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THE IAS GAZETTE
A House Journal of APTI PLUS

CONTENTS

GENERAL STUDIES - I

SRIMANDIR PARIKRAMA PROJECT

GS-I CULTURE & HERITAGE

Context
- A string of Vedic rituals set the stage for the commencement of work on the much-awaited Heritage Corridor (Srimandir Parikrama) project of Lord Jagannath Temple in Puri.

About
- Conceived in 2016, the Puri Heritage Corridor Project was unveiled in December 2019 to transform the holy town of Puri into an international place of heritage.
- The project includes redeveloping major portions of the holy town and in the vicinity of the temple for visitors and tourists.
- Initial funds have been allocated from the **state government's Augmentation of Basic Amenities and Development of Heritage and Architecture at Puri (ABADHA) scheme**.

Puri and Jagannath Temple
- Puri is **one of the four Dhams** or most sacred places of pilgrimages for the Hindus in the country.
- The Shree Jagannath Temple is an important Hindu temple dedicated to Jagannath, a form of Vishnu, in Puri, Odisha on the eastern coast of India.
- The temple was built by the **Ganga dynasty king Anantavarman Chodaganga in the 12th century CE**, as suggested by the **Kendupatna copper-plate inscription** of his descendant Narasimhadeva II.
- The Puri temple is famous for its **annual Ratha yatra**, or chariot festival, in which the three principal deities are pulled on huge and elaborately decorated temple cars.
- The temple is sacred to all Hindus and especially in those of the **Vaishnava traditions**.
- Many great Vaishnava saints, such as **Ramanujacharya, Madhvacharya, Nimbarkacharya, Vallabhacharya and Ramananda were closely associated with the temple**.
- Ramanuja established the Emar Mutt near the temple and Adi Shankaracharya established the Govardhana Mutt, which is the seat of one of the four Shankaracharyas.
- It is also of particular significance to the followers of the Gaudiya Vaishnavism whose **founder Chaitanya Mahaprabhu**, was attracted to the deity, Jagannath, and lived in Puri for many years.
- It is known as **White Pagoda.**
- The **Odisha style of temple architecture** is also accorded as Kalinga Nagara style.
- The Kalinga Nagara style comprises three typologies i.e. **Rekha Deula, Pidha Deula, and Khakhra Deula.**
- The famous temple of **Lingaraja at Bhubaneshwar and Jagannatha at Puri** are two prominent and gigantic examples of Rekha Deula.
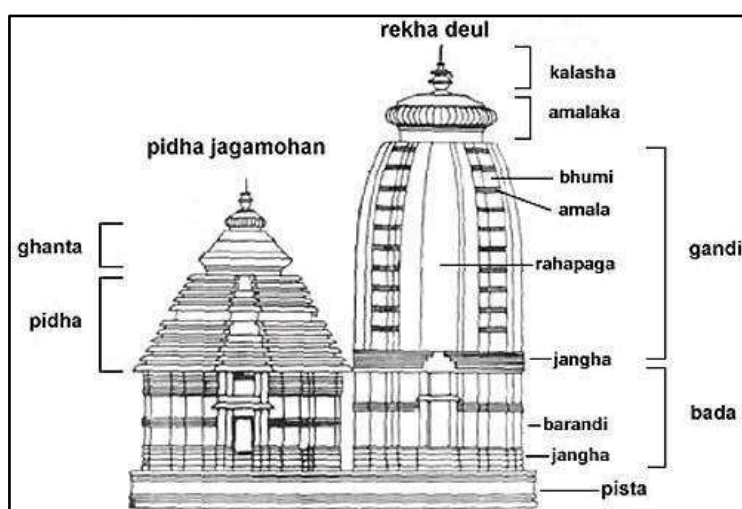
Nagara Temple architecture	Dravida Temple Architecture
In this style, boundary is less emphasised.	In this style, temples have elaborated boundary.
In this style, Ganga and Yamuna rivers are depicted in personified form at the entrance of Garbhagriha or sanctum sanctorum.	In this style, Dwarpalas are there on the entrance.
In this style, there are multiple towers. For example- Khajuraho temple.	In this style, there is always a single tower.
It is characterized by a beehive shaped curvilinear tower (called a Shikhara, in northern terminology) made up of layer upon layer of architectural elements and a cruciform ground plan. In this style, there is a multiple Shikharas.	It has pyramidical shaped central tower (called Vimana in Dravida style). In this style, there is only one single Shikhara or Vimana.
In Nagara style, the Shikhara remains the most prominent element of the temple and the gateway is usually modest or even absent.	Gopuram is the most prominent. It is stylized and big in size

Vesara

- Vesara is a hybrid form of Indian temple architecture, with South Indian plan and a shape that features North Indian details.
- This fusion style likely <u>originated in the historic architecture schools of the Dharwad region.</u>
- It is **common in the surviving temples of later Chalukyas and Hoysalas** in the Deccan region, particularly Karnataka.
- Vesara was popular in central parts of India such as between the Vindhyas and the river Krishna.
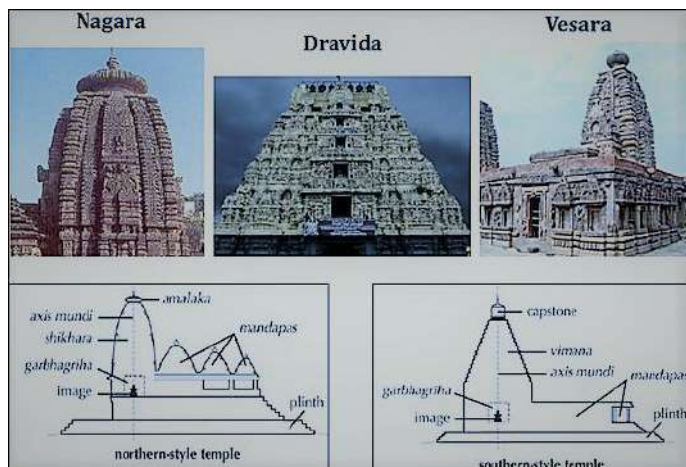
RAMAPPA TEMPLE

GS-I CULTURE & HERITAGE

Context

- Ramappa temple, a 13th century architectural icon and an engineering marvel that earned the coveted UNESCO heritage tag three months ago, was the highlight of the presentation given by Telangana government officials at an ongoing tourism and culture ministers' conference in Bengaluru.

About

- Rudreswara Temple, (also known as the Ramappa Temple) at Palampet, near Warangal in the state of Telangana has been inscribed on **UNESCO's World Heritage list.**
- This is **India's 39th World Heritage Site.**
- The temple was **built by a Kakatiya General Recharla Rudra Reddy,** during the period of the Kakatiya ruler Ganapati Deva in 13th century.
- The temple is a Sivalayam, where Lord Ramalingeswara is worshipped.
- **Marco Polo**, during his visit to the Kakatiya Empire, allegedly called the temple "the brightest star in the galaxy of temples".
- The temple is <u>named after the sculptor Ramappa</u>, who built it, and is perhaps the only temple in South India to be named after a craftsman who built it.
- The main structure is in a **reddish sandstone**, but the columns round the outside have large brackets of **black basalt.**
- The temple is carved with mythical animals or female dancers or musicians, and are "the masterpieces of Kakatiya art, **notable for their delicate carving, sensuous postures and elongated bodies and heads"**
- The roof of the temple is built with bricks, which are so light that they are able to float on water.

World Heritage Sites in India

- A World Heritage Site is a landmark or area with legal protection by an international convention administered by the **United Nations Educational, Scientific and Cultural Organization (UNESCO).**
- World Heritage Sites are designated by UNESCO for having cultural, historical, scientific or other form of significance.
- India has now **40 world heritage sites** that include 32 Cultural properties, 7 Natural properties and 1 mixed site.
- India has the **sixth largest number of sites in the world.**

Here's the list of 40 World Heritage Sites in India:

Dholavira, Gujarat	Elephanta Caves, Maharashtra
Ramappa Temple, Telangana	Mountain Railways of India
Taj Mahal, Agra	Nalanda Mahavihara (Nalanda University), Bihar
Khajuraho, Madhya Pradesh	Chhatrapati Shivaji Maharaj Terminus (formerly Victoria Terminus), Maharashtra
Hampi, Karnataka	Qutub Minar and its Monuments, New Delhi
Ajanta Caves, Maharashtra	Champaner-Pavagadh Archaeological Park, Gujarat
Ellora Caves, Maharashtra	Great Himalayan National Park, Himachal Pradesh
Bodh Gaya, Bihar	Hill Forts of Rajasthan
Sun Temple, Konark, Odisha	Churches and Convents of Goa
Red Fort Complex, Delhi	Rock Shelters of Bhimbetka, Madhya Pradesh
Buddhist monuments at Sanchi, Madhya Pradesh	Manas Wild Life Sanctuary, Assam
Chola Temples, Tamil Nadu	Fatehpur Sikri, Uttar Pradesh
Kaziranga Wild Life Sanctuary, Assam	Rani Ki Vav, Patan, Gujarat
Group of Monuments at Mahabalipuram, Tamil Nadu	Keoladeo National Park, Bharatpur, Rajasthan
Sundarbans National Park, West Bengal	Nanda Devi and Valley of Flowers National Parks, Uttarakhand
Humayun's Tomb, New Delhi	Western Ghats
Jantar Mantar, Jaipur, Rajasthan	Kanchenjunga National Park, Sikkim
Agra Fort, Uttar Pradesh	Capitol Complex, Chandigarh
Group of Monuments at Pattadakal, Karnataka	The Historic City of Ahmedabad
	The Victorian and Art Deco Ensemble of Mumbai
	The Pink City - Jaipur

World Heritage Sites across the world

- The World Heritage List comprises **1121 properties of Outstanding Universal Value.**
- Natural sites represent about 23% of this list, including 39 mixed (both cultural and natural) sites and 213 natural sites.
- **Italy and China are home to largest number of UNESCO world heritage sites in the world.**

- **Both countries boast 55 world heritage sites each,** including the historic city centers of Rome and Florence or the Amalfi Coast for Italy and the Great Wall of China and the Forbidden City for China - all magnets for tourism.

WORLD PEDESTRIAN DAY

GS-I CULTURE & HERITAGE

Context
- Punjab Police want Guru Nanak's birth anniversary to be declared 'World Pedestrian Day'.
- A written proposal in this regard may be sent to the Union Ministry of Road Transport and Highways soon.

Guru Nanak Dev - world's most notable and revered pedestrian
- To spread the message of oneness and to break barriers across faiths by engaging in spiritual dialogues, the founder of Sikhism, Guru Nanak Dev, travelled far and wide **during the 15th and 16th centuries.**
- From **Mecca to Haridwar, from Sylhet to Mount Kailash**, Guru Nanak visited hundreds of interfaith sites related to Hinduism, Islam, Buddhism, and Jainism throughout his journeys (also called udaasis).
- At some sites, gurdwaras were constructed to commemorate his visit.
- Later his travels were documented **in texts called 'janamsakhis'.**
- These sites are now spread across nine nations as per current geographical divisions — **India, Pakistan, Iran, Iraq, China (Tibet), Bangladesh, Saudi Arabia, Sri Lanka, and Afghanistan —** and some are even inaccessible due to travel restrictions or being located in conflict zones.
- It is believed that during those times, when early modes of transport were limited and were mostly restricted to boats, animals (horses, mules, camels, bullock carts), Guru Nanak Dev, along with his companion Bhai Mardana, undertook most part of his journeys on foot.

Guru Nanak Dev
- First of the 10 Sikh Gurus and the **founder of Sikhism, Guru Nanak** was born in a village, Talwandi, near Lahore (it was renamed later as Nankana Sahib).
- He rejected sacrifices, rituals, image worship, austerities and the scriptures of both Hindus and Muslim .
- He advocated the **'Nirguna'** (devotion to and worship of formless divine) form of bhakti.
- Guru Nanak's hymns known as "Gurbani" were included in the Adi Granth compiled by Guru Arjan (1563-1606), the fifth Sikh guru.
- The book also contains teachings of Bhakti saints like Kabir, Ramananda, Namdev and a Sufi saint Sheikh Farid.
- Adi Granth came to be known as **"Guru Granth Sahib"** after the tenth Sikh guru- Guru Gobind Singh, included the compositions of the ninth guru, Guru Tegh Bahadur in the scripture.

Guru Nanak **(1469 to 1539)**	- Founder of Sikhism. - Contemporary of Mughal emperor Babur. - Introduced the concept of one God. - Started the institution of "Langar"--common kitchen where food is served to everyone without any discrimination. - Emphasized the equality of women - Rejected the path of renunciation - rejected the authority of the Vedas
Guru Angad **(1539 to 1552)**	- Invented and introduced the Gurmukhi script . - Visited by Humayun. - Popularized and expanded the institution of "Langar"
Guru Amardas **(1552 to 1574)**	- Institutionalised the Sikh faith. - Picked the site for the Golden Temple, Amritsar. - Contemporary of Mughal emperor - Akbar. - Introduced the Anand Karaj marriage ceremony for the Sikhs, replacing the Hindu form. - Established Manji & Piri system of religious missions for men and women respectively. - Abolished Sati and purdah system among the Sikhs.
Guru Ram Das **(1574 to 1581)**	- Founded the city of Amritsar - Started the construction of Golden Temple at Amritsar.
Guru Arjan Dev	- Compiled the Adi Granth .

(1581 to 1606)	• completed construction of Sri Darbar Sahib/Golden Temple • Executed by Jahangir.
Guru Hargobind **(1606 to 1644)**	• Introduced the Akal Takht (seat of power). • First Guru to take up arms to defend the faith. • Waged wars against Jahangir and Shahjahan
Guru Har Rai Sahib **(1644 to 1661)**	• Supported Dara Shikoh (son of Shah Jahan) against Aurangzeb.
Guru Har Kishan **(1661 to 1664)**	• Contemporary of Aurangazeb • Was the Guru from age 5 till his death before reaching 8 years.
Guru Tegh Bahadur (1665 to 1675)	• Was publicly beheaded by Aurangzeb for refusing to convert to Islam in 1675.
Guru Gobind Singh **(1675 to 1708)**	• Established the Khalsa in 1699 • Organised the Sikhs into a martial sect.

Relevance of Guru Nanak Dev's teachings in present day context

Building a classless and casteless society

• Today, India is one of the emerging superpowers of the world. Despite this fact, caste system is still engrained in its societal structure. Guru Nanak Dev's vision of a classless and casteless society can help us to establish an egalitarian society.
• His idea of equality can be presumed from his innovative social institutions:
  o **Langar (Common kitchenette)**: Collective cooking.
  o **Pangat (Holy congregation):** sharing food without distinction and discrimination of caste.
  o **Sangat (General Assembly)**: Collective decision-making.
• These practices had directly challenged the ill practices like untouchability and the caste system in the 16th century and continue to do so even today.

Communal harmony and social stability

• Increased cases of communal intolerance, riots, mob lynching etc has affected the secular fabric of the Indian society.
• Guru Nanak Dev's concept of "Sabna Jiya Ka Ek Data " is relevant even today and can tackle these issues in the society. "Sabna Jiya Ka Ek Data "means the whole world is God's creation and all are born equal. There is only one universal God i.e. "Ik Omkaar Satnaam."
• This concept clearly re-emphasizes the fact that there is no distinction between a Hindu and a Muslim.
• Further, forgiveness, patience, forbearance, and kindness are the core of Guru Nanak Dev's teachings.

Gender Equality

• Oppression of women in the form of violence, rape, acid attacks, female infanticide and customary practices has been failing our society like never before.
• Respect for women and gender parity are perhaps the most important lessons that need to be learnt from Guru Nanak Dev's teachings.
• Guru Nanak Dev's argument "How can women be inferior when they give birth to men?" and his words "Women as well as men share the grace of God and are equally responsible for their actions to him." are of huge significance in the present context and can help in building gender parity.

Neighborhood Peace

• Due to cross border terrorism and Kashmir issue, relationship between India and Pakistan has been grim since decades.
• Both the countries kept their political issues aside and inaugurated the Kartarpur corridor. This clearly demonstrates the influence of Guru Nanak Dev's teachings and appears to be a point of normalization between the two countries that will have a huge influence in maintaining peace and order in South Asia.

Kartarpur Corridor

• The Kartarpur Corridor is a visa-free border crossing and a secure corridor connecting the Gurdwara Darbar Sahib in Pakistan to the border with India.
• The crossing will allows Sikh devotees from India to visit the gurdwara in Kartarpur, 4.7 kilometers from the India–Pakistan border.
• Previously, Sikh pilgrims from India had to travel 125 kilometers to reach Kartarpur.
• Pakistani Sikhs will not be able to use the border crossing and cannot access the Gurdwara Dera Baba Nanak without first obtaining an Indian visa.

JANJATIYA GAURAV DIVAS

GS-I   CULTURE & HERITAGE
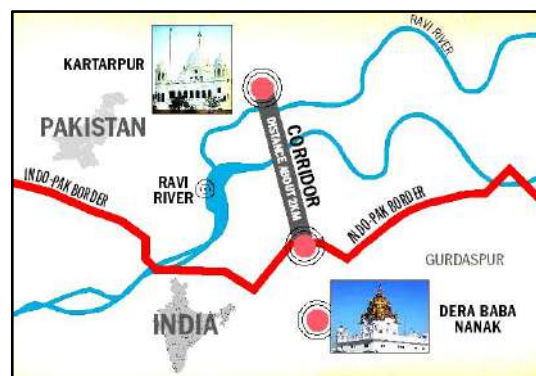
Context

- The Union Cabinet has approved declaration of 15th November as Janjatiya Gaurav Divas dedicated to the memory of brave tribal freedom fighters so that coming generations could know about their sacrifices about the country.

