
- Moreover, the long pending issue under Double taxation related to IT/ITES has been resolved under this Agreement which will provide a financial savings of more than US\$ 200 million per year as per the estimates received from the Industry Associations.

Artificial Intelligence

Why in News

India to head Global Partnership on Artificial Intelligence

Important Points

- India will take over the Chair of the Global Partnership on Artificial Intelligence, GPAI from France.
- Minister of State for Electronics and Information Technology will represent the country at the GPAI meeting in Tokyo for the symbolic takeover from France.
- This development comes on the heels of assuming the Presidency of the G20, a league of the world's largest economies.

About GPAI

- It is an international initiative to support responsible and human-centric development and use of Artificial Intelligence (AI).
- GPAI is a congregation of 25 member countries, including the US, the UK, EU, Australia, Canada, France, Germany, Italy, Japan, Mexico, New Zealand, Republic of Korea, and Singapore.
- India had in 2020 joined the group as a founding member.
- It is a first-of-its-type initiative for evolving better understanding of challenges and opportunities around AI.
- It works in collaboration with partners and international organisations, leading experts from industry, civil society, governments, and academia to collaborate to promote responsible evolution of AI and guide the responsible development and use of AI, grounded in human rights, inclusion, diversity, innovation, and economic growth.

National Data Governance Framework Policy

- The NDGFP aims to ensure equitable access to non-personal data and focus on improving the institutional framework for government data sharing, promoting principles around privacy and security by design, and encouraging the use of anonymization tool.
- It also aims to standardise the government's data collection and management. The NDGFP along with the envisaged Indian Data Management Office IDMO shall catalyse the next Gen AI and Data-led research and startup ecosystem.
- The datasets programmes where anonymised non-personal data will be available for the entire AI ecosystem, also aims to boost the startup ecosystem.

No Money for Terror conference

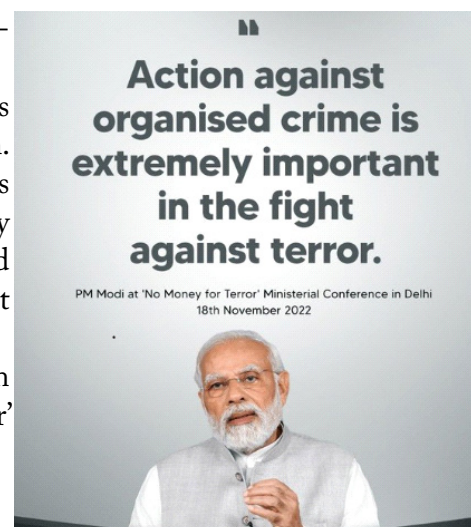
Why in News

Third edition of No Money for Terror conference held in India Recently

Important Points

About the conference

- The Prime Minister of India has strongly asked for avoiding any ambiguity in dealing with terrorism and also warned against nations that use terrorism as a tool of foreign policy.
- He was addressing the third 'No Money for Terror' (NMFT) Ministerial Conference on Counter-Terrorism Financing in New Delhi.
- The Prime Minister marked the significance of the conference taking place in India and recalled when the nation saw the dark face of terror long before the world took serious note of it.
- Prime Minister highlighted that it is an opportunity for all the delegates to interact with India and its people who have been firm in tackling terror.
- Highlighting the importance of this conference, the Prime Minister said that it should not be seen just as a gathering of ministers as terrorism impacts entire humanity.
- He said that the long-term impact of terrorism is particularly hard on the poor and on the local economy.
- “Be it tourism or trade, nobody likes an area that is constantly under threat”, Prime Minister remarked.
- He further added that the livelihoods of people are snatched away as a result of terrorism.
- He pointed out that it is all the more important that we strike at the root of terror financing.
- The Prime Minister warned against any ambiguity in tackling terrorism.
- He touched upon the mistaken notions of terrorism and said “the intensity of the reaction to different attacks cannot vary based on where it happens.
- All terrorist attacks deserve equal outrage and action. Further, sometimes, there are indirect arguments made in support of terrorism to block action against terrorists.
- He underlined that there is no place for an ambiguous approach while dealing with a global threat.
- There is no good terrorism and bad terrorism. It is an attack on humanity, freedom and civilisation. It knows no boundaries. Only a uniform, unified and zero-tolerance approach can defeat terrorism.
- The Prime Minister highlighted state support as one of the major sources of political, ideological and financial support to terrorism.
- Certain countries support terrorists as part of their foreign policy, he said. He also asked International organisations to be vigilant about proxy wars.
- The Prime Minister alerted that terrorists should not be allowed to misuse differences in legal principles, procedures and processes in different countries.
- The Prime Minister stressed the need to jointly address the problem of radicalisation and extremism.
- The Prime Minister concluded by informing about recent efforts made by India to boost international cooperation against terrorism.
- Informing about the different conferences on various dimensions of security, the Prime Minister mentioned the General Assembly of the Interpol in New Delhi, a special session of the United Nations Security Council's Counter-Terrorism Committee that happened in Mumbai.
- He further said that India is helping build global momentum against terror funding through the ongoing 'No Money For Terror' Conference.



Background

- The two-day conference organised on 18th-19th November will offer a unique platform for participating nations and organisations to deliberate on the effectiveness of the current international regime on Counter Terrorism Financing and the steps required to address emerging challenges.

- The conference will build on gains and learnings of the previous two conferences (held in Paris in April 2018 and in Melbourne in November 2019) and will work towards enhancing global cooperation to deny finances to terrorists and access to permissive jurisdictions to operate.
- It will be attended by about 450 delegates from across the world, including Ministers, Heads of Multilateral organisations and Financial Action Task Force (FATF) Heads of Delegations.
- During the Conference, deliberations will be held in four sessions which will focus on 'Global Trends in Terrorism and Terrorist Financing', 'Use of Formal and Informal Channels of Funds for Terrorism', 'Emerging Technologies and Terrorist Financing' and 'International Co-operation to Address Challenges in Combating Terrorist Financing'.

East Asia Summit

Why in News

Vice President of India has recently addressed the East Asia Summit.

Important Points

- Vice-President Jagdeep Dhankhar addressed the East Asia Summit on the last day of his visit to Cambodia.
- Dhankhar is in Cambodia for his three-day visit. This year marks the 30th anniversary of ASEAN-India relations and is being celebrated as the ASEAN-India Friendship Year.
- India and ASEAN countries vowed to establish a comprehensive strategic partnership and enhance cooperation against terrorism after Vice-President Dhankhar addressed the 19th ASEAN-India Summit.
- Apart from the ASEAN member states, the East Asia Summit includes India, China, Japan, the Republic of Korea, Australia, New Zealand, the US and Russia.

About the East Asia Summit(EAS)

- The EAS is an ASEAN initiative and refers to the annual Meeting of Heads of States/Governments of these countries, where they are able to discuss common concerns and interests.
- Beginning in 2005, 16 participating countries comprised this grouping, with their first meeting in Kuala Lumpur, Malaysia.
- These members were the 10 ASEAN countries, Australia, China, India, Japan, New Zealand, and the Republic of Korea.
- ASEAN's 10 member countries are Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.
- The United States and the Russian Federation joined at the 6th East Asia Summit in 2011.
- Its creation was based on the idea of enhancing cooperation among East Asian countries and those in the neighbouring regions.
- Six priority areas of cooperation were identified – environment and energy, education, finance, global health issues and pandemic diseases, natural disaster management, and ASEAN Connectivity.

About ASEAN

- The Association of South-East Asian Nations (ASEAN) is a political and economic union of 10 member states in Southeast Asia, which promotes intergovernmental cooperation and facilitates economic, political, security, military, educational, and sociocultural integration between its members and countries in Asia-Pacific.
- ASEAN's primary objective is to accelerate economic growth and through that social progress and cultural development.
- A secondary objective is to promote regional peace and stability based on the rule of law and the principle of United Nations charter.
- ASEAN was preceded by an organisation formed on 31 July 1961 called the Association of Southeast Asia (ASA), a group consisting of Thailand, the Philippines, and the Federation of Malaya.
- ASEAN itself was created on 8 August 1967, when the foreign ministers of five countries- Indonesia, Malaysia, the Philippines, Singapore, and Thailand, signed the ASEAN Declaration.
- Today it comprises Indonesia, Singapore, Philippines, Malaysia, Brunei, Thailand, Cambodia, Lao PDR, Myanmar and Vietnam.
- It is headquartered in Jakarta, Indonesia.