Contribution of Birsa Munda

Religion	• Renounced Christianity and protested against conversion of Tribals by Christian missionaries. • Created a new religion called "**Birsait**", which worshipped only one god. • Birsait soon became the popular religion among the **Mundas and Oraons.** • Preached a strong anti-British sentiment through his religion.
Reformer	• Stressed on the need of the tribals to study their own religion and not forget their cultural roots. • Convinced people to give up superstition, alcohol, theft, lying, murder and begging under his new religion.
Munda Rebellion	**Background** • Munda tribals practiced **Khuntkatti system** (joint holding by tribal lineages). • However, British colonial system intensified the transformation of the tribal agrarian system into a feudal state by introducing **Zamindari-tenancy system.** • **Outsiders (Dikus)** were invited by the Brtitish to settle on and cultivate the tribal land. • Thus, the various tribes, who were the original owners of the land, were left bereft of land and any means of livelihood. **'Ulgulan' or the 'Great Tumult' (1899-1900)** • Birsa infused in tribal the values to love, respect, support and safeguard their land from outsiders. • He used traditional symbols and language to rouse people, urging them to destroy "Ravana" (**dikus** and the Europeans) and establish a kingdom under his leadership. • He mobilised thousands of tribal folk to form guerrilla armies to attack the British Raj. • He declared that the reign of Queen Victoria was over and the Munda Raj had begun. • He gave orders to the raiyats (tenant farmers) to pay no rents. • The people attacked police stations and churches, and raided the property of moneylenders and zamindars. They raised the **white flag** as a symbol of Birsa Raj. • The attacks were launched not only on the moneylender-landlord-mahajan-contractor combine, but directly against the British. • The **massacre at Dumbri Hill** made it a "hill of the dead" when hundreds of tribals lost their lives for the cause of freedom against the modern ammunition of the British. • The Great Tumult against Britishers sought to establish Munda Raj and independence. • The slogan of the movement was "Abua Raj ete jana, Maharani Raj Tundu Jana" which means "Let the kingdom of queen be ended and our kingdom established". **Outcome** • The Britishers were forced to abolish the feudal system that plagued the Adivasi lands in Jharkhand and Bihar. • Birsa compelled the Britishers to introduce new legislation - the **Chota Nagpur Tenancy Act, 1908**. This Act prohibited the transfer of tribal land to non-tribal parties. • Government recognized Khuntkatti rights and banned Beth Begari (forced labour)

Significance

- Birsa Munda's political awareness and ability to connect with people became the **foundation of later tribal movements in the nineteenth century.**
- He became a **symbol of the anti-feudal, anti-colonial struggle of that time.**
- His influential personality and motivational speeches **encouraged the public to believe in the power of freedom**.
- His revolutionary work not only put **an effective dent in the British rule**, it also **helped mobilise tribal.**
- It is due to him and many other such activists and **tribal in today's India get inspired to protect their rights**.

> The Munda people initially spread from Southeast Asia some 4000–3500 years ago, but mixed extensively with local Indian populations. This ethnic group predominantly speaks the Mundari language as their native language, which belongs to **Austroasiatic languages.** The Munda are found in the northern areas of east India concentrated in the states of **Jharkhand, Bihar, Odisha and West Bengal**. The Munda also reside in adjacent areas of Chhattisgarh as well as in portions of Bangladesh. They are one of India's largest scheduled tribes. Munda people in Tripura are also known as Mura.

ACROSS SCHEME

Context

- The Cabinet Committee on Economic Affairs approved the **continuation of Atmosphere & Climate Research-Modelling Observing Systems & Services (ACROSS) Scheme** along with its eight sub-schemes to the next finance (15th) cycle of five years (2021-2026).

Details

- ACROSS scheme pertains to the **atmospheric science programs of Ministry of Earth Sciences (MoES**) and addresses different aspects of weather and climate services.
- Each of these aspects is incorporated as eight sub-schemes under the umbrella scheme "ACROSS" and is implemented in an integrated manner through the aforesaid four institutes.
- The sub-schemes are Commissioning of Polarimetric Doppler Weather Radars (DWRs), Upgradation of Forecast System, Weather & Climate Services, Atmospheric Observations Network, Numerical Modelling of Weather and Climate, Monsoon Mission III, Monsoon Convection, Clouds and Climate Change (MC4) and High Performance Computing System (HPCS).

ATMOSPHERE & CLIMATE RESEARCH-MODELLING OBSERVING SYSTEMS & SERVICES

ACROSS scheme pertains to the atmospheric science programs of MoES. The scheme provides improved weather, climate and ocean forecast services, thereby ensuring transfer of commensurate benefits to the various services like,

Implementation Strategy and target

- The eight sub-schemes under the ACROSS scheme are multi disciplinary in nature and will be implemented in an integrated manner through IMD, IITM, NCMRWF and INCOIS to cover all the aspects of the weather and climate.
- Each institute has a designated role for accomplishing the above tasks through the following eight schemes:

Significance

- The scheme will provide improved weather, climate, ocean forecast and services, and other hazard related services thereby ensuring transfer of commensurate benefits to the end –user.
- The various services include Public weather service, Agro-meteorological Services, Aviation services, Environmental monitoring services, Hydro-meteorological services, climate services, tourism, pilgrimage, power generation, water management, Sports & adventure etc.
- The whole process from generation of forecast to its delivery requires considerable manpower at every stage, thereby generating employment opportunities to many people.

DEAD SEA AND SINK HOLES

Context

- The Dead Sea is dying as thousands of sinkholes emerge in Israel.

About

- The Dead Sea is an **endorheic lake located in the Jordan Rift Valley**.
- This left lateral-moving transform fault lies along the tectonic plate boundary between the African Plate and the Arabian Plate.
- It runs between the East Anatolian Fault zone in Turkey and the northern end of the Red Sea Rift offshore of the southern tip of Sinai.
- It is here that the Upper Jordan River/Sea of Galilee/Lower Jordan River water system comes to an end.
- The **Jordan River** is the only major water source flowing into the Dead Sea, although there are small perennial springs under and around the Dead Sea, forming pools and quicksand pits along the edges. There are no outlet streams.
- The Mujib River, is one of the larger water sources of the Dead Sea other than the Jordan.
- The Dead Sea zone's aridity is due to the **rainshadow effect of the Judaean Mountains**.

Making a Sinkhole

What is a sinkhole?

- A sinkhole is a depression in the ground that has no natural external surface drainage.
- Basically, this means that when it rains, all of the water stays inside the sinkhole and typically drains into the subsurface.
- Most sinkholes are caused by karst processes – the chemical dissolution of carbonate rocks, collapse or suffosion processes.

GENERAL STUDIES - II

GLOBAL STATE OF DEMOCRACY REPORT, 2021

GS-II   POLITY

Context
- Global State of Democracy Report, 2021 has been released by International Institute for Democracy and Electoral Assistance (International-IDEA).

Findings
- more **countries than ever are suffering from 'democratic erosion'** (decline in democratic quality), including in established democracies.
- The number of **countries undergoing 'democratic backsliding' (a more severe and deliberate kind of democratic erosion) has never been** as high as in the last decade.
- More than a quarter of the world's population now live in democratically backsliding countries.
- Fully fledged authoritarian regimes are also growing in number, and their leaders are acting ever more brazenly.
- The **pandemic provides additional tools and justification for repressive tactics and silencing of dissent in countries as diverse** as Belarus, Cuba, Myanmar, Nicaragua and Venezuela.
- Some of them thrive on the **narrative that authoritarian governance is more effective for economic prosperity and pandemic** management.
- Worryingly, many democratically elected governments are also adopting time-honored authoritarian tactics, often with popular support. The pandemic has made it easier to justify this behaviour, including the politicization of judiciaries, the manipulation of media, restrictions on civil liberties and minority rights, and the weakening of civil society.
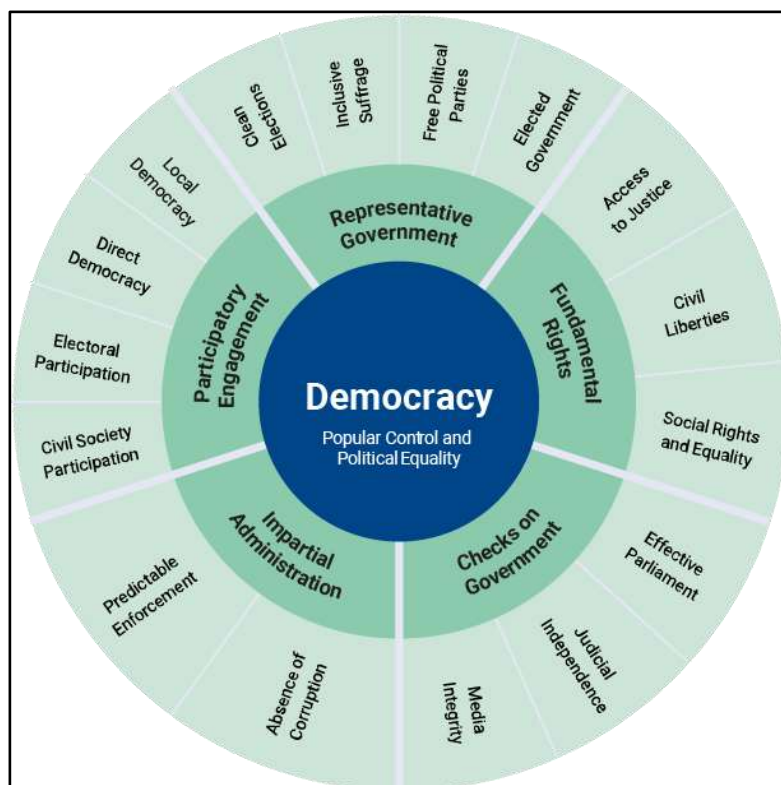
Role of Pandemic in pro democracy
- It has fueled pro-democracy movements to challenge this authoritarian tide from Belarus to Myanmar.
- **Protests over climate change and racial inequality have** gone global, despite restrictions on assembly in most countries during the pandemic.
- **Many states have adhered to democratic principles** during the public health crisis, thanks to transparent and innovative governance.
- Some studies point to a **reinvigoration of democratic values globally, particularly among younger generations**.
- Some governments have provided **crucial democratic innovation during the pandemic by accelerating the adoption of new democratic practices such as digital voting**.
- There are tentative signs of new geopolitical alliances in which some countries—**for example, Sweden, and recently the USA—are making democracy a foreign policy priority**.
- The **Summit for Democracy, the first of which will be held in December 2021,** will provide an important opportunity to reassert a multilateral world order based on democratic norms.

Suggestions by the Report
- National and local governments and political parties **should redesign democratic institutions with the needs of historically disadvantaged and marginalized groups** at the forefront.
- Governments, with support from civil society, must urgently **set concrete, time-bound targets to reduce inequalities, invest in universal public services, and adopt progressive taxation** of the wealthiest members of society.
- Donors should also consider **making action on inequality a condition of funding, going beyond superficial markers of diversity into more** substantive evidence that inequalities are addressed in systematic ways.

- Academia has a key role to play in **evaluating innovative practices in this field, in terms of both process and outcomes, and should** continuously feed practitioners with lessons on how democratic practices and tools can make democracy more inclusive.
- Political parties **should prioritize gender equality and broad inclusion, facilitating women's and other disadvantaged groups' participation and representation** to ensure more responsive policies.

About International Institute for Democracy and Electoral Assistance
- **International IDEA is an intergovernmental organization that supports sustainable democracy worldwide**.
- It was **founded in 1995 and currently has 33 member** states.
- **International IDEA advances democracy worldwide**, as a universal human aspiration and an enabler of sustainable development, through support to the building, strengthening and safeguarding of democratic political institutions and processes at all levels.

EXTENSION OF TENURE   GS-II POLITY

Context
- **Government amended Fundamental Rules (FR) to facilitate extended tenure** and in-service benefits to CBI and ED directors.
- Government **has issued two ordinances which virtually extended the tenures of the chiefs of the two agencies for up to five years**.

About Amendment
- The **Delhi Special Police Establishment (DSPE) Act and The Central Vigilance Commission (CVC) Act have been amended** to give the government the power to keep the two chiefs in their posts for one year after they have completed their two-year terms.
- And this **one-year extension, the amendment says, can continue to be given until the officers complete five years** as the chiefs of the agencies.
- The CBI is governed by The DSPE Act; The CVC Act lays down the term of office of the Director of Enforcement.

Background on Extension
- Present ED chief was appointed on November 19, 2018. Days before his fixed two-year tenure was to come to an end, the President, on November 13, 2020, modified his previous order and granted him a tenure of three years.

Supreme Court Observation on Such Practices
- the court had declined to interfere with the government's order, saying that the provision in The CVC Act, 2003 that chiefs of the **ED shall hold office for "not less than two years", could not be read to mean not more than two years**.
- **No further extension shall be granted" to ED Chief** beyond November 2021.
- Extension of tenure granted to officers who have attained the age of superannuation should be **done only in rare and exceptional cases.**
- Reasonable period of extension can be granted **to facilitate the completion of ongoing investigations only after reasons are recorded by th**e Committee constituted under Section 25 (a) of The CVC Act.
- Any extension of tenure granted to persons holding the post of Director of Enforcement after attaining the age **of superannuation should be for a short period**.

Challenges
- Amending the Acts through **Ordinances will not obliterate the judgement of the Supreme Court. The judgement is law under Article 141.**
- this ordinance is **against the crux of Prakash Singh judgment**, 'fixed tenure' for Police Chief.
- It will **lead to politicization of the institutions**.

Way Forward
- Government must **pay attention to the Supreme Court ruling** and should extend only in rare case.
- The act must clearly **spell out the reasons** in which the government can extend the tenure.
- The appointment of these officers **must be done through a broad based committee**.

COMPETITIVE AND COOPERATIVE FEDERALISM

GS-II POLITY

Context

- **Recently,** Home Minister has emphasized on competitive and cooperative federalism for growth of the nation.

About Federalism

- Federalism is a system of government in which states or provinces share power with a national government.
- The quasi-federal structure of the Indian nation was settled in after the country became free of colonialism and gained independence from the British.

About Cooperative and Competitive Federalism

	Cooperative Federalism	Competitive Federalism
Type of Relationship	Horizontal relationship between the Central as well as the State governments	Vertical relationship with the Central government while competing amongst themselves.
Working Method	Cooperation between the central and state government for larger public interest	States individually work towards attracting funds and investment to aid their developmental activities.
Feature of Economy	Socialist	Free Market Economy
	Raise resources by the Government at different levels in a co-ordinated way and channel them for use for the common good of the people.	Bottom-up approach as it will bring the change from the states
Relationship with Centre	harmonious relationship	Strained Relationship
Accountability and Responsibility framework	Ensure unity of interest	Instill Sense of Responsibility
Target	Ensure Equal development of the states	Ensure Continuous reforms in the states
Result	Better Outcomes and Output for the Policies	Efficiency and Effectiveness in the Policy Implementation
	Needed for bigger projects like Infrastructure projects, to tackle the organized crime and to ensure the inclusive growth	Does so for the enhanced developmental aid from the government or to attract the FDI.
Government Initiatives	Formation of Niti Ayog, Implementation of 14th Finance Commission Recommendations; GST council	Multiple index like SDG index, Quality of Education in state; Ease of Doing Business Ranking for the States; Aspirational District programme

Conclusion

- While prosperous States may be able to execute both policies effectively but economically backward States would require the Centre's support to achieve their goals.
- Hence, there is a need for more cooperative federalism than competitive federalism in present times where states come together to help each other develop.

PEGASUS CONTROVERSY

GS-II POLITY

Context

- On October 27, the Supreme Court of India appointed an independent committee to inquire into charges that the Union government had used the mobile phone spyware Pegasus to invade, access, and snoop into devices used by India's citizens.

Objective

- The court has also asked the committee to make recommendations on a legal and policy framework on cyber security to ensure the right to privacy of citizens is protected.
- These range from determining who procured Pegasus and whether the petitioners in the case were indeed targeted by use of the software, to what laws justify the use of such spyware against citizens.

Why a Committee

- The case involves technical questions, and requires extensive fact-finding for the court to determine whether fundamental rights were violated, and to pass suitable orders.
- The Centre's refusal to file an additional affidavit means the court will require more assistance from the committee.

Challenges with the court direction

- There is no guarantee that a government that chose to remain silent before the Court will now somehow come clean before an external panel. The question then is this: should the Government fail to cooperate, how must the Court respond?
- The cases also posed another hurdle: a contest over facts. The petitioners were asserting the occurrence of illegal surveillance. The Government was offering no explicit response to their claims. How then was the Court to unravel the truth?
- Ad hoc committees — sterling as their members might be — cannot be the solution. Far too many cases are consigned to the back burner on the appointment of external panels, and, in the process, civil liberties are compromised.

TO MAKE RECOMMENDATIONS

1. Regarding enactment or amendment of law and procedures on surveillance, and to secure improved right to privacy.
2. Regarding enhancing and improving cyber security of nation and its assets.
3. To ensure prevention of invasion of right to privacy, other than lawfully, by State and/or non-State entities using such spyware.
4. Regarding establishment of a mechanism to flag suspicion of illegal surveillance of devices.
5. Regarding setting up a well-equipped independent premier agency to investigate cyber security vulnerabilities and cyberattacks, and assess cyberattack threats.
6. Regarding any *ad hoc* arrangement for protection of citizen's rights until Parliament is able to fill the lacunae.
7. On any ancillary matter the Committee may deem fit and proper. *(From SC order, edited)*

Criteria for Surveillance in India

- The judges hold, "indiscriminate spying on individuals cannot be allowed except with sufficient statutory safeguards, by following the procedure established by law under the Constitution."
- first, the action must be supported by legislation;
- second, the state must show the Court that the restriction made is aimed at a legitimate governmental end;
- third, the state must demonstrate that there are no less intrusive means available to it to achieve the same objective;
- Finally, the state must establish that there is a rational nexus between the limitation imposed and the aims underlying the measure.

About Pegasus

- It is a very sophisticated spyware, which can remotely infect a very wide range of devices, without any action on the target's part.
- Most mobile spyware is installed by getting hold of the physical device or via phishing.
- For instance, a text message/WhatsApp/e-mail with a malicious link is sent, and the target gets infected when he or she clicks on that link. Pegasus can be transmitted this way.
- More importantly, Pegasus can infect mobiles by sending malicious WhatsApp messages, without any actions being necessary on the target's part.
- NSO has, in fact, been sued by WhatsApp for exploiting this vulnerability.

TERMS OF REFERENCE

TO ENQUIRE, INVESTIGATE, DETERMINE

1. Whether Pegasus was used on phones or other devices of Indian citizens to access stored data, eavesdrop on conversations, intercept information and/or for any other purposes?
2. Details of victims and/or persons affected by such attack.
3. What steps/actions were taken by Union of India after the 2019 reports on hacking of WhatsApp accounts of Indians, using Pegasus.
4. Whether Pegasus was acquired by UoI, or any state government,
5. or any central or state agency for use against Indian citizens? If any government agency has used Pegasus on Indian citizens, and under what law, rule, guideline, protocol, or lawful procedure?
6. If any domestic entity/person has used the spyware on Indian citizens, is such use authorised?
7. Any other matter or aspect connected, ancillary or incidental to the above, which the Committee may deem fit and proper to investigate.

- Pegasus can also be spiked into the target's phone from a nearby base transceiver station (BTS). BTS is standard equipment used by telecom service companies to route and re-route signals.

Way Forward

- The whole incident brought forward the issue of digital security and the ways to achieve it with minimum loopholes.
- It is necessary to be **self-aware about digital security** because compromise in that could **lead to a situation of total surveillance.**
- Setting **stringent cybersecurity standards** to protect individuals and institutions of national importance, to make sure that the **unity of the nation and the integrity of the individuals stay safe and secure.**
- The largest democracy in the world cannot be at the mercy of a shady, private company.

UNIFORM CIVIL CODE

GS-II POLITY

Context

- Allahabad High Court has called upon the Central government to initiate the process for uniform civil code implementation.

Observation of the Court
- "A common civil code will help the cause of national integration by removing disparate loyalties to laws which have conflicting ideologies.
- It is the State which is charged with the duty of securing a uniform civil code for the citizens of the country.

About Uniform Civil Code
- The **Uniform Civil Code (UCC)** in India proposes to replace the personal laws based on the scriptures and customs of each major religious community in the country with a common set governing every citizen.

Constitutional Provisions
- The constitution has a provision for **Uniform Civil Code in Article 44 as a Directive Principle of State Policy** which states that **"The State shall endeavor to secure for the citizens a uniform civil code throughout the territory of India."**

Uniformity of Codes in India
- Indian laws do follow a uniform code in most civil matters — Indian Contract Act, Civil Procedure Code, Sale of Goods Act, Transfer of Property Act, Partnership Act, Evidence Act, etc.
- States, however, have made hundreds of amendments and, therefore, in certain matters, there is diversity even under these secular civil laws.
- Recently, several states refused to be governed by the uniform Motor Vehicles Act, 2019.

Merits of Uniform Civil Code
- **National Integration:** A unified code is imperative, both for the protection of the vulnerable sections in Indian society (women and religious minorities) and for the promotion of national unity and solidarity.
- **Simplification of laws**: There exists so many personal laws like Hindu code bill, Shariat law, etc. Presence of so many laws creates confusion, complexity and inconsistencies in the adjudication of personal matters, at times leading to delayed justice or no justice. UCC will eliminate this overlapping of laws.
- **Simplification of Indian legal system:** UCC will lead to reduction in litigation emanating from multiple personal laws.
- **Establishing a secular society:** UCC will de-link law from religion which is a very desirable objective to achieve in a secular and socialist pattern of society. Moreover, it fulfills constitutional mandates under Article 44 of Directive Principles of State Policy.
- **Gender justice:** The rights of women are usually limited under the patriarchal discourse through religious laws.UCC will liberate women from patriarchal domination and provide them with right to equality and liberty.

Challenges with UCC
- Lack of consensus: There is generally lack of consensus among the political party regarding the feasibility of UCC.
- It **denies Freedom of religion** which is in violation of article 25.
- It **seeks to replace personal law system** which is in violation of article 26.
- **Threatens Plurality in danger**- UCC will robe away religious identity & diversity in India
- UCC is **not fits in typical "Indian Secularism Framework"**- which supports & enables religious rights rather than inhibiting them.
- It **leads to conflict between personal laws and individual fundamental** rights.

Secularism and UCC
The principle of UCC essentially involves the question of secularism.
- Many experts argue that **personal laws are the part and parcel of religion and culture**. Any interference with the personal laws would tantamount to interference with the very way of life of those who had been observing such laws from generation to generation.
- **State must not do anything which hinder the religious and cultural ethos** of the people.
- While others argue that Uniform Civil Code is not **opposed to secularism and will not violate Article 25 and 26 of the Constitution of India**.
- **Article 44 of the Constitution of India is based on the concept** that there is no necessary connection between religion and personal laws in the civilized society.
- It has also been argued that right to religious freedom did not extend to freeing secular dimensions of religion from the law of the land.

Way Forward
- To realize the goals of the DPSP and to maintain the uniformity of laws, the following suggestions need immediate consideration:
- A progressive and broadminded outlook should be encouraged among the people to understand the spirit of the UCC. For this, education, awareness and sensitization programmes must be taken up.
- The Uniform Civil Code should be drafted keeping in mind the best interest of all the religions.
- A committee of eminent jurists should be constituted to maintain uniformity and care must be taken not to hurt the sentiments of any particular community.

SOCIAL AUDIT

Context
- The concept of social audit is **being extended to more departments and the government schemes in Rajasthan.**
- The schemes being audited through the process at present include the Mahatma Gandhi National **Rural Employment Guarantee Scheme, Pradhan Mantri Awas Yojana, Swachh Bharat Mission, National Social Assistance Programme and the Central Finance Commission's 14th and 15th grants** to the State.
- A decision had been taken to involve the **members of women's self-help groups, volunteers of Nehru Yuva Kendras and the village-level workers of Women's Development Programme**, known as 'Sathins', in the social audit exercises.
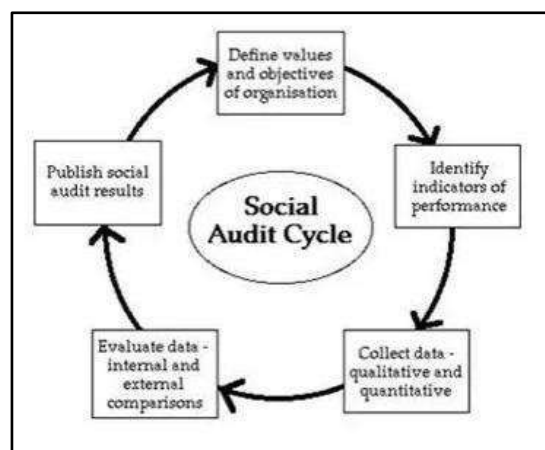
About Social Audit
- A social audit is a **way of measuring, understanding, reporting and ultimately improving an organization's social** and ethical performance.
- A social audit **helps to narrow gaps between vision/goal and reality, between efficiency and** effectiveness.
- It is a **technique to understand, measure, verify, report on and to improve the social** performance of the organization.
- Social **auditing creates an impact upon governance**.
- It values the voice of stakeholders, including marginalized/poor groups whose voices are rarely heard. Social auditing is taken up for the purpose of enhancing local governance, particularly for strengthening accountability and transparency in local bodies.

Advantage of social audit
- It helps in Managing and measuring non-financial activities.
- monitor internal and external consequences of the departments social and commercial interest
- It leads to Understanding of the administrative system from the perspective of the people: How the process and rules affect the citizens for whom these systems have been developed.
- It provides In-depth scrutiny and analysis of the working of the public utility vis some vis its social relevance.
- Organization can assess its social, economic and environmental impacts through social audit.
- It acts as tool of feedback which can lead to improvement in policy implementation.
- It allows Verification of deliverables thus bringing focus on outcomes and outputs rather than inputs.
- It is a Safeguards against corruption and frauds.

Limitation of Social audit
- It is **Highly localized in nature**. It is conducted at the Gram Sabha level and its findings can't be generalized in nature.
- It has **been Sporadic and adhoc in nature**. Most of the social audit depends upon the will of executive to conduct.
- Social audits **haven't resulted into penalizing the erring officer** which has led to decline in interest of these audits.
- Documentation for the social **audits do not provide consistent evidence**.

Way Forward
- It should be brought into mainstream for all the social sector schemes
- It Can be mainstreamed for undertaking compliance audit for all the social sector schemes related to rules, frauds and corruption.
- Government should Facilitate CAG association with local auditors for certification of Gram Sabha accounts.
- Government should Develop partnership with all the major social auditors and bring out the standard procedure for social auditing
- CAG **should provide capacity building of social auditors**

- **Synergy with CAG will help in dissemination of the role of CAG of India** in appraisal and monitoring of public sector programme.
- There is a need to Give recognition to the social auditors

DATA PROTECTION BILL

Context

- At least five of the 30 members of the Joint Parliamentary Committee on Personal Data Protection (PDP) Bill are moving dissent notes.

Concern of the Members

- Clause 35, in the name of **"sovereignty", "friendly relations with foreign states"' and "security of the state" allows any agency under the Union Government exemption fro**m all or any provisions of the law. It becomes an issue under the Pegasus controversy recently.
- **Design of the PDP 2019 Bill assumes that the Constitutional right to privacy arises only where operations a**nd activities of private companies are concerned and it doesn't concern violation by the government.

Importance of data

- Data **usually refers to information about your messages, social media posts, online transactions, and browser searches**.
- It has **become an important source of profits**.
- Companies, governments and political parties find it valuable because they can use it to find the most convincing ways to advertise online.
- Much of the future's economy and law enforcement will be predicated on the regulation of data, introducing issues of national sovereignty.

Handling of data

- **Data is stored in a physical space similar to a file cabinet of documents** and transported across country borders in underwater cables.
- **Data is collected and handled by entities called data fiduciaries**.
- While the fiduciary controls how and why data is processed, the processing itself may be done by a third party, the data processor.
- The physical attributes of data — where data is stored, where it is sent, where it is turned into something useful — are called data flows.

Provisions of the bill

- **The bill trifurcates personal data. The umbrella group is all personal data — data from which an individual can be identified**.
- Some **types of personal data are considered sensitive personal data (SPD)**, which the Bill defines as financial, health, sexual orientation, biometric, genetic, transgender status, caste, religious belief and more.
- **Another is critical data**, which is determined by government for national security purposes. It requires individual consent for data transfer abroad.
- **The bill still requires sensitive personal data to be stored only in India**.
- It can be processed abroad only under certain conditions including approval of a Data Protection Agency (DPA).
- The final category of critical personal data must be stored and processed in India.
- The **bill mandates fiduciaries to give the government any non-personal data when** demanded.
- The bill **also requires social media companies,** which are deemed significant data fiduciaries based on factors such as volume and sensitivity of data as well as their turnover, to develop their own user verification mechanism.
- The bill **includes exemptions for processing data without an individual's consent for "reasonable purposes"** including security of the state, detection of any unlawful activity or fraud, whistleblowing, medical emergencies, credit scoring, operation of search engines and processing of publicly available data.
- The Bill calls for the creation of an independent regulator DPA, which will oversee assessments and audits and definition making.
- Each company **will have a Data Protection Officer (DPO) who will liaison with the DPA** for auditing, grievance redressal, recording maintenance and more.
- It also **grants individuals the right to data portability and the ability to access and transfer one's own data.**
- It legislates on the right to be forgotten.

Merits of the Bill

- Data **localization can help law-enforcement agencies access data for investigations** and enforcement.
- As of now, much of cross-border data transfer is governed by individual bilateral "mutual legal assistance treaties".
- Accessing **data through this route is a cumbersome process**.
- Instances of cyber-attacks and surveillance will be checked.
- Recently, many WhatsApp accounts were hacked by an Israeli software called Pegasus.
- Social media is being used to spread fake news, which has resulted in lynching, national security threats, which can now be monitored, checked and prevented in time.
- Data localization will also increase the ability of the Indian government to tax Internet giants.
- A strong data protection legislation will also help to enforce data sovereignty.

Concern related to Bill

- The **appointment of members to the DPA will not be made through an independent body** but by a handful of people, mostly bureaucrats, selected by the government.
- Civil society groups have criticized **the open-ended exceptions given to the government in the Bill, allowing for surveillance.**
- There is a **blanket power of exemption from all provisions of the law (including access to personal data without consent, citing national security, investigation and prosecution of any offence, public order) i**n favor of a government agency.
- A **new watchdog without teeth, with no functional autonomy**, would mean governments are legally immune from charges of data-mining.
- Justice (Rtd.) BN Srikrishna, who headed the committee that formulated the original draft of the Bill, has reportedly called **it "a piece of legislation that could turn India into an Orwellian state".**
- Technology giants like Facebook and Google and their industry bodies, especially those with significant ties **to the US, have slung heavy backlash**.
- Many are **concerned with a fractured Internet** where the domino effect of the protectionist policy will lead to other countries following suit.
- Much of this **sentiment harkens to the values of a globalized, competitive internet marketplace, where costs and speeds** determine information flows rather than nationalistic borders.
- Allowing the government to force companies to transfer non-personal data raises serious intellectual property concerns, and can still threaten users even if they're not individually identified.

Need for data localization

- Will **help law-enforcement access data for investigations** and enforcement.
- **Proponents highlight security against foreign attacks and surveillance**, harkening notions of data sovereignty.
- Many domestic-born technology companies, which store most of their data exclusively in India, support localization.
- Reliance Jio has **strongly argued that data regulation for privacy and security will have little teeth without localization**, calling upon models in China and Russia.
- Increase the ability of the Indian government to tax Internet giants.

Arguments against data localization

- **Security and government access are not achieved by localization**. Even if the data is stored in the country, the encryption keys may still be out of reach of national agencies.
- **Many are concerned with a fractured Internet** (or a "splinternet"), where the domino effect of protectionist policy will lead to other countries following suit.
- It **hampers to the values of a globalized, competitive internet marketplace**, where costs and speeds determine information flows rather than nationalistic borders.
- Protectionism may **backfire on India's own young start-ups** that are attempting global growth.

RERA ACT, 2016   *GS-II GOVERNANCE*

Context

- The Supreme Court affirmed that the provisions of the Real Estate (Regulation and Development) Act, 2016 (RERA) are applicable to projects that were ongoing and for whom completion certificates were not obtained at the time of the enactment of the law.
- Supreme Court has interpreted that the law is retroactive.

Objectives of RERA

- Enhance transparency and accountability in real estate and housing transactions
- Boost domestic and foreign investment in the real estate sector
- Provide uniform regulatory environment to ensure speedy adjudication of disputes
- Promote orderly growth through efficient project execution and standardization;
- Offer single window system of clearance for real estate projects
- Empower and protect the right of home buyers

Important Provisions of RERA

- The Act stipulates that **no project can be sold without project plans being approved by the competent authority** and the project is registered with the regulatory authority.
- This **provision ended the practice of selling on the basis of deceitful advertisements**.
- **Promoters are required to maintain "project-based separate bank accounts"** to prevent fund diversion.
- The **mandatory disclosure of unit sizes based on "carpet area" strikes** at the root of unfair trade practices.
- The **provision for payment of "equal rate of interest" by the promoter** or the buyer in case of default reinforces equity.
- These and many other provisions have empowered consumers, rectifying the power asymmetry prevalent in the sector.

RERA: An effort in Cooperative Federalism

- RERA is a seminal effort in cooperative federalism.
- Though the Act has been piloted by the Central government, the rules are to be notified by state governments, and the regulatory authorities and the appellate tribunals are also to be appointed by them.