India's G20 presidency

Why in News

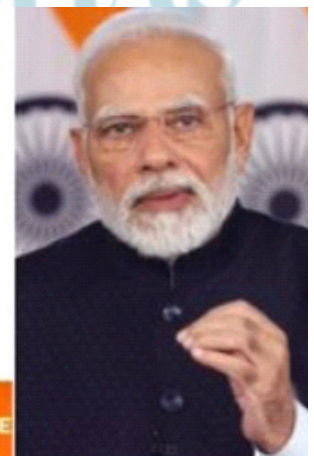
Prime Minister of India recently unveiled the logo, theme and website of India's G20 presidency.

Important Points

- The Prime Minister, Shri Narendra Modi unveiled the logo, theme and website of India's G-20 Presidency via video conferencing.
- The logo bears a lotus and the message of 'Vasudhaiva Kutumbakam — One Earth, One Family, One Future'.
- Elaborating, the Prime Minister said that the logo reflects our idea of Vasudhaiva Kutumbakam (the whole earth is a family), because of which India has always believed in global harmony.
- He also said that the lotus flower symbolises our Puranic heritage, our aashta (belief) and boddhikta (intellectualism).
- India will assume the presidency of the powerful G20 grouping from the current chair, Indonesia, on December 1, and hold the post for a year.
- The G20 Leaders' Summit at the level of Heads of State/Government is scheduled to be held on September 9 and 10, 2023 in New Delhi.
- During the course of its G20 Presidency, India will be holding about 200 meetings in 32 different sectors in multiple locations across India.
- The G20 Summit to be held next year, would be one of the highest profile international gatherings to be hosted by India.
- The presidency of the G20 rotates every year among members, and the country holding the presidency, together with the previous and next presidency-holder, forms the 'Troika' to ensure continuity of the G20 agenda.
- During India's presidency, India, Indonesia and Brazil will form the troika. This would be the first time when the troika would consist of three developing countries and emerging economies.

What is G20?

- G20 is the premier forum for international economic cooperation representing around 85 per cent of the global GDP, over 75 per cent of the global trade, and about two-thirds of the world population.
- It was formed in 1999 in the backdrop of the financial crisis of the late 1990s that hit East Asia and Southeast Asia in particular.
- Its aim was to secure global financial stability by involving middle-income countries.
- Its prominent members are: Australia, Brazil, China, France, Germany, India, Japan, Republic of Korea, Russia, Saudi Arabia, South Africa, Turkey, the UK, the US, and the EU. Spain is invited as a permanent guest.
- The G20 has no permanent secretariat.
- The agenda and work are coordinated by representatives of the G20 countries, known as 'Sherpas', who work together with the finance ministers and governors of the central banks.
- On the advice of the G7 Finance Ministers, the G20 Finance Ministers and Central Bank Governors began holding meetings to discuss the response to the global financial crisis that occurred.
- Since 1999, an annual meeting of finance ministers has taken place.
- The first G20 Summit took place in 2008 in Washington DC, US.
- In addition to Summits, the Sherpa meetings (that help in negotiations and building consensus), and other events are also organised throughout the year. Each year, the presidency invites guest countries.



United Nations (UN) Resident Coordinator

Why in News

Siddharth Chatterjee, a former Indian military officer, has become the U.N. Resident Coordinator for China recently.

Important Points

- An Indian military officer who fought for the Indian Peace Keeping Force (IPKF) in Sri Lanka and battled insurgencies in Nagaland now finds himself helming a different kind of mission: leading the United Nations and its 26 agencies in China.
- Siddharth Chatterjee's rise to becoming the U.N. Resident Coordinator for China — one of the agency's key global positions given Beijing's rising importance in the U.N. system — leaves a former Indian soldier in an unlikely position — the equivalent of a former PLA soldier guiding the U.N.'s agencies in India.

Who is UN resident coordinator?

- The UN Resident Coordinator(RC) is the highest-ranking representative of the UN Development System at the country level.
- RCs lead UN Country Teams and coordinate UN support to countries in implementing the 2030 Agenda.
- The Resident Coordinator is the designated representative and reports to – the UN Secretary-General.

What do Resident Coordinators do?

The key duties and responsibilities of Resident Coordinators include:

- Representing the United Nations at the highest levels of state and, together with the relevant agency representatives, fostering engagement with the government, civil society, bilateral and multilateral partners, academia and the private sector, in order for the UN development system to help address the country's needs, priorities and challenges to fulfil the Sustainable Development Goals (SDGs).
- Coordinating operational activities for development of the UN in support of the country's efforts to implement the 2030 Agenda.
- Promoting and advocating for the fundamental values, standards and principles of the UN Charter, including respect for and protection of human rights and gender equality and advocacy on the SDG commitment to leave no one behind in achieving the Sustainable Development Goals, and reaching the furthest behind first.
- Leading the UN country team (UNCT) in consultations with the host Government to define and agree on the UN's strategic response to the government's priorities.
- Leading and supporting the UNCT in developing, implementing, monitoring, and reporting on the UN Cooperation Framework, in full consultation with the government, and through engagement with diverse partners.
- Advocating for and supporting the work of UNCT members, including Non-Resident Agencies (NRAs), in reaching their agency-specific goals.
- Leading and coordinating the response efforts of United Nations and relevant humanitarian actors in cases where international humanitarian assistance is required and a separate Humanitarian Coordinator (HC) or lead agency is not designated.
- Facilitating the integration of the UNCT's work with UN peacekeeping or political missions in conflict and post-conflict settings, so as to fully contribute to building resilience, prevention and peace, and to transition planning and management.
- Managing and providing strategic guidance and oversight to the Resident Coordinator Office.

Global South

Why in News

External Affairs Minister of India has said that the country will always stand with the Global South and seek to strengthen the U.N.'s effectiveness.

Important Points

The concept of Global North and Global South-

- The concept (or North–South divide in a global context) is used to describe a grouping of countries along socio-economic and political characteristics.
- The Global South is a term often used to identify regions within Latin America, Asia, Africa, and Oceania.
- It is one of a family of terms, including “Third World” and “Periphery”, that denote regions outside Europe and North America, most (though not all) of these countries are low-income and often politically or culturally marginalized on one side of the divide, the other side being the countries of the Global North (often equated with developed countries).
- As such, the term does not inherently refer to a geographical south; for example, most of the Global South is geographically within the Northern Hemisphere.
- Countries of the Global South have been described as newly industrialized or in the process of industrializing, and are frequently current or former subjects of colonialism.
- The Global North mostly correlates with the Western world—with the notable exceptions of Japan, South Korea, Singapore, Taiwan, and Israel— and the South largely corresponds with the developing countries previously called “Third World,” plus the Eastern world.
- Geographically, the Global South is mostly composed of regions that are neither Western nor Eastern such as the Latin West And most African countries.
- The two groups are often defined in terms of their differing levels of wealth, economic development, income inequality, democracy, and political and economic freedom, as defined by freedom indices.
- India's ongoing tenure as the member of the UNSC has reflected our principled approach of promoting dialogue and diplomacy to meet contemporary challenges.
- India will always stand with the Global South and seek to strengthen the UN's effectiveness.

India and GCC

Why in News

India, GCC to expedite process for formal resumption of free trade agreement negotiations

Important Points

- India and the Gulf Cooperation Council have agreed to expedite conclusion of the requisite legal and technical requirements for the formal resumption of the negotiations for a free trade agreement.
- The FTA is envisaged to be a modern, comprehensive agreement with substantial coverage of goods and services.
- Both sides agree
- d to significantly expand and diversify the trade basket in line with the enormous potential that exists on account of the complementary business and economic ecosystems of India and the GCC.
- The GCC, which comprises Saudi Arabia, the United Arab Emirates, Bahrain, Qatar, Oman and Kuwait, is India's largest trading partner bloc with bilateral trade in the fiscal year 2021-22 valued at over \$154 billion.
- Bilateral trade in services between India and the GCC was at \$14 billion in 2021-22. GCC-India trade talks had stalled in 2008.
- Significantly, GCC countries contribute almost 35 percent of India's oil imports and 70 percent of gas imports. Investments from the GCC in India are currently valued at over \$18 billion, according to the commerce ministry.
- India imports about 85% of its crude oil requirements. India also imports LPG and Natural gas to the extent of about 55% and 50% of their domestic consumption.
- India, which has shunned recent multilateral trade pacts, is rushing to stitch a bunch of free trade deals with several economies to help boost exports that the Narendra Modi-administration looks as a major growth driver.