Challenges with RERA

- **Who will ensure how much is 70% of the total project** cost? Also, the state government can alter this amount to less than 70%.
- The Bill mandates that 70% of the amount collected from buyers of a project be used only for construction of that project. In certain cases, **the cost of construction could be less than 70% and the cost of land more than 30% of the total amount collected**. This implies that part of the funds collected could remain unutilized, necessitating some financing from other sources. This could raise the project cost.
- Builders argue that **it will be difficult to sell units on the basis of carpet area in an under-construction property i**n which many units have been already sold on the basis of super built-up area.
- Developers say that **the main cause of delay is slow approvals from** government agencies.
- Under the Act, if **the registration is revoked by the regulatory authority, who will complete the construction?**
- A few consumer activists believe that the **real estate regulator may not be effective in the matter of handling complaint**s. The complaints are already being handled by consumer courts. So they say that there is nothing new. Also, the consumer courts were not effective in the redressal of complaints. They express the same reservations about the regulatory authority also.
- Does not address important issues **like the lengthy process for project approvals, lack of clear land titles, the prevalence of black money etc.**
- Since state-level governance is very uneven**, this will work patchily. Some states will set up efficient Tribunals and Regulatory Boards; others** will not.
- Many politicians have interests in real estate. That could work both for, and against the concepts of the new Act. Some smart and not-so-crooked politicians will back the new act and use it to accelerate activity. Others will try to hold up the new legislation or subvert it.

Way Forward

- Centre and state **must collectively resolve any conflict arising out of RERA implementation**
- **Potential conflict between RERA and IBC to be checked**
- Government agencies **should be made accountable for the delay in granting** approvals
- **States should not dilute the RERA provisions**. Provisions for punishment of violations, should be kept intact in all state laws
- A **robust IT infrastructure should be established** for monitoring projects and quick redressal of grievances
- The government has already set up Central Advisory Council (CAC) for effective implementation of RERA. The scope of functions of CAC should be broadened to include advisory to state bodies on issues related to RERA compliance

E-GOVERNANCE

GS-II GOVERNANCE

Context

- Recently, the Ministry of Civil Aviation has launched the e-Governance for Civil Aviation (e-GCA) online platform.

About E-Governance

- E-governance is **the public sector's use of ICTs with the aim to improve information and service delivery, encourage citizen participation** in decision-making and make government more accountable, transparent and efficient.
- It **far beyond mere computerization of standalone back office operations**.
- It **implies fundamental changes in government operations**; and new set of responsibilities for the legislature, executive, judiciary and citizens.
- E-governance is the **application of ICT in government functioning to bring in SMART governance implying: s**imple, moral, accountable, responsive and transparent governance.

Simple	Moral	Accountable	Responsive	Transparent
• Simplifcation of the Rules • Provide for a User Friendly Government	• New Ethical Values • Technical interventions brings values of responsiveness, efficiency and effectiveness.	• Increased Answerability of Civil Servants • Facilitating design, development and implementation of effective Mangement Information system and Performance measurement mechanism.	• streamlining the processes to speed up service delivery and make system more responsive	• Bringing information hitherto confined in the government documents to the public domain and making processes and functions transparent

Figure 1: Smart Governance

Stages of E-Governance

- **Simple information dissemination (one-way communication**)- is considered as the most basic form, as it is used for merely disseminating information;
- **Two-way communication (request and response)-** is characterized with e-mail system and information and data-transfer technologies in the form of website;
- **Service and financial transactions-** is online services and financial transactions leading to web based self-services;
- **Integration (both vertical and horizontal)-** in this stage the government would attempt inter and intra-governmental integration;
- **Political participation**- this stage means online voting, online public forums and opinion surveys for more direct and wider interaction with the government.

Difference Between E-Government and E-Governance

BASIS FOR COMPARISON	E-GOVERNMENT	E-GOVERNANCE
Meaning	The application of ICT, with the aim of supporting government operations, aware citizens and deliver services is called as e-Government.	e-Governance refers to the use of ICT in enhancing the range and quality of information and services delivered to the public, in an effective manner.
What is it?	System	Functionality
Communication Protocol	One way communication protocol	Two way communication protocol

Legal and Policy Framework:

Information Technology Act 2000

- It aims to **provide for the legal framework so that legal sanctity is accorded** to all electronic records and other activities carried out by electronic means.

Report of the Working Group on Convergence and E-governance 2002-07

- It felt the need to set up a central body for taking stock of the total IT picture in the country.
- This central body could be a 'Council for E-governance' or an adhoc 'Commission on Reengineering Administrative Procedures for E- governance.'
- Another alternative it suggested was to set up a National Institute of Smart Governance.

National E-Governance Plan

- The 10-point agenda of the Department of Information Technology announced for growth of ICT in the country includes expeditious implementation of a 'National E-Governance Plan' to bring about transparency and citizen centric approach in administration.

Digital India Program

- Digital India is a programme launched in 2015 to transform India into digital empowered society and knowledge economy.
- It would also bring in public accountability through mandated delivery of government's services electronically.

9 Pillars of Digital India

- Broadband Highways
- Universal Access to Mobile Connectivity
- Public Internet Access Programme
- e-Governance: Reforming Government through Technology
- e-Kranti - Electronic Delivery of Services
- Information for All
- Electronics Manufacturing
- IT for Jobs
- Early Harvest Programmes

Significance of E-governance

- **Automation of Administrative Processes**: Software has been built and designed around government departments ensuring efficiency in operations. The departments have launched individual websites carrying information of their respective departments. This has enabled online carrying of operations and file movements.
- **Paper Work Reduction**: Paperwork is reduced to a greater extent with communication being enabled via electronic route and storage and retrieval of information in the electronic form.
- **Quality of Services**: ICT helps governments to deliver services to the citizens with greater accountability, responsiveness and sensitivity. Quality of services improves, as now the people are able to get services efficiently and instantaneously
- **Elimination of Hierarchy**: ICT has reduced procedural delays caused by hierarchical processes in the organization. Through Intranet and LAN, it has become possible to send information and data across various levels in the organization at the same time.
- **Change in Administrative Culture**: With e-governance, public actions coming under public glare would certainly induce norms and values of accountability, openness, integrity, fairness, equity, responsibility and justice in the administrative culture. Rather, administration would become efficient and responsive.
- **Transparency:** easy access to information and subsequently makes the system publicly accountable. Also as web enables free flow of information, it can be easily accessed by all without any discrimination
- **Social Development**: The access to information empowers the citizens. Informed citizenry can participate and voice their concerns, which can be accommodated in the programme/ project formulation, implementation, monitoring and service delivery.

NORTH -EASTERN REGION

GS-II GOVERNANCE

Context

- Recently, a seven-day cultural festival of the northeast as part of the celebrations of 75 years of Independence under the Azadi Ka Amrit Mahotsav Programme concluded at the National Museum, Delhi.
- It is celebrating the rich heritage of North East India, under the Ministry of Development of North Eastern Region & North Eastern Council (NEC)'s initiative titled "Destination North-East India".

Importance of North-East Region

- **Strategic Location:** The NER is strategically located with access to the traditional domestic market of eastern India, along with proximity to the major states in the east and adjacent countries such as Bangladesh and Myanmar.
- **Links with Southeast Asia:** With ASEAN engagement becoming a central pillar of India's foreign policy direction, NE states play an important role as the physical bridge between India and Southeast Asia.
- The **India's Act East Policy places the northeastern** states on the territorial frontier of India's eastward engagement.
- **Economic Significance**: The NER has immense natural resources, accounting for around 34% of the country's water resources and almost 40% of India's hydropower potential.
- Sikkim is India's first organic state.
- **Tourism Potential**: Northeast of India is home to many wildlife sanctuaries like Kaziranga National Park famous for the one horned rhinoceros, Manas National Park, Nameri, Orang, Dibru Saikhowa in Assam, Namdapha in Arunachal Pradesh, Balpakram in Meghalaya, Keibul Lamjao in Manipur, Intanki in Nagaland, Khangchendzonga in Sikkim.
- **Cultural Significance:** Tribes in NER have their own culture. Popular festivals include Hornbill Festival of Nagaland, Pang Lhabsol of Sikkim, etc.

Historical challenges of the region

- **Partition of the country**: When the major road, rail and river routes connecting North East to the rest of the country suddenly got snapped.
- **The Chinese aggression of 1962**: When the Chinese army entered Arunachal Pradesh (called NEFA at that time) and returned of their own. This apparently created a feeling of fear in the minds of some private investors, and stalled the large-scale investment in North East.
- **The Bangladesh Liberation was of 1971**: When crores of people from Bangladesh entered some states of North East as refugees which changed the demographic situation in some state of North East bordering Bangladesh.
- **Insurgencies:** From the end of the seventies of the last century problems of insurgency started in states like Assam, Meghalaya, Tripura and Manipur, Insurgency affected the present day Nagaland and Mizoram in the fifties and sixties of the last century.
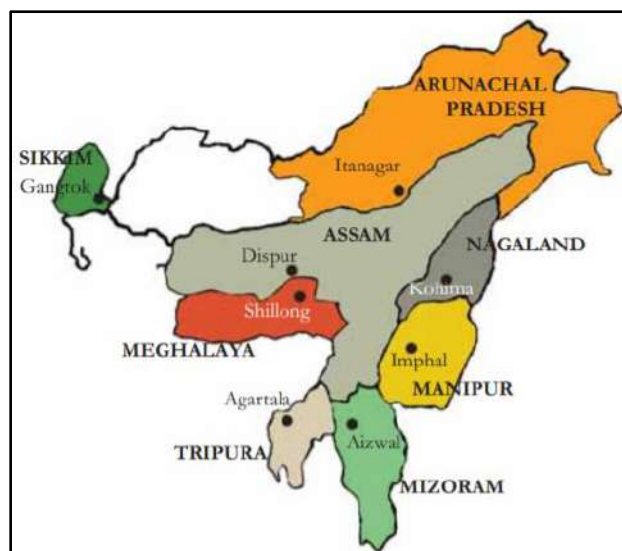
Other Challenges

Agriculture-related challenges

- Low agricultural productivity, Low cropping intensity (about 1.5), Low coverage of irrigation
- Low application of chemical fertilizers, Low credit flow from banks, Credit deposit ratio is less than fifty percent in the North East.
- Inadequate availability of certified seeds and good quality planting materials, for all the farmers, Inadequate facilities for godowns, warehouses and cold storage etc.
- Absence of modern well equipped markets or mandis in the region, except in some few places.

Resources and industry related challenges

- **Very low per capita consumption** of power compared to the national average.
- **Non-availability of ores of industrially useful metals** like Iron, Aluminium, Copper, Zinc
- **Non-availability of big reserve of good quality coal**. Coal present in the North East often contains high percentage of Sulphur which makes it unfit for use in industry.
- **Absence of big industries** except four oil refineries and two petrochemical complexes.

Lack of Social Infrastructure

- **Inadequate number of polytechnics and higher institutions** for engineering, medical and nursing studies etc.
- **Teachers' Training is poor** thereby leading to poor standards of education.

SWOT Analysis of the Region

Strength	Weaknesses
a. Presence of an ethnic, tribal culture each with unique customs and traditions. b. Very well-performing *Gender Development Index*. c. Abundance of natural resources (Limestone, Topography conducive for Hydro-Electric Power generation, Bamboo, Tea). d. Ideal Climatic condition for Tourism. e. Safe, Clean and Pollution free environment.	a. Lack of proper Connectivity. b. Limited tourism infrastructure facilities. c. Scarcity of skilled and unskilled labour. d. Floods and landslides in monsoon. e. Laws in the state in areas like land acquisition and transfer is very conservative. f. Landlocked states.
Opportunities	Threat
a. Development of Handicraft Industry. b. Flood management system. c. Linkages to existing tourism circuits. d. International Trade with South East Asian Countries.	a. Overuse and Commercialisation of Eco-Sensitive Zones. b. Regional connectivity Concerns. c. Migration of local people to urban areas for employment.

Initiatives by Government of India

- The latest initiative is a **North East Special Infrastructure Development Scheme (NESIDS)** entirely funded by the central government for infrastructure projects like water supply, power and connectivity.
- **North-eastern Development Finance Corporation Opportunity Scheme for Small Enterprise (NoSSE)** is specially formed to help first generation entrepreneurs.

- **The Act East Policy emphasized** the development of the infrastructure of the region by building roads and Highways, expansion of air connectivity, an extension of railway networks, the opening or trade routes, as well as creation of infrastructural conditions for border trade.
- **Nine cities from across the Northeast region are declared as 'Smart Cities'**- Agartala, Guwahati, Imphal, Kohima, Namchi, Gangtok, Pasighat, Itanagar and Aizawl.

Institutions for North-East development

- The Department of Development of North Eastern Region (DoNER) was established in the year 2001.
  - It became a **full-fledge Ministry of the Government of India in 2004**.
  - The Ministry of DoNER functions as the nodal Department of the Central Government to deal with matters related to the socio economic development of the eight States of Northeast India.
  - It **handled the Non Lapsable Central Pool of Resource**.
- The North Eastern Council (NEC) is a statutory regional planning body for North East India constituted under the North Eastern Council Act 1971.
  - All the Governors and the Chief Ministers of the eight State; in the North East are Members of the NEC.
  - The Union Home Minister is the Chairman, and the DoNER Ministry acts as the Vice Chairman.

Way Forward

- Tourism, **specifically eco-tourism and rural tourism**, is another sector with massive potential.
- Profit can be further maximized by **value addition through food processing. In all these, infrastructure such as cold storage, agricultural link roads**, and easily accessible markets should be priorities.
- **Handloom & Handicrafts is another industry with** potential in north east, due to the indigenous textiles culture of the State.
- The **Kaladan multi-Modal Transit Transport Project (KMMTTP) is a massive connectivity project being underta**ken by the Government of India to connect Haldia in West Bengal to Sitwe Port in Myanmar, which will then enter India through the southern part of Mizoram.
- In the midst of these expectations and optimism, all the stakeholders have to play their part to convert the underlying challenges into future opportunities.

MOTHER TONGUE BASED EDUCATION

Context
- The ST and SC Development Department of the State government has already started **working on project called 'Samhati' to address the language issues** faced by tribal students in early grades or elementary classes.

Details of Project Samhati
- All teachers of **primary level would be provided functional knowledge of tribal languages** and way of communicating with tribal students.
- In the first phase, 1**,000 teachers would be asked to obtain these language skills**.
- Government has **already prepared bilingual dictionaries in** 21 languages and distributed them.
- **Trilingual proficiency module which will** help a person learn tribal languages has also been prepared.
- efforts are being made to **develop textbooks in tribal languages in** sync with the syllabus of State boards, government textbook norms and National Education Policy.

Importance of Mother Tongue based Education
- A tribal student **sees the world through his own language**.
- The most important aspect of the mother-tongue **based education is that it helps save endangered tribal language.**
- If **language is saved, the culture will be preserved** automatically.
- Mother tongue **makes it easier for children to pick up and learn other languages**.
- Mother tongue develops a child's personal, social and cultural identity.
- Using mother tongue helps a child develop their critical thinking and literacy skills.
- Research shows that children learning in mother tongue adopt a better understanding of the curriculum.
- Skills learnt in mother tongue **do not have to be re-taught** when the child transfers to a second language.
- Children learning in mother tongue **enjoy school more and learn faster** due to feeling comfortable in their environment.
- **Self-esteem is higher** for children learning in mother tongue.
- Parent child **interaction increases** as the parent can assist with homework.
- Studies show that children that capitalize on learning through multilingualism enjoy a higher socioeconomic status earn higher earnings.

Challenges in the implementation
- Parents fear that it **widens the divide** between those **who can communicate in English and those who cannot** and their child will be left behind.
- Implementing it **might not be financially viable** because of the lack of funds.
- There is a **challenge of "administrative doability"** of the policy because of **the lack of trained staff, including teachers, to implement the change.**
- Another challenge is **selecting which mother tongues become** the medium of instruction in a school and which do not**. "Language is extremely political**,".
- Many languages **are non-standardized scripts** that are not accepted by everyone in the community.

Initiatives by the Government of India
- **Article 350A of the** Constitution states that every state and local authority should endeavor to provide "**adequate facilities for instruction in the mother-tongue** at the primary stage of education to children belonging to linguistic minority groups".
- The report of the Kothari Commission on education and national development (1964-66) suggested that in tribal areas, for the first two years of school, the medium of instruction and books should be in the local tribal language.
- The Right to Education Act, 2009, also said that as far as possible, the medium of instruction **in school should be the child's mother tongue**.
- The National Education Policy (NEP) - 2020, says **that wherever possible the medium of instruction in schools until Grade V -- preferably until Grade VIII** -- should be the mother tongue or the local or regional language.

Way Forward
- Introducing the local language as the medium of instruction should definitely be done in two situations--**one in areas located along interstate borders and for migrant populations**.

- Government must try **an MLE (Mother tongue language education) model** out in some schools across the country for about three-four years, identifying the problems in implementation and the cost of change and then preparing an action plan that resolves these problems.
- Due to the high number of Mother tongue, government should formally mandate that the **mother tongue be used in the classroom by teachers and students**. This would allow children to talk, debate and express themselves in their language while also learning the regional language or English.

Conclusion
- Mother tongue as the medium of instruction is only the first step. We need all the other things to be in place to make any meaningful change.

ASER SURVEY
GS-II   SOCIAL JUSTICE

Context
- Recently, the **16th edition of the Annual Status of Education Report (ASER 2021) survey was released**. The survey **analyzed the impact of Covid-19 on learning.**

Finding of the Survey
- Enrollment of children in government schools has **leaped from 65.8 per cent to 70.3 per cent over the last one year.**
- **39.2% of students depend upon the private** tuition up from 32.5%. This is seen as a natural outcome of families seeking external support due to the prolonged closure of schools.
- the enrollment in private schools has dipped, for the first time in recent years, from 28.8 per cent in 2020 to 24.4 per cent in 2021.
- There are wide variations among states, with the rise driven mainly by large northern states and all southern states, except Telangana.