Indo-Pacific Regional Dialogue 2022

Why in News

The fourth edition of the Indo-Pacific Regional Dialogue (IPRD) was started recently.

Important Points

- IPRD is an apex level international annual conference of the Indian Navy.
- The National Maritime Foundation is Navy's knowledge partner and chief organizer of each edition of the event.
- The theme of IPRD-2022 is the 'Operationalising the Indo-Pacific Oceans Initiative'.
- It will have six professional sessions spread over the three-day period.
- As part of the event, globally renowned speakers and eminent panelists will explore how the areas of maritime cooperation could be optimally and inclusively operationalized.
- In addition, there will be Margdarshan session which would include addresses from Defence Minister Rajnath Singh, and Environment Minister Bhupendra Yadav.

What is Indo-Pacific Regional Dialogue (IPRD)?

- IPRD is an apex level international annual conference of the Indian Navy.
- The National Maritime Foundation is Navy's knowledge partner and chief organizer of each edition of the event.
- The theme of IPRD-2022 is the 'Operationalising the Indo-Pacific Oceans Initiative'.
- The theme was articulated by the Hon'ble Prime Minister of India in Bangkok, at the 14th East Asia Summit (EAS) on 04 November 2019.
- The IPOI is a comprehensive and inclusive construct for regional cooperation that is focused on seven interconnected spokes or pillars: Maritime Security, Maritime Ecology, Maritime Resources, Disaster Risk-reduction and Management, Trade-Connectivity and Maritime Transport, Capacity-building and Resource sharing, and Science, Technology and Academic Cooperation.
- The IPRD seeks to foster exchange of ideas and promote deliberations on regionally relevant maritime issues.
- Being a Track 1.5 event that aims to encourage discussions on public policy, the IPRD endeavors for a balanced representation from government and non-government agencies and institutions.
- The first two editions of IPRD were held in 2018 and 2019 respectively at New Delhi.
- The aim of each successive edition of the IPRD is to review both opportunities and challenges that arise within the Indo-Pacific.

About National Maritime Foundation(NMF)

- The genesis of the NMF, New Delhi, lies in a long-felt need to redress India's historical neglect of its maritime domain.
- The NMF was accordingly established, in 2005, as the nation's first maritime think-tank for the conduct of independent and policy-relevant research on all 'matters maritime'.
- It was, from its very inception, designed to create and heighten maritime awareness amongst India's policy-makers, intellectual echelons, and civil society at large.
- While the NMF is an independent and autonomous think-tank, its intellectual and organisational development is supported by the Ministry of Defence and the Indian Navy.

Code of Conduct for the South China Sea

Why in News

Code of Conduct for the South China Sea is now being discussed at the ASEAN Defence Ministers Plus meeting in Cambodia.

Important Points

Code of Conduct for the South China Sea

- The Code of Conduct (COC) is intended to reduce the risk of conflict in the South China Sea in the disputed waterway where China's expansive maritime and territorial claims clash with those of four ASEAN member states: Vietnam, Malaysia, the Philippines, and Brunei.

- The COC has been a perennial agenda item for China and ASEAN since the turn of the century, but its realization remains far off.
- The evolution of the CoC dates back to 1992, when ASEAN issued its first statement on territorial disputes in the South China Sea.
- Endorsing the concept of a CoC in 1996, they then signed a Declaration on the Conduct of Parties in the South China Sea (DoC) in 2002, with draft guidelines being adopted in 2011.
- While the DoC has already played a significant role in stabilising the area, a CoC would be an upgraded version that would take yet another step towards regional peace and stability.

About South China Sea

- It is a marginal sea that is part of the Pacific Ocean, encompassing an area from the Karimata and Malacca straits to the Strait of Taiwan of around 3,500,000 square kilometres
- The South China Sea carries tremendous strategic importance; one-third of the world's shipping passes through it.
- It contains lucrative fisheries, which are crucial for the food security of millions in Southeast Asia. Huge oil and gas reserves are believed to lie beneath its seabed
- States and territories with borders on the sea (clockwise from north) include: the People's Republic of China, the Republic of China (Taiwan), the Philippines, Malaysia, Brunei, Indonesia, Singapore, and Vietnam.
- Major rivers that flow into the South China Sea include the Pearl, Min, Jiulong, Red, Mekong, Rajang, Pahang, Agno, Pampanga, and Pasig Rivers.

About ASEAN

- The Association of South-East Asian Nations (ASEAN) is a political and economic union of 10 member states in Southeast Asia, which promotes intergovernmental cooperation and facilitates economic, political, security, military, educational, and sociocultural integration between its members and countries in Asia-Pacific.
- ASEAN's primary objective is to accelerate economic growth and through that social progress and cultural development.
- A secondary objective is to promote regional peace and stability based on the rule of law and the principle of United Nations charter.
- ASEAN was preceded by an organisation formed on 31 July 1961 called the Association of Southeast Asia (ASA), a group consisting of Thailand, the Philippines, and the Federation of Malaya.
- ASEAN itself was created on 8 August 1967, when the foreign ministers of five countries- Indonesia, Malaysia, the Philippines, Singapore, and Thailand, signed the ASEAN Declaration.
- Today it comprises Indonesia, Singapore, Philippines, Malaysia, Brunei, Thailand, Cambodia, Lao PDR, Myanmar and Vietnam.
- It is headquartered in Jakarta, Indonesia.

Express entry system of Canada

Why in News

Recently, Canada announced its new policy to allow workers from 16 new occupations to come to the country to meet its labour shortage.

Important Points

- It is a unique and a quick way to permanent residence for immigrants seeking a new life in Canada.
- EE plays a vital role in managing the immigrant inflow to the North American country judging through certain various parameters.
- The occupations that are included in the list of 'Express Entry' to Canada stand to gain, that is, to obtain permanent residency.
- Experts say that the 'Express entry' system was always there in Canada since 2015, but it got almost stalled during the Covid pandemic. Now, Canada has expanded by including 16 new occupations under its ambit.

- Earlier these occupations were not included in the EE which deals in various programmes, including Federal Skilled Worker, Federal Skilled Trade, Provincial Nominee Programme (PNP) and others, says Gurpreet Singh, who has been running a Canadian immigration consultancy for over a decade.
- Under the 'Express Entry' system the applicant has to apply online in his/her respective field and has to declare information about him/her.
- Then Canadian authorities select the applicants through a draw and send the Invitation to Apply (ITA) to the selected applicants on the online account.
- In the new list, jobs include that of nurse aides, long-term care aides, hospital attendants, pest controllers, fumigators, repairers, heavy equipment operators, bus drivers, subway operators, pharmacy assistants, elementary and secondary school teacher assistants, transport truck drivers, etc.

India's Koo in Brazil

Why in News

India's microblogging platform Koo seeing a growing fandom in Brazil

Important Points

- Founded by Aprameya Radhakrishna and Mayank Bidawatka in March 2020, Koo is a multilingual microblogging platform, currently functional in over 100 countries and available in 11 languages.
- Koo was initially launched in Kannada and later added English and other Indian languages – Hindi, Telugu, Tamil, Bengali, Gujarati, Marathi, Assamese and Punjabi.
- Koo's interface, which is yellow and white, is similar to that of Twitter.
- It, too, enables users to categorise their posts with hashtags and tag other users in mentions or replies.
- In May 2021, Koo introduced a new feature 'Talk to Type' that allows its users to create a post with the app's voice assistant. Koo marks verified accounts with a yellow-coloured check mark.
- The platform recently announced four new features for the app, giving users more control over their posts. With this update, users will be able to save a Koo (which is the post), schedule Kooos, and also save drafts – similar to Twitter.
- Koo will now also allow users to upload up to 10 profile pictures as well.
- Among the alternatives that Twitteratis flying the coop look for, the microblogging platform Koo has gained huge traction, apart from sites like Mastodon and Tumblr.
- This app was actively promoted by the Indian government as part of its 'Make-in-India' initiative.
- Koo emerged as the winner in the 'social networking' category in the 'Aatmanirbhar Bharat App Innovation Challenge' that was announced by the Prime Minister of India in May 2020 to create cutting-edge Indian apps.
- Since then, the Information Technology Ministry has used Koo to broadcast its differences from Twitter, which has fuelled the platform's growth.

Chapter- 8

GOVERNMENT SCHEME

IIPDF Scheme

Why in News

The Department of Economic Affairs (DEA), Ministry of Finance has notified Scheme for Financial Support for Project Development Expenses of PPP Projects – India Infrastructure Project Development Fund Scheme (IIPDF Scheme).

Important Points

- The Department of Economic Affairs (DEA), Ministry of Finance, Government of India, notifies Scheme for Financial Support for Project Development Expenses of PPP Projects – India Infrastructure Project Development Fund Scheme (IIPDF Scheme).
- DEA is laying great thrust on improving the quality and pace of infrastructure development in the country by encouraging private sector participation in the infrastructure sector.
- The DEA has been actively engaged in developing the appropriate policy framework for private investment in infrastructure development. Public Private Partnerships (PPPs) are being encouraged to bring private capital and efficiency in execution and operation of infrastructure projects.
- Besides, new schemes and initiatives are being introduced to provide financial and technical support to the private sector, wherever necessary.
- Now, the IFS, DEA has come out with Scheme for Financial Support for Project Development Expenses of PPP Projects – ‘IIPDF Scheme’ (India Infrastructure Project Development Fund Scheme) for providing necessary support to the PSAs, both in the Central and State Governments, by extending financial assistance in meeting the cost of transaction advisors and consultants engaged in the development of PPP projects.
- As a Central Sector Scheme, the India Infrastructure Project Development Fund Scheme (IIPDF Scheme) will aid development of quality PPP projects by providing necessary funding support to the project sponsoring authorities, both in the Central and State Governments, for creating a shelf of bankable viable PPP projects for achieving the vision of modern infrastructure for the country.
- Funding under IIPDF Scheme is in addition to the already operational Scheme for Financial Support to PPPs in Infrastructure (VGF Scheme) notified through which infrastructure projects undertaken through PPP mode that are economically justified but commercially unviable are supported.
- The Infrastructure Finance Secretariat (IFS), DEA, has undertaken several deep dive initiatives for boosting PPP ecosystem in the country covering the entire gamut of PPP Life-cycle.
- A key step in structuring quality PPP projects is to provide quality advisory/ consultancy services to the Project Sponsoring Authorities (PSAs).
- However, procurement of such services is a time consuming and difficult process often resulting into delays in onboarding of the appropriate Transaction Advisers (TAs) or non-optimal structuring of PPP projects

MITRA

Why in News

The Maharashtra Institute for Transformation would be the state's think tank for comprehensive data analysis and to make studied decisions on various sectors

Important Points

- The Maharashtra government issued a government resolution and formed the Maharashtra Institution for Transformation – MITRA.
- MITRA would be along the lines of NITI Aayog.

- According to the reports, MITRA will be chaired by Chief Minister Eknath Sambhaji Shinde, and Deputy Chief Minister Devendra Fadnavis will be the co-chairman.
- In October, the Maharashtra cabinet had given its approval to constitute Maharashtra Institution for Transformation (MITRA).
- The Maharashtra Institute for Transformation would be the state's think tank for comprehensive data analysis and to make studied decisions on various sectors.
- For instance, one department has details of an outbreak of disease, while another one possesses information about the location of contaminated water. If these two departments share their data, decision-making would be more effective.
- The transformation would achieve the target of making the state a \$1 trillion economy by 2027 and a \$3.5 trillion economy by 2047.
- A delegation led by Chief Minister Eknath Shinde met the chief executive officer and other officials of the Niti Aayog.
- It was proposed that an institute of transformation on the lines of Niti Aayog would be set up to make studied decisions on various sectors.
- CM Shinde has given an in-principle nod to this suggestion.

About NITI AYOOG

- NITI Aayog was set up in January 2015 by the Narendra Modi government to replace the Planning Commission.
- NITI AYOOG is a premiere policy think tank of the Government of India. It was established with the aim to achieve sustainable development goals by active involvement of state government in the planning process.

Features of NITI AYOOG

- Increased access to and sharing of information
- Diminished role for centralized planning
- Governance, across the public and private domains
- To formulate credible plans at the village level and aggregate these progressively at higher levels of government.
- Continuing partnership with the states
- To provide advice and encourage partnerships between key stakeholders and national and international like-minded Think Tanks
- Platforms for resolution of issues
- Governance involves everyone
- Mechanisms to evolve credible plans at the village level, evolve a shared vision

Objectives of NITI AYOOG

- To evolve a shared vision for the development of national priorities, strategies, and sectors with the active involvement of the States.
- To develop mechanisms at the village level to formulate credible plans and to aggregate these mechanisms progressively at the higher levels of government.
- To foster cooperative federalism with the help of structured support mechanisms and initiatives on a continuous basis with the States, recognizing that strong States help in building a strong nation.
- To pay special attention to those sections of our society which may be at risk of not being adequately benefitted from the economic progress
- To ensure that the interests of national security are incorporated into economic policy and strategy.

India's first Suicide prevention policy

Why in News

The Ministry of Health and Family Welfare has recently announced a National Suicide Prevention Strategy, the first of its kind in the country.

Important Points

- India accounts for nearly one lakh (0.1 million) deaths due to suicide every year, said a report by the Union Ministry of Health and Family Welfare.

- With the aim to reduce suicide mortality, the government announced the first of its kind, National Suicide Prevention Strategy (NSPS) in India.
- It maps New Delhi's time-bound action plan to reduce suicide mortality by 10 per cent (approximately 10,000) by 2030.

Key highlights of the policy

- The strategy broadly seeks to establish effective surveillance mechanisms for suicide within the next three years
- It also seeks to establish psychiatric outpatient departments that will provide suicide prevention services through the District Mental Health Programme in all districts within the next five years.
- It aims to integrate a mental well-being curriculum in all educational institutions within the next eight years.
- It envisages developing guidelines for responsible media reporting of suicides, and restricting access to means of suicide.
- The stress is on developing community resilience and societal support for suicide prevention.
- While the strategy is in line with the WHO's South East-Asia Region Strategy for suicide prevention, it says it will remain true to India's cultural and social milieu.
- The strategy should now be passed on to the States for them to develop locally relevant action plans; and then cascade to the district, primary health and community levels.

Suicide cases in India

- In India, more than one lakh lives are lost every year to suicide, and it is the top killer in the 15-29 years category.
- In the past three years, the suicide rate has increased from 10.2 to 11.3 per 1,00,000 population.
- The most common reasons for suicide include family problems and illnesses, which account for 34% and 18% of all suicide-related deaths.
- Around 71 per cent of males and 29 per cent of females account for the total number of deaths by suicide in India.
- It also noted the economic and professional status of an individual as a factor in the number of suicides as 63.3 per cent occurred among those who earn less than Rs. 1 lakh per annum (\$0.1 million) in 2020.
- According to the report, over 60 per cent of suicides happen among people aged 18-45 years.

Provisions on Suicide in India

- Section 309 of the Indian Penal Code dictates the penal provision for attempting suicide.
- If a person is suffering from any mental trauma or illness, he or she should be given reformatory treatment rather than a deterrent punishment which is "simple imprisonment for a term which may extend to one year [or with fine, or with both]".
- India has retained much of the colonial legal legacy in its penal jurisprudence.
- But the fact is that the British Parliament decriminalised attempts to suicide in 1961 through the Suicide Act.
- In India, a Bill to repeal Section 309 was first introduced in the Rajya Sabha in 1972 but it failed to pass in the Lok Sabha because the House was dissolved.

What is the National Suicide Prevention Strategy (NSPS)?