Concern of Digital Divide:
- 26.1 per cent children with **smartphones at home having no access to the device**.
- **Younger children are more deprived** when it comes to access to smartphones, with as many as 40 per cent having no access despite having devices at home.

Issue of Falling Behind:
- 65.4 per cent teachers flagged the problem of **children being "unable to catch up"** as one of their biggest challenges .
- While the ASER survey does not shed light on learning outcomes, a sample assessment done in Karnataka in March 2021 that covered 20,000 children ages 5-15 **found "steep drops" in foundational skills, especially in lower primary grades.**

CHART 4

PERCENTAGE OF CLASS I-II WHO'VE NEVER ATTENDED IN-PERSON CLASS

	Std I	Std II
Govt	39.6	34.9
Pvt	33.6	32.0

CHART 1

PERCENTAGE OF CHILDREN WITH ACCESS TO SMARTPHONES (ALL CLASSES AVG)

	Smartphone at home	Access at all times	Sometimes	No access
I-II	64.9	19.9	40.8	39.3
III-V	66.6	23.7	47.2	29
VI-VIII	66.6	27.6	50.2	22.2
IX-XII	72.6	35.4	47.5	17
All	67.6	27	47	26.1

CHART 2

CHALLENGES FACED BY TEACHERS (ALL CLASSES)

% Facing challenges	Low attendance	Children unable to catch up	Connectivity issues
70.2	29.1	65.4	22

CHART 3

PERCENTAGE OF CHILDREN WHO RECEIVE HELP FROM FAMILY MEMBERS

Class I-II	Class III-V	Class VI-VIII	Class IX-XII
74.3	71	64.9	56.7

CHART 5

PERCENTAGE OF CHILDREN WITH TEXTBOOKS (ALL CLASSES AVG)

GOVT	PVT
92.3	90.7

SURVEY COVERED
- 25 states, 3UTs, 581 districts
- 17,184 villages
- 76,706 households
- 75,234 children (age 5-16)
- 7,299 schools

12,459 surveyed students in Classes I-II	19,414 in III-V
	20,064 in VI-VIII
	15,793 in IX-XII

Silver Lining:
- The report captured a de**cline in the proportion of children not currently enrolled in the 15-16 age group** — the one in which the risk of dropping out is the highest.
- The survey also found that **91.9 per cent of enrolled children have textbooks for their current grade.**
- only about a third (33.5 per cent) of children in grades I-II of yet-to-reopen schools reported having received learning materials — print or virtual worksheets, online or recorded classes, or learning-related videos — from schools.

About the Report
- The report was prepared based on a **phone survey covering** 75,234 children aged 5-16 across 581 rural districts in 25 states.
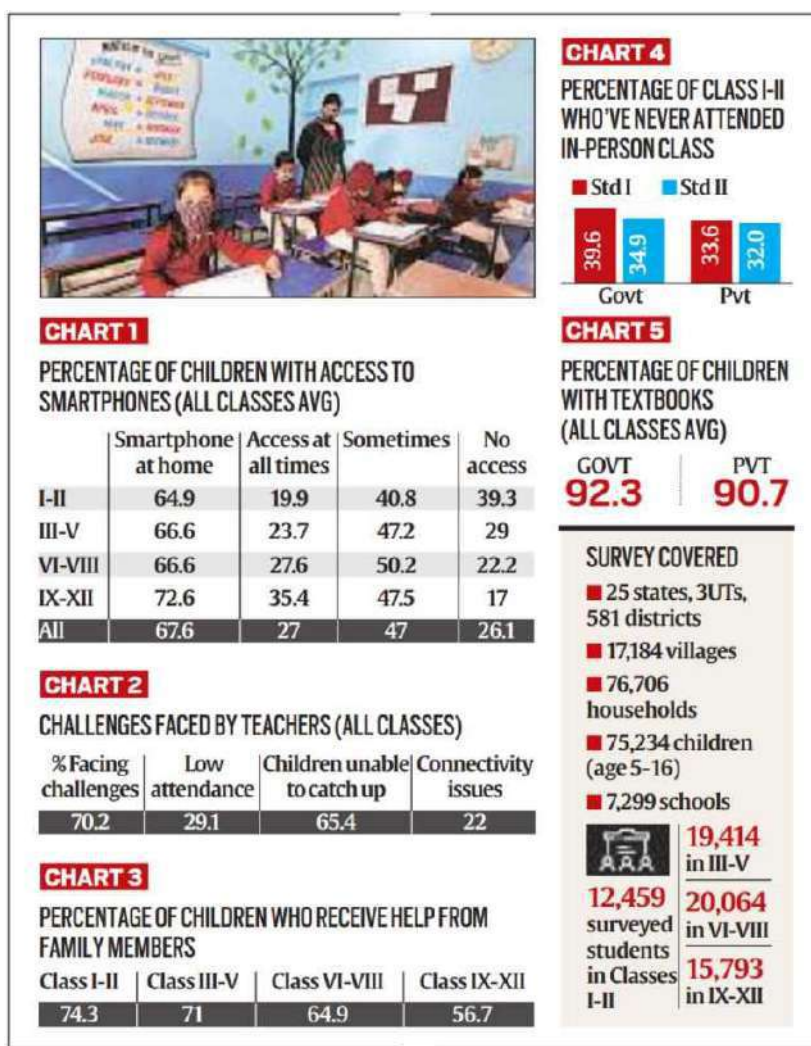
- It primarily **focused on enrollment, access to learning material, digital devices, and support to children** at home.
- As many as 76,606 households in 17,814 villages were covered under the survey.
- It is **facilitated by Pratham Education Foundation**.
- It is the **oldest survey of its** kind in the country.
- It is well regarded for the range of **insights it provides on levels of foundational learning** at the elementary level.
- It uses Census 2011 as the sampling frame and continues to be an important national source of information about children's foundational skills across the country.

Government Steps to Promote Online Education

- In order to promote online education, UGC has notified necessary regulation, which facilitates the Universities to offer full-fledged Online Program.
- Further, the current **provisions of 20 per cent Online courses in a programme, as per provisions of UGC SWAYAM and ODL Regulations** to be enhanced up to maximum 40 per cent for implementation considering "National interest during COVID-19" and also to ensure effective utilization of e-resources.
- Various digital initiatives are also undertaken by Ministry of education viz. SWAYAM ("Study Webs of Active-Learning for Young Aspiring Minds"), **SWAYAM Prabha, National Digital Library (NDL), Virtual Lab, e-Yantra, NEAT (National Education Alliance for technology), FOSSEE (Free Open-Source Software for Education) etc. to ensure quality education to the students.**
- To improve the internet connectivity in rural areas the **CSC e-Governance Services India Ltd (CSC-SPV) of MEITY has been assigned the task of providing Fiber to the Home (FTTH) connectivity to the Government Institutions**, including schools.
- Central Board of **Secondary Education (CBSE) has launched a 'Cyber Security Handbook' to** ensure safe and healthy digital habits among students.

SAFAIMITRA SURAKSHA CHALLENGE (SSC)　　　　*GS-II　SOCIAL JUSTICE*

Context

- Ministry of Housing and Urban Development is launching a week long awareness campaign on SafaiMitra Suraksha Challenge (SSC) from November 14th to 20th November 2021.

About the SafaiMitra Suraksha Challenge

- A **total of 246 cities** are participating in **SafaiMitra Suraksha Challenge (SSC**) which is being conducted across the country.
- Under SSC, **National Safai Karamcharis Finance & Development Corporation (NSKFDC),** Ministry of Social Justice and Empowerment, supported by MoHUA are organizing Loan Melas across the country to help **Safaimitras avail loans** under the Swachhata Udyami Yojana (SUY) for procurement of sewer/ septic tank cleaning machine/ equipment for mechanized cleaning.

Objective

- **Eradicating the practice of hazardous cleaning of sewers and septic** tanks and promote mechanized cleaning of the same.
- **Encourage cities to mechanize their sewer and septic tank** cleaning operations in order to prevent deaths and fatalities of sanitation workers from 'hazardous entry'.

World Toilet Day

- In 2013, the **United Nations General Assembly officially designated 19th November as World Toilet Day**. It is coordinated by **UN-Water** in collaboration with governments and partners.
- It aims **to break the stigma around sanitation** as the silence around the issue of toilets and sanitation has deadly consequences.
- The **theme for the year 2021** is about **valuing toilets.**

About Manual Scavenging

- Manual scavenging is a term used mainly in India for "manually cleaning, carrying, disposing of, or otherwise handling human excreta in an insanitary latrine or in an open drain or sewer or in a septic tank or a pit"
- **Manual scavenging refers to the practice of manually cleaning, carrying, disposing or handling in any manner, human excreta from dry latrines** and sewers.
- It often involves using the most basic of tools such as buckets, brooms and baskets.
- The **practice of manual scavenging is linked to India's caste system where so-called lower castes were expected to** perform this job.
- Manual scavengers are amongst the poorest and most disadvantaged communities in India.

Reasons Behind Manual Scavenging

- **Association of the Caste stigma** with manual scavenging.
- **Lack of acceptance among states about manual** scavenging pushes the issue under the carpet.
- **Lack of rehabilitation of** the manual scavenger.
- **Poor implementation of the Prohibition of Manual Scavenging** act. Governments do not provide the equipment like gloves and Masks while cleaning the drainage.
- Manual scavenging has crept up in urban India through cleaning of septic tanks and drainage systems.
- **Low awareness of their rights, lower education, and** lack of self-esteem continues the manual scavenging.
- **Low per capita income, lack of skills to engage in other works**, social stigma associated with this work also curtails mobility of manual scavengers.
- Lower inculcation of technology in scavenging.
- Low political mobilization, lack of leaders in the community, social exclusion further aggravates the issue.

Steps taken for Eradication of Manual Scavenging

- In 1993, the Government of India enacted the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act.
- The act **prohibited the employment of manual scavengers for manually cleaning dry latrines and the construction** of dry toilets (that do not operate with a flush).
- **Government brought Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, which** is wider in scope and importance, acknowledging the urgency of rehabilitating manual scavengers.
  o It prohibits the construction or maintenance of insanitary toilets.
  o It prohibits a person from being engaged or employed for hazardous cleaning of a sewer or a septic tank.
  o Offences under the Act are cognizable and non-bailable.
  o It calls for a survey of manual scavengers in urban and rural areas within a time-bound framework.
- A **Supreme Court order in March 2014 makes it mandatory for the government to identify all those who died in sewerage work since 1993** and provide Rs.10 lakhs each as compensation to their families.
- **Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS) with the objective to rehabilitate** remaining manual scavengers and their dependents in alternative occupations, in a time bound manner.
- **Focus has been given on conversion of insanitary latrines into sanitary latrines under Swachh Bharat Mission.**
- Under the Scheme of "Pre Metric Scholarship to the Children, the children of manual scavengers are also provided scholarship.

Supreme Court observation on Manual Scavenging

- Nowhere in the world, people are sent to "gas chambers to die."
- **Why proper protective gear like mask and oxygen cylinders were not being provided to people engaged in manual scavenging** and cleaning of sewage or manholes.
- The **Constitution has if all human beings are equal but they are not being given equal facilities by the authorities**.
- No law, which deals with civil wrong and its liabilities thereof, is developed in the country and the magistrates are not empowered to take cognisance on their own of such incidents.

NHRC Recommendations

- **Rehabilitation process of manual scavengers may be linked to schemes under which they can immediately start earning like** MNREGA and revisit to see how they and their families are doing;
- The **amount of compensation paid as one-time cash assistance for rehabilitation of manual scavengers may be enhanced from Rs. 40,000/-** to Rs. 1 Lakh.
- Nodal authority/department that will bear the expense of such Compensation may also be clearly specified.
- **Ensure to remove the role of middlemen by making provisions like direct benefit transfer or by collaborating with** NGOs.
- **Strict Action against local authorities, who employ people to work as manual scavengers; An App and a toll-free number** for registration of complaints.
- The **National Crime Research Bureau (NCRB) to monitor the sewer deaths and data reflected in its report**.
- Union Finance Ministry of GOI may **designate a particular Nationalized Bank for each State to take-up the responsibility of extending loans to the Manual Scavengers** and their dependents' up to Rs.10.00 lakhs to take up the business Activity.
- Either **individual or group insurances must be provided to Manual Scavengers and the premium shall be** paid by the concerned Local Bodies.
- The **National Safai Karamcharis Finance and Development Corporation, NSKFDC may provide financial assistance to manual scavengers** to help start up working in the domain of sanitation and training to them.

- Government needs to plan adequate investment facilitating the shift to the use of technology, maintenance of technology and training the workers to operate the technology.
- Officers in the Supervisory level or in charge of the area should submit a declaration to the respective civic body to the effect that the required safety gears are being provided before any person enters the sewer/septic tank.
- Monitoring Mechanism and a vigilance committee with a proper SOP must be established, under Section 24 of the PEMSRA, 2013(Prohibition of Employment as

ACCESSIBILITY STANDARDS   GS-II   SOCIAL JUSTICE

Context
- The government has **come up with new accessibility standards, under** which almost all television channels will have to ensure that they either carry captions or sign language to help the hearing impaired understand the programming.
- It has been **notified under the Rights of Persons with Disabilities Act, 2016,** through the Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment.

Disability in India
- The population with **disabilities is around 26.8 million, constituting 2.21**% of India's total population according to Census 2011.
- Disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others.
- Persons with disabilities **include those who have long-term physical, mental, intellectual or sensory impairments, which in interaction** with various barriers may hinder their full and effective participation in society on an equal basis with others.

Reasons behind disability
- Disability is **generally classified into two types.** One is when a person is born with a disability, while the other is when a person acquires a disability during his/her life.
- In the first case, the **reason is often the lack of good and accessible medical facilities** leading to birth of unfit child.
- **Lack of care given to pregnant mothers during** pregnancy also causes disability.
- A large number of **people with disabilities are born in to poor households**.
- Acquired **disability happen due to various reasons including accidents, disasters, wars, violence and other factors**.

Issues faced
- 73% of people faced **serious difficulties in employment opportunities** during the lockdown as per the report by the **National Centre for the Promotion of Employment for Disabled Persons (NCPEDP).**
- More susceptible to virus infection.
- **Inaccessibility to healthcare** due to the lockdown.
- **Lack of accessibility in the quarantine centres** for the differently-abled people.
- **Invisibilization of the struggles** of persons with disability.
- **Lack of inclusiveness of people** with disabilities in online education.
- **Redundancy of the concept of social distancing** for the disabled people, as they require daily assistance for every activity.

Way Forward
- **Need enhanced support** for this vulnerable class of people.
- **Paying attention to** the medical needs of this section.
- Make efforts to **convert prevention and care messages on COVID-19 into an accessible format.**
- **Provide Mobile Health Teams** for support to the disable people.
- Technology-savvy professionals can **make information available in an accessible format** for people with disabilities.

MENTAL HEALTH   GS-II   SOCIAL JUSTICE

Context
- Supreme Court has said the judiciary should not treat the mental health of a person with a "one-size-fits-all" approach.

Data on Mental health
- The top mental illnesses were depressive disorder and anxiety disorder, impacting 45.7 million and 44.9 million respectively.
- The contribution of mental health disorders to the total Disability-Adjusted Life Years (DALYs) in India increased from 2.5% in 1990 to 4.7% in 2017.

- The Southern states namely Tamil Nadu, Kerala, Telangana, Karnataka, and Andhra Pradesh accounted for a higher prevalence of mental disorders.

Range of Mental illnesses in society

- Mental illnesses include anxiety disorders, psychotic disorders, mood disorders, substance use disorders, personality disorders and eating disorders.
- The majority of suicides in the world are related to psychiatric problems or to the illnesses listed above.
- Death by suicide is a complex phenomenon and not fully reported.
- Globally, the suicide rate was 10.6 per 1,00,000 populations whereas in India, it was 16.3 per 1,00,000 in 2016. The suicide rate was higher among males compared to females.
- Mental health may not be the primary concern in developing economies like India as there may be other communicable and non-communicable diseases which may be more prevalent.
- There are also challenges regarding funding, delivery of mental health packages, lack of trained staff, etc.
- However, these challenges need to be considered more seriously in the wake of COVID-19 as mental health issues are widely prevalent among the Indian population due to lockdowns and related issues.

Challenges related to Mental Health in India

- existing public-health priorities and its influence on funding
- challenges to delivery of mental health care in primary-care settings;
- the low numbers of those trained in mental health care;
- the lack of mental health perspective in public-health leadership.
- In India, having a mental health disorder is perceived with a sense of judgement and there is stigma associated with those having mental health issues.
- Mental disorders are also considered as being a consequence of a lack of self-discipline and willpower.
- The stigma associated with mental health as well as lack of access, affordability, and awareness lead to significant gaps in treatment. The National Mental Health Survey (NMHS), 2015-16 found that nearly 80% of those suffering from mental disorders did not receive treatment for over a year.