- The health ministry, citing the grim data, broadly seeks to establish effective surveillance mechanisms in the next three years to achieve a 10 per cent reduction in suicide mortality by 2030 through the NSPS.
- Some of these mechanisms include establishing psychiatric outpatient departments through the District Mental Health Programme in all districts across the country by 2027 to provide suicide prevention services.
- Additionally, in line with this programme, the government will also incorporate courses related to mental well-being in educational institutes across India within the next eight years.
- In a statement, India's Health Minister Mansukh Mandaviya said that preventing suicides is now a public health priority and impacts all sections of society.

- Therefore, it requires “concerted and collaborative efforts” from individuals as well as the community at large.
- One of the priorities of this NSPS also includes reducing easy access to means of suicide, in line with which the government plans to phase out hazardous pesticides. T
- he report also noted that the most common method of committing suicide is hanging and poisoning, followed by drowning and immolation.
- The government also plans to create guidelines for the media on responsible reporting about suicides.

UGC's new regulations for awarding PhDs

Why in News

The University Grants Commission (UGC) has notified UGC (Minimum Standards and Procedures for Award of PhD Degree) Regulations, 2022.

Important Points

- The University Grants Commission (UGC) notified the University Grants Commission (Minimum Standards and Procedures for Award of Ph.D. Degree) Regulations, 2022 to further suppress the UGC (Minimum Standards and Procedure for Awards of M.Phil. /Ph.D. Degree) Regulations, 2016.
- They shall apply to every university established or incorporated by or under a Central Act, a Provincial Act, or a State Act, every college, and every institution deemed to be a University under section 3 of the University Grants Commission Act, 1956.

What are the new changes?

- One of the notable changes it made was to the evaluation and assessment criteria for the award of the degree, where it has waived the need to mandatorily publish a research paper in a peer-reviewed journal.
- This is accompanied by completely abolishing MPhil, which has been a gateway for PhD programmes, in line with the recommendation in the National Education Policy 2020.
- The eligibility criteria for admissions too have been revised, and a candidate can register after completing a one-year (or two semester) master's degree programme after a four-year (or 8-semester) bachelor's degree programme or a two-year (or four-semester) master's degree programme after a three-year bachelor's degree programme with at least 55% marks or its equivalent grade.
- There are also important changes to course work. Earlier, the description of course work candidates needed to finish was more detailed, with at least four credits assigned to courses on research methodology.
- Candidates were also required to finish this either in the first semester, or by the second semester. Only candidates who were awarded MPhil or had completed their MPhil were exempted. But the new regulations leave it more open ended and says that all PhD scholars “shall be required to train in teaching/ education/ pedagogy/ writing related to their chosen PhD subject.”
- They can also now be assigned 4-6 hours per week of teaching/research assistantship for conducting tutorial, or laboratory work and evaluations.
- The UGC now also allows part-time PhDs, a practice that was disallowed under the 2009 and 2016 regulations.
- PhD scholars will be required to undertake research work after completing their course work, make a presentation and produce a draft dissertation or thesis.
- If the evaluation of the submission is satisfactory, the candidate will have to defend the thesis in a public viva voce. They will not have to publish a research paper in refereed journal and make two paper presentations in conferences or seminars before submitting the thesis.

University Grants Commission(UGC)

- UGC is a statutory body set up by the Department of Higher Education, Ministry of Education, Government of India in accordance to the UGC Act 1956 and is charged with coordination, determination and maintenance of standards of higher education in India.
- It provides recognition to universities in India, and disbursements of funds to such recognized universities and colleges.

- The headquarters are in New Delhi, and it has six regional centres in Pune, Bhopal, Kolkata, Hyderabad, Guwahati and Bangalore.
- A proposal to replace it with another new regulatory body called HECI is under consideration by the Government of India.
- The UGC provides doctoral scholarships to all those who clear JRF in the National Eligibility Test.

Online RTI portal

Why in News

The Supreme Court of India has recently launched an online portal that will help citizens file and access applications under the RTI Act in matters related to the court.

Important Points

- The Supreme Court launched an online portal that will help citizens file and access applications under the Right to Information (RTI) Act in matters related to the court.
- Chief Justice DY Chandrachud said that the portal would be ready to use shortly.

What is the online RTI portal?

- The online RTI portal has been initiated to make it convenient for people to access information about the Supreme Court. So far, RTI applications at the Supreme Court had to be filed only via post.
- Various public interest litigation (PILs) had been filed before the Supreme Court seeking an online RTI portal for the Court. Students said that though the committee had provided a mechanism for filing petitions online, it did not provide the same when it came to the filing of RTI applications.
- Earlier last week, the bench headed by the CJI was hearing a petition filed by two law students, Akriti Agarwal and Lakshya Purohit, and said that the portal was “practically ready for being launched.”
- The online portal is likely to streamline responses of the Supreme Court under the Right to Information Act.

How does the online portal work?

- The online portal can be accessed at https://registry.sci.gov.in/rti_app.
- This web portal can be used only by Indian citizens to file RTI applications, first appeals and to make payment for fees, and copying charges, under the Right to Information Act, 2005 (RTI Act).
- The website makes it clear that only those who wish to obtain information on the Supreme Court can access it and any other information from public authorities can be done through the respective Central/ State government portal.
- First, an applicant must create an account and sign in to the portal, after which they can fill out the RTI application.
- While registering the account, it is mandatory to provide your address proof.
- Any applicant who is Below Poverty Line (BPL) is exempted to pay the application fee under the RTI Rules, 2012.
- The applicant must attach and upload a copy of the BPL certificate issued by the government.
- On successful submission of an application, a unique Registration/Diary number would be generated and the same should be referred to by the applicant for any future references and correspondences, the website mentions.
- If in case the applicant has made a payment and does not receive the registration number, then the applicant should wait for 24-48 hours for the number to be generated.
- The guidelines on the website mention that an applicant must not retry or make an additional attempt to make the payment again.

When can you expect a response?

- By law, RTIs must be replied to within 30 days. In fact, in life and death cases, RTIs must be responded to within 48 hours.

Digital Shakti 4.0

Why in News

NCW launches Digital Shakti 4.0 for making women digitally skilled

Important Points

- The National Commission for Women (NCW) launched the fourth phase of the Digital Shakti Campaign, a pan-India project on digitally empowering and skilling women and girls in cyberspace.
- In line with its commitment to creating safe spaces for women and girls online, Digital Shakti 4.0 is focused on making women digitally skilled and aware of standing up against any illegal/inappropriate activity online.
- NCW launched it in collaboration with CyberPeace Foundation and Meta, said a press release by the Ministry of Women and Child Development.
- This new phase will prove to be a milestone in ensuring safe cyber spaces for women.
- Digital Shakti has been accelerating the digital participation of women and girls by training them to use technology to their advantage and to keep themselves safe online.
- The project will continue to contribute towards the larger goal of fighting cyber violence against women and girls and making the internet a safer space for them.
- The launch was followed by an interactive panel discussion on "Safe Spaces Online Combatting Cyber-enabled Human Trafficking & Combatting Other forms of Online Violence" in order to provide keen opinions from experts from the Industry, Government, and Academia to address the issue of online women safety from all tangents and provide the whole approach to ensure better women safety online.

Digital Shakti

- Digital Shakti started in June 2018 to help women across the nation to raise the awareness level on the digital front, to build resilience, and fight cybercrime in the most effective ways.
- Through this project, over 3 lakh women across India have been made aware of cyber safety tips and tricks, reporting and redressal mechanisms, data privacy and usage of technology for their benefit.
- The third phase of the program was started in March 2021 with the launch at Leh by NCW Chairperson in the presence of Lieutenant Governor Radha Krishna Mathur and Jamyang Tsering Namgyal, MP, Ladakh.
- In the third phase, a Resource Center was also developed under the project to provide information on all the avenues of reporting in case a woman faces any cybercrime.

MAARG Portal

Why in News

Startup India launches Startup applications for MAARG Portal

Important Points

- The Department for Promotion of Industry and Internal Trade (DPIIT), under the Ministry of Commerce and Industry, has launched a call for startup applications for registration on the MAARG portal, the National Mentorship Platform by Startup India.
- To further boost the Indian startup ecosystem, currently ranked 3rd largest globally, Startup India is focused on catalysing the startup culture and building a strong and inclusive ecosystem for innovation and entrepreneurship in India.
- In this context, MAARG portal - Mentorship, Advisory, Assistance, Resilience and Growth, is a one stop platform to facilitate mentorship for startups across diverse sectors, functions, stages, geographies, and backgrounds.

The objectives of the MAARG portal are

- To provide sector focused guidance, handholding, and support to startups throughout their lifecycle
- To establish a formalized and structured platform that facilitates intelligent matchmaking between the mentors and their respective mentees
- To facilitate efficient and expert mentorship for startups and build an outcome-oriented mechanism that allows timely tracking of the mentor-mentee engagements
- Startups can now effectively connect with academicians, industry experts, successful founders, seasoned investors, and other experts from across the globe, through Artificial Intelligence (AI) based matchmaking, to get personalized guidance on growth and strategy.

- The key features of the portal include customizable mentorship programs for ecosystem enablers, mobile-friendly user interface, recognition for contributing mentors, video and audio call options, etc.

The MAARG Portal is being operationalized in three phases,

1. Phase I: Mentor Onboarding

- Successfully launched and executed, 400+ expert mentors are onboarded across sectors

2. Phase II: Startup Onboarding

- DPIIT is launching the onboarding of startups on the MAARG Portal with effect from 14th November 2022

3. Phase III: MAARG Portal Launch and Mentor Matchmaking

- o Final launch where the mentors will be matched to the startups DPIIT has initiated onboarding process of startups under
- o Phase II. All interested startups are encouraged to apply at <https://maarg.startupindia.gov.in>.
- Innovations are the inevitable engines of growth for a nation, and India alone is home to more than 82,000+ DPIIT recognised startups and over 107 Unicorns.
- Entrepreneurship is the foundation of our great nation's economic wealth and prosperity, and we are quickly transforming from a nation of job seekers to a nation of job creators.

Toilets 2.0

Why in News

Centre launches 'Toilets 2.0' campaign in Bengaluru.

Important Points

- Union Minister of Housing and Urban Affairs (MoHUA) Hardeep Singh Puri launched Toilets 2.0 campaign at a national event organised at Bengaluru, Karnataka on the occasion of World Toilet Day 2022 .
- The campaign aims to change the face of public and community toilets in urban India through collective action involving citizens and Urban Local Bodies.
- Launching the Toilets 2.0 campaign, the Union Ministry stressed that India is set to go beyond the ODF narrative. Clean and safe public restrooms and public spaces will improve the experience and quality of public life and that is why government is delighted to launch Toilets 2.0 campaign."
- Ministry expressed confidence that all stakeholders would act together to make the campaign a resounding success.
- Addressing the inaugural session, Secretary, MoHUA, Shri. Manoj Joshi reminded the participants that the sanitation journey is a continuous one and requires institutional solutions.
- The ODF++ protocol and certification for cities is given to ensure that human waste is contained safely. Already 25% of Indian cities have attained this status.
- A Water Plus certification is given to cities which do not discharge untreated used water into the environment.
- These initiatives align perfectly with the theme of the WTD 2022 'Groundwater and sanitation – making the invisible visible'.
- By the end of the Mission, it is expected that 100% of our cities will be certified ODF++ and at least 50% will attain Water Plus status.
- The campaign will energize and bring the States cities and citizens together to take forward our rich sanitation legacy that will script the Toilets 2.0 journey of India.
- The World Toilet Day Event was preceded by three days of intensive capacity development workshops.
- The Ministry of Housing and Urban Affairs (MoHUA) in collaboration with knowledge partner WASH Institute conducted the 3-day capacity building workshop, between 16th to 18th Nov 2022 at Bengaluru, Karnataka to equip States to facilitate integrated management of used water in a time bound manner.
- Experts from the Central Public Health and Environmental Engineering Organization, MoHUA, practitioners , academic institutes and technical agencies provided their expertise on various facets of used water management from scientific principles to planning and designing systems to the implementation of UWM.

- International and national best practices were shared. States also exchanged their learnings and experiences.
- The workshop concluded with a definite roadmap to accelerate the implementation of used water management.
- The importance of comprehensive UWM was highlighted which will obviate the requirement of separate treatment of faecal sludge.
- An exhibition of state-of-the-art technologies was also set up for the benefit of the States.

The campaign has five thematic areas:

- (i) People for Toilets: Cleaning and maintaining the community and public toilets
- (ii) Partners for Toilets: Adoption of Public toilets
- (iii) Design Toilets: Design Challenge
- (iv) Rate your Toilet: Promoting user feedback to improve public toilets and
- (v) My thoughts - Our Toilets: Gathering public opinion for toilets
- The People for Toilets an inter-city competition is envisaged for cleaning and maintaining the community and public toilets in which top-performing cities will be recognized.
- This will be evaluated based on the proportion of CTs and PTs improvement and the scale of public engagement.
- The objective of the Partners for Toilets theme is to forge partnerships with potential organizations for the adoption of community and public toilets for interim cleaning, annual operations and maintenance, one-time financial aid, IEC activities, beautification activities, innovation, feedback etc.
- The partnerships, including public private partnership models, corporate sponsorship etc. should provide impetus for sustainability of the functionality of the Community and Public toilets in cities and enhancing toilet users experience.
- The third theme, Design Toilets (Design Challenge) is being organized in collaboration with the Council of Architecture through which design entries will be invited from students of architecture and practicing architects for aspirational toilets in the two categories of Public toilets and Community toilets.
- Based on the entries received, top designs will be selected and created into a compendium for cities' consideration to adopt the designs.
- Rate your Toilet is for promoting user feedback to improve public and community toilets and My thoughts - Our Toilets is a general public survey among citizens on public toilets across the country.
- A questionnaire on citizen aspiration for toilets will be available on MyGov platform for the public to answer. The results from the survey are expected to help States and cities to understand gaps and provide course corrective measures.
- A Champion of Change certificate will be rewarded to the participants at the end of the survey.

Scheme for Procurement of Aggregate Power of 4500 MW

Why in News

The Ministry of Power has recently launched a scheme for Procurement of Aggregate Power of 4500 MW for five years under B (v) of SHAKTI Policy.

Important Points

- The Ministry of Power has started this scheme on a competitive basis or five years on Finance, Own and Operate (FOO) basis under B (v) of SHAKTI Policy.
- PFC Consulting Limited (A wholly owned subsidiary of PFC Ltd) has been designated as the Nodal Agency by the Ministry of Power.
- Under the scheme, PFC Consulting Ltd has invited bids for the supply of 4,500 MW. Supply of electricity will commence from April 2023.
- The Ministry of Coal has been requested to allocate around 27 MTPA for this.
- It is for the first time that bidding is being carried out under B(v) of Shakti scheme. Also, revised PPA for medium term is being used in this bidding.
- This scheme is expected to help the states that are facing power shortage and also help generation plants to increase their capacities.

- The Ministry of Power had notified the Guidelines for procurement of power on Finance, Own and Operate (FOO) basis under para B (v) of the SHAKTI Policy on 25th October 2022.
- The methodology for coal allocation as per provisions of Para B (v) of SHAKTI policy was issued on 11th May, 2022.

SHAKTI policy

- The SHAKTI (Scheme for Harnessing and Allocating Koyala Transparently in India) policy was approved in May 2017 with the intent of better allocation of coal to present and future power plants.
- It aimed to phase out the present Letter of Assurance and Fuel Supply Agreement (FSA)-based regime, and instead introduce a more transparent and competitive coal allocation policy.
- The policy also offered a potential solution to the lack of coal linkages to 17 power plants with a capacity of about 15,000 MW, which were part of the 34 power plants (of about 40,000 MW) declared as stressed.
- The policy was amended in March 2019 specifically to aid stressed projects based on the recommendations of a High-Level Empowered Committee.



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Phase-II Ballistic Missile Defence (BMD) interceptor

Why in News

Defence Research & Development Organisation (DRDO) conducted a successful maiden flight-test of Phase-II BMD interceptor AD-1 missile with a large kill altitude bracket from APJ Abdul Kalam Island off the coast of Odisha .