Table 1

Components of mental health literacy: Jorm[12]

- There are a few studies which have measured mental health literacy in the Indian context. One study found mental health literacy among adolescents to be very low, i.e. depression was identified by 29.04% and schizophrenia/psychosis was recognized only by 1.31%. Stigma was noted to be present in help-seeking.
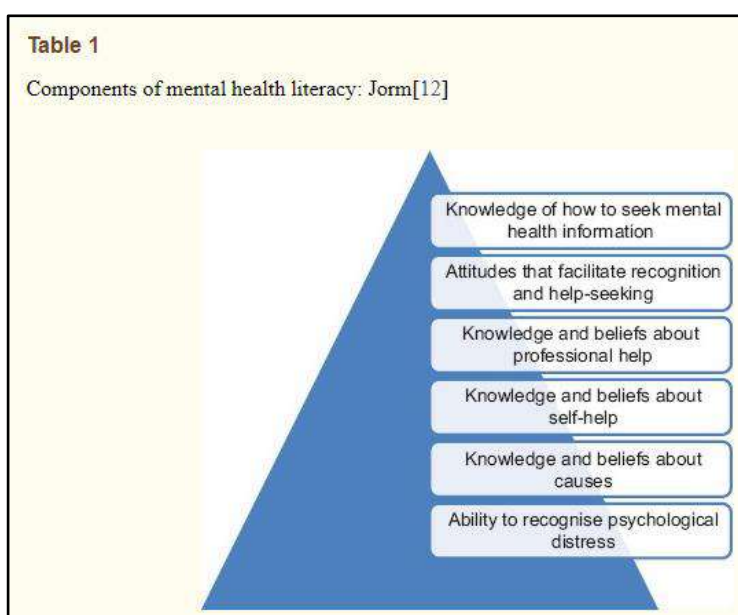
Initiatives to improve Mental Health

- **National Mental Health Programme (NMHP)**: India launched NMHP in 1982 to improve the status of mental health in India. It has three important components. Such as Treatment of the Mentally ill, Rehabilitation and Prevention and promotion of positive mental health.
- **The Mental Health Care Act (MHCA) 2017:** This Act repealed the Mental Health Act, 1987. The Act seeks to ensure the rights of the person with mental illness to receive care and to live a life with dignity. Few salient provisions of the Act are,
- **Central and State Mental Health Authorities**: The Act established these authorities for regulation & coordination of mental health services in India.
- **Right to make an Advance Directive**: Under this, every person can state how to be treated or not be treated for the illness during a future mental health situation.
- **Right to appoint a Nominated Representative**: Every person also has the right to appoint a nominee to take, on his/her behalf, all health-related decisions.
- **Changes in Section 309 of the Indian Penal Code**: This section of IPC criminalized the attempt to commit suicide. After the enactment of the Act, a person who attempts to commit suicide will be presumed as a person "**suffering from severe stress**''. The person will also not subject to any investigation or prosecution.
- KIRAN helpline**:** It is a 24/7 toll-free helpline launched by the Ministry of Social Justice and Empowerment. This helpline provides support to people facing anxiety, stress, depression, suicidal thoughts, and other mental health concerns.

- **Manodarpan Initiative**: It is an initiative launched by the **Ministry of Education** under **Atmanirbhar Bharat Abhiyan.** The initiative provides psychosocial support to students, family members, and teachers for their mental health and well-being during the times of Covid-19.
- **RAAH app**: It is a mobile application that provides free information to the public on mental health care professionals and mental healthcare centers. The National Institute of Mental Health and Neuro-Sciences(NIMHANS) has compiled a one-stop source online mental health care directory.
- **MANAS App**: MANAS stands for Mental Health and Normalcy Augmentation System. It is a comprehensive, scalable, and national digital wellbeing platform. It has been developed to promote the mental well-being of Indian citizens.

Way Forward

- Urgent investment in child and adolescent mental health across sectors, not just in health, to support a whole-of-society approach to prevention, promotion and care.
- Urgent investment in strategies to promote good mental health including prevention of gender-based and other forms of violence
- Integrating interventions across health, education and social protection sectors - including parenting programmes and ensuring schools support mental health
- Breaking the silence surrounding mental illness, through addressing stigma and promoting better understanding of mental health.

URBAN MOBILITY

GS-II SOCIAL JUSTICE

Context

- 14th Urban Mobility Conference 2021.

About the Urban Mobility Conference

- The main theme of this year's conference is "Mobility for All" which focuses on providing equitable access and promote inclusive urban transportation which aims to provide affordable, clean, safe, informative, efficient and accessible transport systems, with special attention to the diverse needs from all factions of the society, especially the specially-abled, elderly, women and children.
- Sustainable mobility and universal access is crucial for achieving the 2030 Agenda of Sustainable Development Goals (SDGs).

Issue with Urban Commuting

- **Poor Bus Infrastructure**: India's **ratio of buses to population is a low 1.2 per 1,000 people**, compared to 8.6 in Thailand and 6.5 in South Africa, although some States like Karnataka are well ahead of the national average
- **Pandemic shifted people to personal transport**: COVID-19 has had the perverse effect of driving people away to the safety of personal car and two-wheeler bubbles.
- **Private Sector Participation in bus transport**: Licensed private urban bus services remain a politically sensitive topic in many States, where State monopolies coexist with unregulated

Modes of transport used for work commute by Indians

Percentage	
No travel	30
On foot	22.6
Bicycle	13.1
Moped/Scooter/Motor Cycle	12.7
Bus	11.4
Train	3.5
Tempo/Autorickshaw/Taxi	3
Car/Jeep/Van	2.7
Any other	0.7
Water transport	0.2

Scroll.in   Data: Census, 2011

paratransit, and it will take a major effort to convince them that a bus renaissance is a good post-pandemic recovery strategy.
- **Weak Regulations by umbrella authorities:** State governments, which retain effective control over urban development rather than city administrations, have failed to operationalize the umbrella authorities to regulate transport.
- **Vehicular Exhaust causing Pollution:** As per a WHO study, 14 out of top-15 most-polluted cities in the world are in India. Rising pollution levels also translate into economic losses. As per current estimates the World Bank, the losses amount to 7.7% of the nation's GDP.
- **Traffic Congestion**: Vehicles in some metros move at an average speed of 17kph. The congestion on the **roads doesn't exist in silos, and its adverse effects are carried forward to productivity and economic growth**. As per the BCG-Uber report, the combined estimate of losses caused due to congestion in the top-four metro cities of India is worth more than $22 billion per annum.
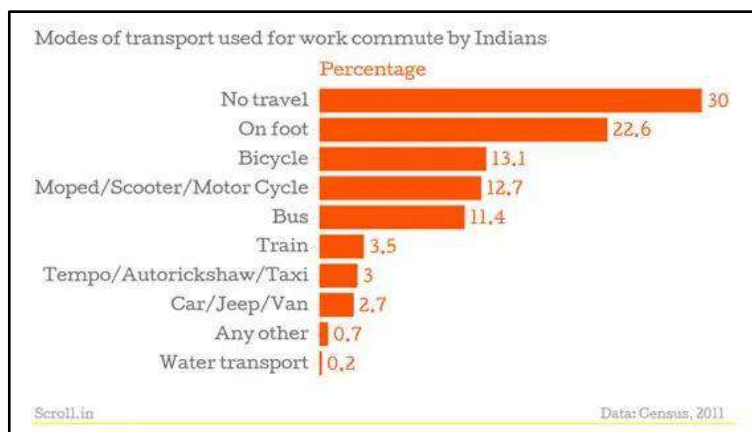
- **Multi-purpose use of roads in business zones**: Roads in cities are multi-purpose public goods, used by various classes of motorized and non-motorized vehicles to travel, park, street-selling etc. **Non-transportation uses of the roadway** do slow down motorized vehicles.
- **Innovative Products still at nascent stage: Common mobility cards** that would help citizens use bus, train and feeder networks seamlessly were **largely in pilot** project mode even before the pandemic
- **Expensive Mass Transport**: There is valid criticism that the existing paradigm is one of "**exclusionary urbanization**", which makes **Metro and bus services expensive for the majority,** particularly for those forced to live in the suburbs due to housing costs, and sometimes making the per kilometer cost of using a two-wheeler more attractive.
- **Poor Recognition of Urban areas**: Census 2011 showed that the number of Census Towns, which are urban for census purposes but not named urban local bodies, grew tremendously over a decade. They lack access to funding, infrastructure and capacity to meet the needs of large populations even now.

Government Initiatives

- **National Urban Transport Policy (NUTP**) emphasizes the development of **public transportation system and plans to increase their share to at least 50 percent** of all motorized trips.
- The Government has come up with numerous initiatives ranging from Make in India, FAME (Faster Adoption and Manufacturing of Electric Vehicles), Green Mobility Fund, and Smart Cities, to the recently announced projects in high-speed mobility, namely high-speed trains and the proposed Hyperloop connectivity.
- **JNNURM (Jawaharlal Nehru National Urban Renewal Mission**) focus on transport sector funding various projects for transport infrastructure development.
- Cities are **coming with new transport systems such as Bus Rapid Transit(BRT)** and rail-based projects like Metro, Light Rail Transit(LRT) and Monorail.
- A **10 lakh crore National Transport Master Plan is on working** which aimed at a smooth movement of passengers and freight across multiple modes of transport.
- A lot of discussions has taken place over the **feasibility and profitability of High-Speed Rail(HSR) Network.**
- The **idea of the Electric vehicle has been promoted**. The ministry of power has announced an all-electric car fleet in India by 2030.
- The government has turned its **attention to Transit Oriented Development which focuses on micro development focusing on transit** nodes which result in improved ease of access to transit facilities. This will also encourage citizen to prefer walking and choosing public transport over using private vehicles.

Niti Ayog Suggestions

- **Clean**: Pollution-free, leading to clean air and hence better health and living standards
- **Convenient**: **Seamless, safe, affordable, accessible for** all sections including the elderly & disabled and connected – both in terms of technology as well as connecting key rural and urban centers
- **Congestion-free**: **Minimum congestion levels, and hence** enhanced economic efficiency
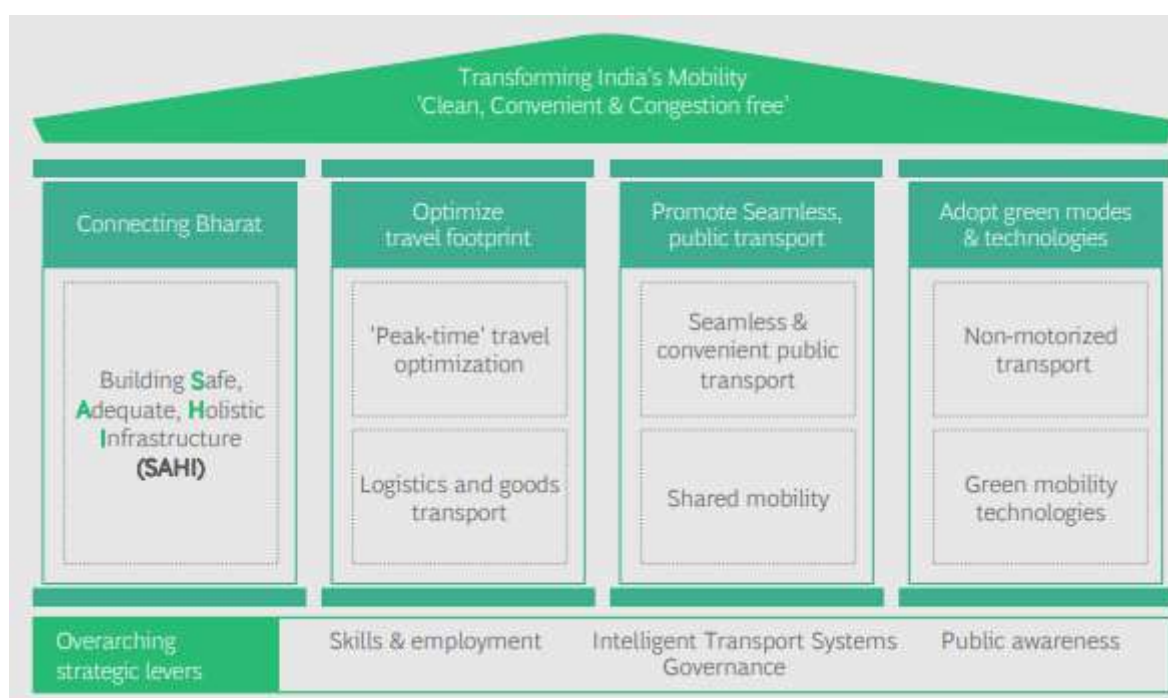
Issues with Government Initiatives

- Presently, **there is no legislation at central, state or local level that comprehensively covers urban transport requirements of Indian** cities. The current systems of laws, regulations and governance for urban transport are the legacy of an era when Indian cities were sparsely populated and had not yet witnessed the kind of transport problems they are encountering today.
- **Fragmented Institutional Frameworks:** Urban transport systems require several functions to be performed in a well-coordinated manner for seamless and comfortable travel experience for commuters. Unfortunately, these are performed by multiple agencies under the central, state and city governments which do not necessarily work together.
- **Distorted land markets** affecting transport infrastructure development**: Very high costs of land acquisition** along with arduous and **time-consuming processes** are a major barrier for planning integrated urban transport infrastructure. About 70 per cent of delays in all infrastructure projects in **2008 were due to problems related to land acquisition**.
- **Comprehensive design standards for transport infrastructure**: **lacking Common standards for design, operation and maintenance of transport infrastructu**re and rolling stock are relatively absent in India. Even if there are existing standards for road construction or metro systems, they are not mandatorily applied during design and construction.
- **Human Resource challenges**: Urban transportation is a complex system as it constitutes several activities, stakeholders and processes. Unfortunately, **the capability for undertaking a coordinated approach along with a holistic understanding of transport issues and their causes involved is generally lacking at the state government** and city level.
- **Absence of reliable transport data**: The absence of a database with scientific management and **analysis of urban transport statistics has severely constrained** the ability to formulate sound urban transport plans and reliably assess the impact of the different projects carried out in the cities.

Suggestions

- **Re-aligning legal and regulatory instruments**: sustainable urban transport vision in India can occur only through an enabling constitutional and regulatory framework.
- **Institutional Restructuring:** Innovative ideas and integrated policies towards sustainable transport need strong supporting institutional and governance structures.
- **participatory mechanisms must** be in place to ensure that planning and investment decisions are socially inclusive, and engage public in a shared common vision for their city and neighbourhoods.
- the central government should **house an empaneled set of experts, also called the Office of Transport Strategy (OTS)**. The role of OTS would be to create standards for urban transport performance as well as provide technical and managerial expertise to states and city authorities engaged in urban transport.
- **Creation of a separate new Ministry of Urban Transport** at state government/union territory level that is headed by the secretary is recommended. Land use and transport functions from other state departments at urban agglomerations should be transferred to this new ministry.

GLOBAL NUTRITION REPORT   GS-II SOCIAL JUSTICE

Context
- India has made no progress on anaemia and childhood wasting according to the 2021 Global Nutrition Report.

Findings of the Report
Global
- The world **off track to meet five out of six global maternal, infant and young children nutrition (MIYCN) targets**, on stunting, wasting, low birth weight, anaemia and childhood overweight.
- Globally, **149.2 million children under 5 years of age are stunted**, 45.4 million are wasted and 38.9 million are overweight.
- Over **40% of all men and women (2.2 billion people) are now overweight** or obese.
- The world is also off track for meeting all diet-related non-communicable disease (NCD) targets, on salt intake, raised blood pressure, adult obesity and diabetes.
- Key global targets and systematic **monitoring exclude diet, despite its health and environmental impacts.**
- No global targets are **set to address micronutrient deficiencies (with the exception of anaemia), despite their importance** for health and development.
- There is also no specific target that captures malnutrition among children and adolescents.

India
- Over **half of Indian women in the age group 15-49 years are anaemic**.
- There has been a rise in anaemic Indian women since 2016. In 2016, 52.6 per cent of Indian women were anaemic. But in 2020, 53 per cent were found to be anaemic.
- India is **also among 23 countries that have made no progress** or are worsening on reducing 'childhood wasting'.
- India is '**off-course' in meeting 7 of the 13 global nutrition** targets.

- Some 6.2 per cent of adult (aged 18 years and over) women and 3.5 per cent of adult men are living with obesity.
- India is **among 53 countries 'on course' to meet the target** for stunting.
- India does not have adequate data on prevalence of 'low birth weight'.

Suggestions
- Global nutrition monitoring **must expand to key targets for improving diets and health that go beyond micronutrient deficiencies**, hunger and excess weight.
- Stakeholders and commitment-makers must give special attention to nutrition action that supports equitable, healthy and sustainable diets for all.
- **Traditional forms of financing for nutrition – external and domestic –** must be sustained and increased, while other sources of financing – particularly innovative and private – need to step up.
- **Countries must be better supported to leverage new tools that drive efficiency and effectiveness** of investments to maximize the impact of available financing.
- **Better and more granular data is needed**, including on financing, to fully understand the current state of nutrition, inform effective action, and ensure that impact can be measured and monitored.

About Global Nutrition Report
- It was **conceived following the first Nutrition for Growth Initiative Summit (N4G) in 2013**.
- The first **report was published in 2014**.
- It acts as a report card on the world's nutrition—globally, regionally, and country by country—and on efforts to improve it.
- It is a multi-stakeholder initiative, consisting of a Stakeholder Group, Independent Expert Group and Report Secretariat.

COVID 19 AND GENDER   *GS-II SOCIAL JUSTICE*

Context
- Recently UNESCO released a new study, 'when schools shut', exposing the gendered impact of Covid-19 school closures on learning, health and well-being.