Important Points

AD-1 missile

- The AD-1 is a long-range interceptor missile designed for both low exo-atmospheric and endo-atmospheric interception of long-range ballistic missiles as well as aircraft.
- It is propelled by a two-stage solid motor and equipped with an indigenously-developed advanced control system, navigation and guidance algorithm to precisely guide the vehicle to the target.
- AD-1 is a unique type of interceptor with advanced technologies available with a very few nations in the world.
- It is capable of intercepting incoming long-range nuclear missiles as well as slow-moving aircraft.

Phase-I of BMD

- Development of Phase-I of the two-tier BMD, which is designed to track and destroy nuclear missiles both inside (endo) and outside (exo) the earth's atmosphere at altitudes from 15-25 km to 80-100 km for "a higher kill probability", was completed by DRDO some time ago.
- India, of course, has inducted the Russian S-400 Triumf surface-to-air missile systems that can detect, track and destroy incoming strategic bombers, jets, spy planes, drones and even some intermediate-range ballistic missiles.
- DRDO, on its part, is going ahead in developing the requisite technologies for a full-fledged BMD system.
- As per the original plan, Phase-I of the BMD system, with interceptors flying at 4.5 Mach supersonic speeds to intercept enemy missiles, was meant to tackle hostile missiles with a 2,000-km strike range.
- The Phase-II, in turn, is supposed to take on the 5,000-km range class of missiles.
- Only a few countries like the US, Russia, Israel and China have fully-operational BMD systems, with an overlapping network of early-warning and tracking sensors, reliable command and control posts, land and sea-based batteries of advanced interceptor missiles.
- India's BMD programme has been in the works since the late-1990s, with its first interceptor missile being tested in November 2006.
- Having conducted over a dozen tests of the BMD system since then, a few of which have failed, DRDO in the past has said that it has a "kill probability of 99.8%" with the mix of exo and endo-interceptor missiles.
- AD-1 is a new and flexible endo-interceptor missile.

New mandatory safety tests for electric vehicles

Why in News

The Ministry of Heavy Industries has recently announced a list of safety tests that will be mandatory for electric vehicles (EV) manufacturers from April 2023 to receive subsidies under various EV promotion schemes.

Important Points

- Safety test is applicable on vehicles produced under the production linked incentive (PLI) scheme for automobiles along with those sold under the Faster Adoption and Manufacturing of Electric Vehicles or Fame scheme.

- The new tests will also be applicable on batteries produced under the PLI for advanced chemistry cells (ACC).
- As per the Ministry, the new tests would ensure quality at three levels, battery pack, battery management system and cell level.
- To safeguard human safety, certain tests which are done internationally will be made mandatory from 1st April 2023 for claiming incentives/payments under the PLI schemes for automobile and auto components.
- As per the notification, there would be six new tests for cells, including altitude simulation and temperature cycling.
- Under temperature cycling test, the reaction of the lithium ion cell is observed after the chamber temperature is raised and is kept at the high temperature.
- Altitude simulation, on the other hand is a test to observe that the batteries do not explode or catch fire when stored at a specified absolute pressure and a temperature.
- There are five new tests in total at the battery pack level and 11 new tests for the battery management system.
- These new tests also including dropping or a free fall of battery packs to observe that the lithium ion batteries do not explode or catch fire under a range of possible abuses as per international standard -IEC-62133-2'.

FAME scheme

- The FAME(Faster Adoption and Manufacture of (Hybrid and) Electric Vehicles) was launched by the Ministry of Heavy Industries and Public Enterprises in 2015 to incentivize the production and promotion of eco-friendly vehicles including electric vehicles and hybrid vehicles.

Two phases of the scheme

- Phase I: started in 2015 and was completed on March 31st, 2019.
- Phase II: started from April 1st, 2019, will be completed in March, 2022.
- The scheme provides the incentive in the form of subsidies to manufacturers of electric vehicles and infrastructure providers of electric vehicles.
- It is a part of the National Electric Mobility Plan
- Encouraging electric vehicles by providing subsidies is the main thrust of the scheme.
- The vehicles such as two wheelers, three wheelers, electric and hybrid cars and electric buses obtained the subsidy benefit of the scheme. It also covers electric and Hybrid technologies like Mild Hybrid, Strong Hybrid, Plug in Hybrid & Battery Electric Vehicles
- Implementing agency: Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises.



Protected system or Critical Information Infrastructure

Why in News

The websites and applications related to the decennial Census exercise and the National Population Register (NPR) were recently notified as “protected system” or “Critical Information Infrastructure” under the Information Technology Act, 2008.

Important Points

- As per the notification, any tampering or unauthorised access to the data associated with Census applications, NPR database or the data centres of the Registrar General of India (RGI) will be punishable by ten years imprisonment.

- The RGI notified that under Section 70 of the IT Act, the Central Government declared the following are considered to be 'Protected Systems' for the purposes of the said Act
- Computer resources relating to the Census Monitoring & Management System (CMMS) Web Portal.
- Self Enumeration (SE) Web Portal.
- Civil Registration System Web Portal, Mobile applications for House Listing (HL).
- Population Enumeration (PE) and National Population Register (NPR) Updation and linked Databases including NPR Database.
- Census Database and CRS Database.
- Computer resources setup/installed at National Data Centre (NDC), RGI, Delhi and Disaster Recovery Site (DRS) & Data Centre (DC) at Bengaluru and Lucknow and the computer resources of their associated dependencies.

What is a Critical Information Infrastructure(CII)?

- The Information Technology Act of 2000 defines "Critical Information Infrastructure" as a "computer resource, the incapacitation or destruction of which shall have debilitating impact on national security, economy, public health or safety".
- Section 70 of the IT Act states that the appropriate Government may, by notification in the Official Gazette, declare any computer resource which directly or indirectly affects the facility of Critical Information Infrastructure, to be a protected system.
- According to the act, Critical Information Infrastructure means the computer resource, the incapacitation or destruction of which, shall have debilitating impact on national security, economy, public health, or safety.

How are CIIs protected in India?

- Created in January 2014, the National Critical Information Infrastructure Protection Centre (NCIIPC) is the nodal agency for taking all measures to protect the nation's critical information infrastructure.
- It is mandated to guard CIIs from "unauthorized access, modification, use, disclosure, disruption, incapacitation or distraction".
- NCIIPC monitors and forecasts national-level threats to CII for policy guidance, expertise sharing and situational awareness for early warning or alerts. The basic responsibility for protecting the CII system shall lie with the agency running that CII.
- In the event of any threat to critical information infrastructure the NCIIPC may call for information and give directions to the critical sectors or persons serving or having a critical impact on Critical Information Infrastructure.

Kurdish people of Turkey

Why in News

The Kurdistan Workers' Party, or PKK, and to the Syrian Kurdish group, the Democratic Union Party, or PYD was blamed for involvement in the recent attack in Istanbul.

Important Points

The PKK and its armed movement

- In 1978, the Marxist revolutionary Abdullah Öcalan formed the Kurdistan Workers' Party (Partiya Karkerên Kurdistanê or PKK in Kurdish) with the aim of setting up an independent Kurdistan.
- PKK guerrillas fought the Turkish army from 1984 until Öcalan's capture in 1999, during which some 40,000 Kurdish civilians were killed.
- PKK's primary targets include police, military, economic, and social assets in Türkiye. PKK also attacks civilians and diplomatic and consular facilities. PKK is also involved in extortion, arms smuggling, and drug trafficking.

The Kurdish people

- The Kurds are a major ethnic group who live in the mountainous geo-cultural region known as Kurdistan, which extends from southeastern Turkey in the west to northwestern Iran in the east, and from northern Iraq and northern Syria in the south to Armenia in the north.
- Sizable populations of Kurds live in the highlands of southern and eastern Turkey, northern Iraq, northeastern Syria, northwestern Iran, and in parts of south Armenia.