Finding of the Study
- Girls and boys, **young women and men were affected differently by school closures**, depending on the context.
- At the peak of the COVID-19 pandemic, 1**.6 billion students in 190 countries were affected by school closures.**
- Educational disruption of this extent **has alarming effects on learning loss and school dropout.**
- It poses threats to gender equality, including effects on health, well-being and protection that are gender specific.
- Gender norms **and expectations can affect the ability to participate** in and benefit from remote learning.
- schools are sites **not only for learning, but also lifelines for girls and boys –** an essential space for their health, well-being and protection.

Different Impact on Girls than boys
- Girls faced difficulties in **engaging in digital remote learning modalities in many contexts because of limited access to internet-enabled devices**, a lack of digital skills and cultural norms restricting their use of technological devices.
- "In poorer contexts, girls' t**ime to learn was constrained by increased household chores**. Boys' participation in learning was limited by income-generating activities.
- In the study on Pakistan, **only 44 per cent of girls in participating districts reported owning mobile phones for their personal** use, whereas 93 per cent of boys did so.
- **Girls access to parent's phone was restricted since** some parents were concerned that providing girls with access to smartphones would lead to misuse and could result into romantic relationships.

Government Initiatives
- **DIKSHA (one nation, one digital platform)is the nation's digital infrastructure for providing quality e-content** for school education in states/UTs and QR coded Energized Textbooks for all grades are available on it.
- One **earmarked Swayam Prabha TV channel** per class from 1 to 12 (one class, one channel).
- **Extensive use of Radio, Community radio and CBSE Podcast-** Shiksha Vani.
- Special **e-content for visually and hearing impaired developed on Digitally Accessible Information System (DAISY**) and in sign language on NIOS website/ YouTube.
- Further, the current provisions of 20 per cent Online courses in a programme, as per **provisions of UGC SWAYAM and ODL Regulations** to be enhanced up to maximum 40 per cent for implementation considering "National interest during COVID-19" and also to ensure effective utilization of e-resources.

- Various digital initiatives are also undertaken by Ministry of **education viz. SWAYAM ("Study Webs of Active-Learning for Young Aspiring Minds"), SWAYAM Prabha, National Digital Library (NDL), Virtual Lab, e-Yantra, NEAT (National Education Alliance for technology), FOSSEE (Free Open-Source Software for Education**) etc to ensure quality education to the students.
- To improve the internet connectivity in rural areas **the CSC e-Governance Services India Ltd (CSC-SPV) of MEITY has been assigned the task of providing Fibre to the Home (FTTH) connectivity** to the Government Institutions, including schools.

Way Forward
- Government must **work with all the stakeholders to focus** specifically on the girl child.
- **Targeted monitoring** of the every girl child needs to be taken to ensure learning.
- Parents needed to be **make aware about importance of girl child education** through advertisement.

PMGKAY   GS-II   SOCIAL JUSTICE

Context
- Odisha government has urged the Centre to consider extending additional allocation of rice at least for the next eight months under Pradhan MantriGaribKalyan Anna Yojana (PMGKAY) for its free distribution.

About
- Pradhan Mantri**GaribKalyan Anna Yojana (PM-GKAY) is a scheme as part of Atmanirbhar Bharat to supply free food grains to migrants** and poor.
- Its **nodal Ministry is the Ministry of Finance**.
- It was initially announced for a three-month period (April, May and June 2020), covering 80 crore ration cardholders. Later it was extended till November 2020.

Eligibility for the Scheme
- Families **belonging to the Below Poverty Line – Antyodaya Anna Yojana (AAY)** and Priority Households (PHH) categories will be eligible for the scheme.
- PHH are to be **identified by State Governments/Union Territory Administrations** as per criteria evolved by them.
- **AAY families are to be identified by States/UT**s as per the criteria prescribed by the Central Government:
- Households headed by widows or terminally ill persons or disabled persons or persons aged 60 years or more with no assured means of subsistence or societal support.
- Widows or terminally ill persons or disabled persons or persons aged 60 years or more or single women or single men with no family or societal support or assured means of subsistence.
- **All primitive tribal households**.
- Landless agriculture laborers, marginal farmers, rural artisans/craftsmen such as potters, tanners, weavers, blacksmiths, carpenters, slum dwellers, and persons earning their livelihood on daily basis in the informal sector like porters, coolies, rickshaw pullers, hand cart pullers, fruit and flower sellers, snake charmers, rag pickers, cobblers, destitute and other similar categories in both rural and urban areas.
- All eligible Below Poverty Line families of HIV positive persons.

Challenges in such demands
- Affects the budget planning as budget needed to be cut from some where else to fund these activities.
- Enhances populism in society.
- Brings difficulty in following of the sunset clause which will make parties reluctant to launch such schemes in future.
- It will continue the market distortion affecting the production and supply of food grains by the private player.
- Such Policies on the top of Food Security act will increase the food subsidy budget directly affecting the fiscal deficit.

Way Forward
- Government must converge this policy with the food security act and one nation one card.
- Poor states must be allotted more quota of food grains to deal with the poor population.

NUTRITION SMART VILLAGES   GS-II   SOCIAL JUSTICE

Context
- Programme on "Nutrition Smart Village" will be initiated to strengthen the PoshanAbhiyan.

About the Programme

- This new initiative aims to reach out to 75 villages across India through the network of All **India Coordinated Research Project on Women in Agriculture (AICRP-WIA) which** is in operation at 13 centers in 12 States of India.
- Under the initiative, a **total of 75 villages will be adopted by AICRP centers and ICAR-CIWA.**

Objectives:

The objectives of the initiative are

- promoting nutritional awareness,
- education and behavioural change in rural areas involving farm women and school children,
- harnessing traditional knowledge through the local recipe to overcome malnutrition
- implementing nutrition-sensitive agriculture through homestead agriculture and Nutri-garden.

Implementation:

- To achieve the goal of Malnutrition free villages, intensive awareness campaigns and field activities will be undertaken for focusing on the concept of Nutri-village / Nutri-food / Nutri-diet/ Nutri-thali etc. for strengthening the PoshanAbhiyan.
- Awareness among the women farmers will also be created about their legal rights.

Scenario of Malnutrition in India

- Despite decades of investment to tackle this malaise, **India's child malnutrition rates** are still one of the most alarming in the world.
- The **Global Hunger Index (2021)** — which is calculated on the basis of total undernourishment of the population, child stunting, wasting and child mortality — places India at the **101st spot among 116 countries.**
- The bane of child and maternal malnutrition is **responsible for 15% of India's total disease burden.**
- According to the data from the **fifth round of National Family Health Survey (NFHS) (2019-2021)** from the 22 states surveyed so far, only 9 showed a decline in the number of stunted children, 10 in wasted children and six in underweight children.

SUSTAINABLE EVIDENCE BASED NUTRITION SENSITIVE INTERVENTIONS

NUTRITION CAMPS — **15-day Nutrition Camp** Screening for undernutrition in children (6-36 months), followed by capacity building of mothers of the malnourished children on infant feeding, hygiene and care practices.

NUTRITION GARDEN & SIFS — **Sustainable Integrated Farming System (SIFS)** Developing home-based nutrition gardens focusing on integrating crops-trees-aquatic system-bird-livestock so that all the resources are optimally used to increase dietary diversity, reduce cost in food production, consume safe food, and increase income through marketable surplus. The approach ensures improving natural resources, like forest etc., around the village to include uncultivated food in the diet.

LANN+ — **Linking Agriculture and Natural Resource Management towards Nutrition Security (LANN)** Facilitating PLA based meeting cycles to sensitize communities on the immediate, underlying and basic causes of malnutrition. The knowledge and skills acquired through the meetings support the community to plan, take actions, and evaluate the status of food security in the village in terms of availability, access, utilization, and stability.

NSMP — **Nutrition Sensitive Micro Planning (NSMP)** Supporting communities to prepare village development plans that are inclusive, especially catering to the needs of the families with undernourished women and children. Sensitized families then plan the use of their resources to maximize food production, maintain personal and environmental hygiene and demand legal entitlements.

STRENGTHENING INSTITUTION — **Strengthening institutions** Support village institutions, SHGs and local committees to be informed, skilled and able to monitor the good practices, make service providers accountable and help people access their rights.

- Research suggests that USD 1 spent on nutritional interventions in India could generate USD (34.1 to 38.6) in public economic returns three times more than the global average.
- Studies reveal that **India loses up to 4% of its Gross Domestic Product (GDP) and up to 8% of its productivity** due to child malnutrition.

About Nutrition Smart Village

- There is **no hunger and food insecurity**.
- **Community is aware of the linkages between agriculture, natural resources, WASH,** income and nutrition education with nutrition.
- **Every child receives home cooked balanced diet** in appropriate frequency and consistency.
- An active village committee **which promotes interconnections between agriculture, natural resources, WASH, nutrition, and protection of** natural habitats.
- **Families grow and buy safe, seasonal** and locally produced food. Communities control the local 'haat' or market by creating the demand for safe and environment friendly products.
- The community **valueuncultivated foods and traditional recipes**.
- Every family has access to safe drinking water.
- Every family maintains safe sanitation and hand washing practices.
- Communities are aware of the government schemes and entitlements and can demand for theirrights and entitlements.

Impact of Nutrition Smart Village

- Reduction in hunger and food security

- Focus on sustainable agriculture and sustainable lifestyle.
- Healthy outcomes in terms of decline in malnutrition, increase in health.
- Shift from monoculture of wheat and rice to variety of foods.

About PoshanAbhiyaan
- POSHAN Abhiyaan is an **overarching umbrella scheme to improve the nutritional outcomes for children, pregnant women and lactating mothers**.
- It does by holistically addressing the multiple determinants of malnutrition and attempts to prioritize the efforts of all stakeholders **on a comprehensive package of intervention and services targeted on the first 1000 days of a child's life**.
- It seeks to do so through an appropriate governance structure by leveraging and intensifying the implementation of existing programs across multiple Ministries while at the same time trying to rope in the expertise and energies of a whole range of other stakeholders – State Governments, Communities, Think tanks, Philanthropic Foundations and other Civil Society Actors.

Targets
- It aims to reduce **child stunting, underweight and low birth weight by 2 percentage points per annum and anaemia** among children (and young females) by 3 percentage points per annum.
- It is based **on 4 pillars Ensuring access** to quality services across the continuum of care to every woman and child; particularly during the first 1000 days of the child's life.

4 Pillars
- **Ensuring convergence of multiple programs and schemes:** ICDS, PMMVY, NHM (with its sub components such as JSY, MCP card, AnaemiaMukt Bharat, RBSK, IDCF, HBNC, HBYC, Take Home Rations), Swachh Bharat Mission, National Drinking water Mission, NRLM etc.
- **Leveraging technology** (ICDS-CAS) to empower the frontline worker with near real time information to ensure prompt and preventive action; rather than reactive one.
- **Jan Andolan**: Engaging the community in this Mission to ensure that it transcends the contours of being a mere Government programme into a peoples' movement inducing large scale behaviour change with the ownership of the efforts being vested in the community rather than government delivery mechanisms.

Successful Case Study
- Osmanabad district has stood first in Maharashtra in implementing the Centre's 'poshan abhiyaan' and bringing down the number of malnourished kids as well as stunting among children.
- The schemes were implemented by the child and women welfare department of the Osmanabad ZP through 'bachat gats' (self-help groups), Anganwadi workers, their officers and public participation.

GLOBAL DRUG POLICY INDEX 2021

GS-II   SOCIAL JUSTICE

Context
- The **inaugural Global Drug Policy Index**, has been **released by the Harm Reduction Consortium.**

Finding of the report
- Norway, New Zealand, Portugal, the UK and **Australia as the five leading countries on humane and health-driven drug policies.**
- The **five lowest-ranking countries are Brazil, Uganda, Indonesia, Kenya, and Mexico.**
- **India's rank is 18 out of 30 countries.**

About the Index

- It is a data-driven global analysis of drug policies and their implementation.
- It is composed of 75 indicators running across five broad dimensions of drug policy: criminal justice, extreme responses, health and harm reduction, access to internationally controlled medicines, and development.
- It is a project of the Harm Reduction Consortium.
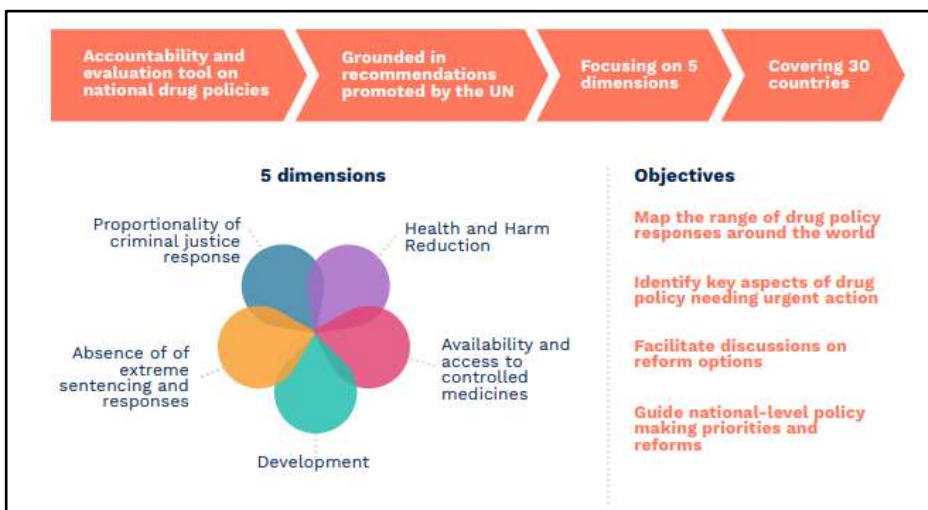
Indian Score

- India **has an overall score of 46/100**.
- On the criteria of use of extreme sentencing and responses, it has a score of 63/100,
- on health and harm reduction, 49/100;
- on proportionality of criminal justice response, 38/100;
- on availability and access of internationally controlled substances for the relief of pain and suffering, 33/100.

Key Takeaways from the report

- The global dominance of drug policies based on repression and punishment has led to low scores overall, with a median score of just 48/100, and the top-ranking country (Norway) only reaching 74/100.
- Standards and expectations from civil society experts on drug policy implementation vary from country to country.
- Inequality is deeply seated in global drug policies, with the top-ranking 5 countries scoring 3 times as much as the lowest-ranking 5 countries. This is in part due to the colonial legacy of the 'war on drugs' approach.
- Drug policies are inherently complex: a country's performance in the Index can only be fully understood by looking across and within each of the dimensions.
- Drug policies disproportionately affect people marginalized on the basis of their gender, ethnicity, sexual orientation and socio-economic status.
- There are wide disparities between state policies and how they are implemented on the ground.
- With a few exceptions, the meaningful participation of civil society and affected communities in drug policy processes remains severely limited.

CREATIVE CITY NETWORK   *GS-II   SOCIAL JUSTICE*

Context

- Srinagar joins UNESCO Creative Cities Network (UCCN).

Details

- Srinagar has joined UNESCO's network of creative cities and has been designated as a creative city of craft and folk arts.
- Along with Srinagar, 49 cities have newly joined the Creative Cities Network in recognition of their commitment to placing culture and creativity at the heart of their development and to sharing knowledge and good practices.
- Other Indian cities that are in the network are:
- Chennai and Varanasi – UNESCO cities of music
- Jaipur – UNESCO city of crafts and folk arts
- Mumbai – UNESCO city of film
- Hyderabad – UNESCO city of gastronomy
- Currently, UCCN has 295 cities in 90 countries.
- By joining the UNESCO Creative Cities Network (UCCN), cities commit to sharing their best practices and developing partnerships involving the public and private sectors as well as civil society in order to strengthen the creation, production, distribution and dissemination of cultural activities, goods and services.
- They also pledge to develop hubs of creativity and innovation and broaden opportunities for creators and professionals in the cultural sector.
- The UCCN was created in 2004 to promote cooperation with and among cities that have identified creativity as a strategic factor for sustainable urban development.

Art & Craft of Srinagar

- Textiles, carpets and rugs, crewel embroidery, silverware, woodwork and papier-mâché are main art & craft of Srinagar.
- In fact, after **tourism, handicraft is a major source of livelihood** for many artisans in Kashmir.
- There is already a **huge demand for Kashmiri handcrafted** products abroad.
- **papier-mâché is based** primarily on creating colourful utility and decorative objects using paper pulp — vases, bowls, cups, boxes, trays and lamp bases.
- The **best-quality shawls** in the world are still made of pashmina, the wool of the wild Asian mountain goat.
- The region is also the **epicentre of high-quality, intricately woven woollen** material like shawls, carpets and rugs.

Impact of the Tag

- give global recognition to Srinagar
- help in getting international funding,
- making tie-ups with craft universities,
- pitching crafts as products.

SWARNAJAYANTI FELLOWSHIPS SCHEME   GS-II   SOCIAL JUSTICE

Context

- 17 scientists from across India were awarded Swarnajayanti Fellowships.

About the Swarnajayanti Fellowship Scheme

- Govt. of India had instituted a scheme "The Swarnajayanti Fellowships" to commemorate India's fiftieth year of Independence.
- Under this scheme a selected number of young scientists, with proven track record, are provided special assistance and support to enable them to pursue basic research in frontier areas of science and technology.
- The fellowships are scientist specific and not institution specific, very selective and have close academic monitoring.
- It is a research fellowship in India awarded annually by the Department of Science and Technology (GOI) for notable and outstanding research by young scientists, applied or fundamental, in biology, chemistry, environmental science, engineering, mathematics, medicine and physics.
- It was instituted in 1997.
- The selected scientists are provided special assistance and support to enable them to pursue basic research in frontier areas of science and technology.
- The fellows' projects may also be funded by the Science & Engineering Research Board (SERB).
- The duration of the fellowship will not exceed five years.