- But the Kurdish people are a minority in the populations of each of these countries taken as a whole. Small communities of Kurds live in Georgia, Kazakhstan, Lebanon, and eastern Iran as well.
- While the Kurds are an ancient people — Kurdish nationalists claim a history that goes back 2,500 years — they became identifiable as a distinct community in the 7th century, when most tribes in the area adopted Islam.
- The majority today are Sunni Muslim, with a minority following Sufism and other mystical practices.
- The Kurds speak a language that is related to Persian and Pashto, although local dialects differ.
- Kurmanji, which most Kurds in Turkey speak, uses the Latin script; the other widely spoken Kurdish dialect, Sorani, is written in the Arabic script.
- Kurds have long had a reputation for being fearless fighters, and they have served as mercenaries in many armies over the centuries.
- The mediaeval warrior Saladin, founder of the Ayyubid dynasty that replaced the Fatimids in Egypt and ruled over large parts of the Middle East in the 12th and 13th centuries, was of Kurdish ethnicity.

The Kurds' long struggle for a homeland

- The Kurds are often described as the world's largest stateless ethnic group.
- The total Kurdish population across the countries in the region is estimated at between 25 million and 35 million — which is broadly comparable to the populations of Indian states like Assam, Jharkhand, Kerala, and Telangana, and of countries like Canada and Australia.
- But their numbers, and their distinct cultural and ethnic identity notwithstanding, the Kurdish people have never had their independent national homeland.
- At the Versailles peace conference after World War I, the Kurdish Ottoman diplomat Mehmet Sherif Pasha proposed borders of a new Kurdistan that covered parts of modern Turkey, Iraq, and Iran; however, the Treaty of Sèvres (1920), which partitioned the old Ottoman dominions, marked out a much smaller territory, entirely in what is now Turkey.
- But Turkey negotiated with the Allied powers and, in 1923, the Treaty of Lausanne overtook Sèvres and ended the idea of a self-governing Kurdistan.
- Over the decades that followed, the Kurds made repeated attempts at establishing a de facto Kurdistan with defined national borders — and in the process attracted massive Turkish repression, including bans on the Kurdish language, names, songs, and dress.
- In Saddam Hussein's Iraq, the infamous military commander Ali Hassan Abd al-Majid al-Tikriti, known as Chemical Ali, attacked them with chemical weapons.
- In Iran, Kurdish uprisings in the 1980s and 1990s were ruthlessly crushed.

National Gopal Ratna Awards

Why in News

The Ministry of Fisheries, Animal Husbandry and Dairying announced the National Gopal Ratna Awards 2022 recently.

Important Points

About the award

- It is one of the highest National Awards in the field of livestock and dairy sector, with an objective to recognize and encourage all individuals like Farmers rearing indigenous animals, AI Technicians and Dairy cooperative societies / Milk Producer Company / Dairy farmers Producers Organizations working in this sector.
- The 2022 Award is conferred in three categories, namely,
- Best Dairy Farmer Rearing Indigenous Cattle/buffalo Breeds,
- Best Artificial Insemination Technician (AIT) and
- Best Dairy Cooperative/ Milk Producer Company/ Dairy Farmer Producer Organization).
- The award consists of a cash prize of Rs. 5 lakh for 1st rank, Rs. 3 lakh for 2nd rank and Rs. 2 lakh for 3rd rank along with a Certificate of merit and a memento in each category.

India's livestock sector

- The Livestock Sector in the country has been growing at a Compound Annual Growth Rate (CAGR) of 8.15% (at constant prices) from 2014-15 to 2019-20.

- This CAGR is higher than other sectors like manufacturing sector, which has shown 6.15%, Agriculture (Crop) sector which has shown 1.95% and services sector with 7.7% for similar period.
- Similarly, the Poultry sector is also growing at (CAGR constant prices) of 10.5% and playing an immense role in livelihood creation in the rural economy.
- Livestock plays an important role in the Indian economy. About 20.5 million people depend upon livestock for their livelihood.
- Livestock contributed 16% to the income of small farm households as against an average of 14% for all rural households.
- Livestock provides livelihood to two-third of rural communities. It also provides employment to about 8.8 % of the population in India.
- India has vast livestock resources. Livestock sector contributes 4.11% GDP and 25.6% of total Agriculture GDP.

Agni-3 missile

Why in News

India carried out a successful training launch of an Intermediate Range Ballistic Missile, Agni-3 from APJ Abdul Kalam Island, Odisha recently.

Important Points

- Agni-3 is the third entrant in the Agni missile series and was first tested on July 9, 2006 but failed.
- The missile is capable of carrying a nuclear warhead and hitting targets 3,500 kilometres away.
- The Agni-3 missile was test fired successfully in its second flight in 2007 and then at its third consecutive launch in 2008.
- The missile's strike range is between 1,000 km and 2,000 km.
- The Agni-III was developed as the successor to the Agni-II. Designed by the Defence Research and Development Organisation (DRDO), Agni-III is a two-stage ballistic missile capable of nuclear weapons delivery.
- The stubby, two-stage solid-fuel missile is compact enough for easy mobility and flexible deployment on a number of surface and sub-surface platforms.
- The Agni series of missiles constitute the backbone of India's nuclear weapons delivery which also includes the Prithvi short range ballistic missiles and fighter aircraft.
- The Agni missile series is the most advanced missiles that Indian military possesses in its arsenal.
- Agni-1 to 5 missiles are designed & developed by DRDO and inducted into Services to act as deterrence and meet the country's security requirements.
- The Agni missile system is a series of short range missiles and intermediate range missiles with a strike capability of 700-5000kms.
- It is an integral part of India's defence arsenal and is a credible minimum nuclear deterrence, keeping in view the constant threats emanating from Pakistan and China.

The Phrygian cap or the liberty cap

Why in News

Recently, the Paris 2024 Olympic and Paralympic Games doffed its hat to a powerful symbol of the French Republic. The mascots of Paris 2024 are designed like the red Phrygian cap and are called Les Phryges.

Important Points

History of the liberty cap

- The origin of the Phrygian cap, also known as the liberty cap and bonnet rouge, is tied to the history of suppressed people.
- According to Encyclopedia Britannica, "The Phrygian cap originated in the ancient country of Phrygia (in modern Turkey), and is represented in ancient Greek art as the type of headdress worn not only by Phrygians but by all inhabitants of Anatolia and of nations farther east."
- The cap's floppy design can be traced to the pileus or pilos hats that were given as signs of freedom to Roman slaves.
- In Greek and Roman mythology, the twins Castor and Pollux hatched from an egg and are shown wearing the pileus —just as slaves are seen as being born into a new life with their freedom.

- Headdress became a matter of importance in asserting political identity and loyalty during the French Revolution (1787–99).
- Hats adorned with a tricolour ribbon cockade became symbols of patriotism, while the liberty cap or bonnet rouge became a symbol of the Revolution.
- The French Revolution was also the time that the earliest representations of a woman wearing a Phrygian cap, the allegorical Marianne made an appearance in art.
- During the Third Republic in France, announced in 1870, Marianne began to appear in statues and busts either as a revolutionary figure or a wise woman.
- Incidentally, in some cases, it was thought that the Phrygian cap was too seditious and Marianne was made to wear a diadem or a crown.
- Nonetheless, to this day, the red cap is associated in France with liberty. It is also an international symbol of liberty present in many emblems in North and South America.



Olympic Games

- The Olympic Games are the world's only truly global, multi-sport, celebratory athletics competition, with more than 200 countries participating in over 400 events.
- Olympic sports are contested in the Summer Olympic Games and Winter Olympic Games.
- Each Olympic sport is represented by an international governing body, namely an International Federation (IF).
- The International Olympic Committee (IOC) is the guardian of the Olympic Games and the leader of the Olympic Movement.
- The IOC establishes a hierarchy of sports, disciplines, and events.
- According to this hierarchy, each Olympic sport can be subdivided into multiple disciplines, which are often mistaken as distinct sports.

The 2024 Summer Olympics

- It is officially the Games of the XXXIII Olympiad and also known as Paris 2024.
- It is an upcoming international multi-sport event scheduled to take place from 26 July to 11 August 2024 with Paris as its main host city and 16 cities spread across Metropolitan France and one in the French overseas territory of Tahiti as subsites.
- Having previously hosted in 1900 and 1924, Paris will become the second city to host the Summer Olympics three times after London (1908, 1948 and 2012).
- The Games will mark the centenary of the Paris Games of 1924, the sixth Olympic games hosted by France (three in summer and three in winter), and the first Olympic Games in France since the 1992 Winter Olympics in Albertville.
- 2028 Summer Olympics will be held in Los Angeles.

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