About Science and Engineering Research Board (SERB):

- It is a statutory body and is established through an Act of Parliament: SERB Act 2008, Government of India.
- The Organization aims to uplift science and engineering in India, in a manner that it can contribute majorly in the economic growth of the country.
- It is the premier research funding agency in India.
- Its functions include:
  o Investigating and identifying the major areas of development and research
  o Maintaining a disciplinary link between academic institutions, research labs, and industries promoting Science and Technology
  o Monitoring the development and implementation of various research projects

Impact of it on Research

- Increase the Per Capita spending on the research
- Encourage meritorious students to undertake research
- Curtail the brain drain by letting people do research in India
- Enhance the research output of the universities
- Improve indian universities rank in global ranking framework thus attracting more students

LEGAL PROTECTION TO MARGINALIZED SECTION OF SOCIETY   GS-II   SOCIAL JUSTICE

Context

- Supreme Court Judge Justice U ULalit has expressed **the need to ensure legal protection to the marginalized sections of the society.**

Existing Mechanism

- **State legal Services Authority** is bound to ensure legal aid to the weaker sections of the community, including women and children.
- But, results do not reach the beneficiaries as they are not aware of the existence of the schemes.
- Legal Services Authority is d**uty bound to arrange facilities to ensure that legal aid activities are reaching to the eligible people thr**ough the Legal Services Institutions.
- The service of the Legal Services Institutions shall reach every nook and corner of the State.
- **Constitution provides free legal aid** to each and every eligible citizen.
- Hence there should be programmes for making the beneficiaries capacitated enough to avail the benefits by providing awareness.

Constitutional Provision regarding legal aid

- **Article 39A of the Constitution** of India provides that State shall secure that the operation of the legal system promotes justice on a basis of equal opportunity, and shall in particular, provide free legal aid, by suitable legislation or schemes or in any other way, to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disability.
- **Articles 14 and 22(1) also make it obligatory** for the State to ensure equality before law and a legal system which promotes justice on a basis of equal opportunity to all.
- Legal aid strives to ensure that constitutional pledge is fulfilled in its letter and spirit and equal justice is made available to the poor, downtrodden and weaker sections of the society.

National Legal Service Authority

- **The National Legal Services Authority (NALSA) has been constituted under the Legal Services Authorities Act, 1987** to provide free Legal Services to the weaker sections of the society and to organize LokAdalats for amicable settlement of disputes.
- In every State, **State Legal Services Authority has been constituted to give effect to the policies and directions of the NALSA** and to give free legal services to the people and conduct LokAdalats in the State.
- The State Legal Services Authority is headed by Hon'ble the Chief Justice of the respective High Court who is the Patron-in-Chief of the State Legal Services Authority.
- In every District, **District Legal Services Authority has** been constituted to implement Legal Services Programmes in the District.
- The District Legal Services Authority is situated in the District Courts Complex in every District and chaired by the District Judge of the respective district.

Challenges faced by Marginalised section

- Women **continue to face multiple barriers in accessing justice and obtaining** redressal of their grievances.
- People with disabilities have had to battle against centuries of biased assumptions, harmful stereotypes, and irrational fears.
- Margianalised section are **not aware of the laws** and intricacies involved with the law.
- Only legal provision cant help them until **there is change in the attitude**.
- There exist **several barriers to justice in the form of financial, geographic, linguistic**, logistical, or gender-specific.
- There is **lack of courts** in the rural and remote areas of the country.
- Access to justice has become out of reach of above mentioned people due to different reasons for example, abject poverty, social and political backwardness, illiteracy, ignorance, procedural conventions and the cost.

Way Forward

- More ADR centers should be **created for settling disputes out-of-court especially in rural** and tribal areas.
- Emphasis must be put on **improving quality and quantity** of justice in the form of better **prepared defense attorneys, more citizen-oriented court staff, more reasonable hours, better information about the justice system** and more no. of courtrooms in each district.
- Masses must be made aware about complex legal procedures and rights and reliefs provided to them under Constitution as well as under other statutes.

Provision of free legal aid may include

- **Payment of court fee, process fees and all other charges payable** or incurred in connection with any legal proceedings;
- **Providing Advocate in a legal proceeding**;
- **Obtaining and supply of certified copies of orders** and other documents in legal proceedings.
- **Preparation of appeal, paper book including printing and translation** of documents in legal proceedings.
- **Rendering of any service in the conduct of any case or other legal proceeding** before any court or other Authority or tribunal.
- **Giving of advice on any legal matter**.

About LokAdalat

- LokAdalat is a forum where the **disputes/cases pending in the court of law or at pre-litigation stage are settled/compromised** amicably.
- The LokAdalat has **been given statutory status** under the Legal Services Authorities Act, 1987.
- Under the said Act, the award made by the LokAdalats is **deemed to be the decree of a civil court and is final and binding on all parties** and no appeal lies before any court against its award.

16TH G-20 SUMMIT   *GS-II   INTERNATIONAL RELATIONS*

Context

- The 16th G20 Summit was **hosted by Italy in Rome**. The theme chosen by Italy for their Presidency of the G20 is **'People, Planet, Prosperity' with a focus on four broad thematic areas-**
- Recovery from the pandemic and global health governance;
- Economic recovery and resilience
- Climate Change
- Sustainable Development and Food Security.

Key Highlights

- **Global Health Summit** (in partnership with the EU), **First ever G20 Joint meeting of the Foreign and Development Ministers**, a **standalone meeting of the Development Ministers focused on food security**, the **first meeting of G20 Research Ministers**, a **Ministerial Conference on Women's Empowerment**, a joint meeting of the Health and Finance Ministers.
- **Rome Declaration** was adopted which called for promotion of strong multilateral cooperation towards ending the COVID-19 pandemic and supporting recovery, and to continue contributing joint efforts to better prevent, detect and respond to global health risks and emergencies.
- On efforts to mitigate the pandemic, **focus was on vaccine production and distribution**, with assurances of support to WHO's target of inoculating 40% of the global population by 2021.
- Signed the **'Matera Declaration on Food Security and Nutrition'** to address issues of food security, malnutrition, and hunger by focusing on transformation of the agriculture sector.
- Also endorsed the **Final Political Agreement** on a two pillar solution to address tax challenges, marking the most significant global tax reform in over a century which will mandate multinational companies to pay a minimum tax of 15% in the countries of their operation.
- **Extraordinary Leaders' Summit on Afghanistan** to discuss the G20's role in responding to the crisis in Afghanistan.
- On climate change, **G20 recommitted to providing $100 billion a year toward adaptation, mitigation, and green technologies**, focusing on the needs of developing countries.

Rome Declaration

- It is consists of **16 mutually agreed principles, which aims to guide joint action for preventing future health crises and to build a safer, equitable and sustainable world**.
    1. Supporting and enhancing the existing multilateral health architecture for detection, response, prevention and preparedness.
    2. Working towards monitoring & implementation of multi-sectoral, evidence-based One Health approach in a bid to address risks emerging due to interface between human, animal & environment.
    3. Fostering all-of-society and health-in-all policies.
    4. Promotion of multilateral trading system
    5. Enabling equitable, affordable and global access to high-quality, safe & effective health systems.
    6. Supporting low and middle-income countries in a bid to build expertise, and develop local & regional manufacturing capacities.
    7. Focus on data sharing, capacity building, voluntary technology and licensing agreements.
    8. Enhancing support to existing preparedness and prevention structures.
    9. Investing in worldwide health & care workforce
    10. Investing in adequate resources, training, and staffing of diagnostic public & animal health laboratories.
    11. Investments for developing and improving inter-operable early warning surveillance, information, and trigger systems
    12. Investments in domestic, international & multilateral cooperation for the purpose of research, development & innovation
    13. Increasing effectiveness of preparedness & response measures by extending support and promoting meaningful & inclusive dialogue
    14. Ensuring effectiveness of financing mechanisms
    15. Coordination on pharmaceutical and non-pharmaceutical measures and emergency response with respect to sustainable and equitable recovery
    16. Addressing the need of streamlined, enhanced, sustainable and predictable mechanisms for financing pandemic preparedness, prevention, detection and response in long term.

About G20

- Group of G20 (G20) comprises **Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, and the United States along with the European Union.**
- G20 members currently account for **more than 80% of world GDP, 75% of global trade, and 60% of the global population.**
- It was **founded in 1999 after the Asian financial crisis** as a forum for the Finance Ministers and Central Bank Governors to discuss global economic and financial issues.
- The G20 was later **upgraded to the level of Heads of State/Government and was designated the "premier forum for international economic cooperation".**
- Since 2011, the G20 Summit is held annually, under the leadership of a rotating Presidency.

Organisational Structure

- G20 **does not have a charter or a secretariat**.
- The Presidency, aided by the countries holding the Presidency before and after it (Troika), is responsible for setting the agenda of each year's Summit.
- The G20 process is led by the Sherpas of member countries, who are personal emissaries of the Leaders.
- G20's **work is divided into two tracks: the Finance Track and the Sherpa Track**.
- There has been a tradition of inviting a few non-G20 member countries as guests as well international organisations. **Spain is a permanent invitee**.

Achievements for India at G20 2021 Summit

- India achieved major success as it, along with other developing nations, was **able to introduce the language on what actions are required to be taken, especially by the developed countries, to achieve the energy and climate goals, according to people familiar with the development.**
- G20 committed to the key **goal of limiting global warming to 1.5 degrees Celsius**.
- For the first time, G20 **identified sustainable and responsible consumption and production as "critical enablers" in achieving the goal**. The inclusion was in line with PM Modi's vision of promoting the mantra of sustainable lifestyles all over the world.
- In a big win for farmers, India pushed for and was able to **obtain a commitment from G20 nations on improving livelihoods for small and marginal farmers.**

India and G20

- India has been a **founding member of G20 process** and has played an active role in proposing new ideas and finding solutions.
- Some of the proposals that India made in the previous G20 summits:
- **International action on terrorism** is needed.
- **Dealing with the economic offenders** who often commit the crime in one country and flee to another to escape the legal process at home.
- G20 has come up with the **Base Erosion and Profit Sharing (BEPS) framework**.
- Although the benefits of digital technologies are well-known, there are certain issues such as **privacy, data security and digital governance** which are to be properly understood.

Importance of G20

- G-20 summit **gives host countries a chance to push for progress on issues they care about**. For example, Italy is keen on empowering women economically.
- G20 **works with developing countries, particularly low-income countries to support them in implementing their nationally driven policies and priorities** to fulfil internationally agreed development goals.
- G20 plays a **critical role in creating an enabling environment for inclusive global growth and development.**
- Its **work on ensuring financial stability, promoting growth and avoiding and managing crises is critical in supporting the opportunities.**
- Other issues it addresses include the **advancement of women in the job market, the 2030 Agenda for Sustainable Development, climate change, global health, anti-terrorism and inclusive entrepreneurship, among others.**

Achievements of G20

- Quick deployment of **emergency funding during the 2008 global financial crisis**.
- Reforms such as **BEPS project and implementation of tax transparency standards.**
- Improving **oversight of national financial institutions**.
- G20 has taken many measures to **support economies and supply chains during COVID.**
- G20 nations committed to **pump more than $5 trillion into the global economy and contribute to the WHO-led COVID-19 solidarity response fund.**
- G20 played a critical role in the **ratification of the Trade Facilitation Agreement.**

Challenges faced by G-20

- **South Africa still is the only African G-20 country**, when it comes to climate issues, Africa is crucial.
- G20 **lacks an objective framework to set goals and measure progress toward them**.
- **Not all resolutions passed at the G20 Summit are fully implemented** as only 10% of world countries are included in G20 decision-making, thereby denting the organization's authority.
- G20 **authority is also weakened since some major members sometimes fail to fulfil their commitments** (e.g., the delay of the IMF reform due to resistance from the U.S. Congress).

Way forward

- A **membership update could be useful, especially in view of the urgency to address climate change.**
- There should be **continuity of issues taken up in the previous presidencies along with appreciation of new issues in the subsequent presidencies.**
- G20 should **strengthen its ties with the UN** to give the Organisation and all of its relevant institutions full agency in promoting development.
- **Redoubled efforts are also needed in fields like infrastructure and food security so as to address the North-South imbalance.**

INDIA- NEPAL TIES
GS-II INTERNATIONAL RELATIONS

Context

- Nepal's former Prime Minister pledged to "take back" the territories of Kalapani, Limpiyadhura and Lipulekh from India through dialogue if his party comes back to power.

Lipulekh pass

- It is a far western point near Kalapani, a disputed border area between Nepal and India. Both India and Nepal claim Kalapani as an integral part of their territory — India as part of Uttarakhand's Pithoragarh district and Nepal as part of Dharchula district.

Story so far

- The bilateral ties came under strain under then Prime Minister Oli after **India opened an 80-km-long strategically crucial road connecting the Lipulekh pass with Dharchula** in 2020.
- Nepal protested the inauguration of the road claiming that it **passed through its territory**.
- Days later, Nepal came out with a **new map showing Lipulekh, Kalapani and Limpiyadhura as its territories.**
- India reacted sharply, calling it a "**unilateral act**" and cautioning that **such "artificial enlargement" of territorial claims will not be acceptable to it.**

Unchanging perspectives

- The Nepal-India relationship has never been free of controversy as the perspectives of both sides are yet to change.
- Nepal government **amended the Nepal map** to add new territory to deflect attention from the poor management of the COVID-19 pandemic by his government.
- Nepal wanted to discuss the map with India but the latter did not provide any time for a discussion.
- India continues to think that by providing largesse to Nepal in the form of aid and development projects, it can win Nepali hearts.
- But despite pouring billions of rupees into Nepal over decades, it has still not been able to do so. Therefore, it needs to reflect on what it is not doing right.

Two issues that need to be addressed

- First, **Indian aid is seen in Nepal as a favour** bestowed on a constituency it wants to garner support from rather than a contribution to Nepal's planned development.
- Second, **India competes with China in providing aid outside government budgets**. And China picks up projects of visibility and strategic location. Chinese involvement in Nepal has increased since the April 2015 earthquake and **Nepal is surely an area of strategic influence in China's Belt and Road Initiative.**

People-to-people ties

- In the past two decades, two significant changes have happened in this area.
- First, **Indian workers in Nepal constitute a big part of the workforce** and send about $3 billion to India every year. **In terms of remittances to India, Nepal ranks eighth**. So, the Government of India needs to keep in mind that many households in India are being run with remittances from Nepal.
- Second, the **new Nepal is comprising of young people with global aspirations**. Nearly three-fourths of the population of Nepal is under 35 years of age. **India needs to engage beyond its current constituency and Nepal needs to plan how it engages with the youth in mainland India.**

Conclusion

- There are some fundamentals that we simply cannot forget: **geography will not change, the border will remain open as millions of livelihoods on both sides depend on it, and China is going to be a big global player with varied interests in the neighbourhood**.
- Therefore, the India-Nepal relationship has to be recalibrated.

QUAD   *GS-II INTERNATIONAL RELATIONS*
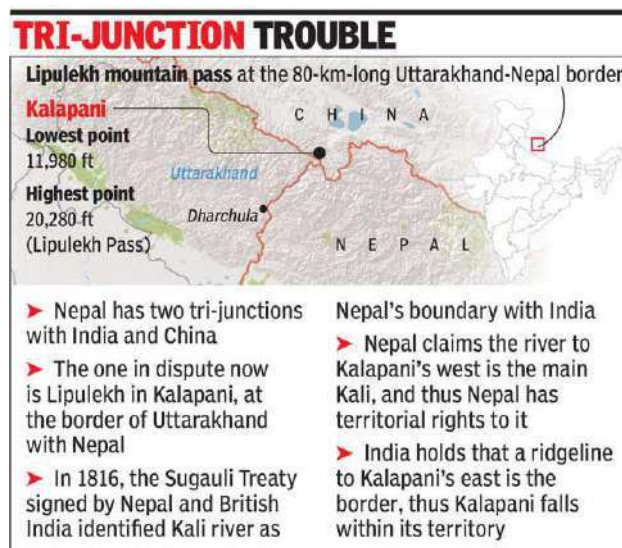
Context
- Japan has agreed to host a meeting of the Quad next year. The four-nation group, technically called the Quadrilateral Security Dialogue, comprises of the **United States, India, Australia and Japan.**

About QUAD
- It is a bloc of countries positioning itself as a **check against China's growing aggression in the Indo-Pacific and outside.**
- India is a "critical and crucial" member of the Quad.

Background
- In the aftermath of Indian Ocean tsunami of **2004, Australia, Japan, India, and America formed a Regional Core Group in 2004.**
- Then **Japanese PM Shinzo Abe** proposed an "**Arc of Freedom and Prosperity" in 2006.**
- The first meeting of the initial Quad was held in **May 2007 as officials gathered for the ASEAN Regional Forum meeting.**
- Japanes PM Shinzo Abe after returning to office called for a **"democratic security diamond," a Quad 2.0.**

The QUAD 2.0
- The move to set up the quadrilateral also comes in the **backdrop of growing Chinese assertiveness in the South China Sea and China's aggressive posturing.**
- Since its revival in late 2017, the Quad met twice a year in 2018 and 2019.
- In New York in September 2019, the four countries held the first ministerial-level meeting of the Quad "to discuss collective efforts in shared commitments and close cooperation on counter terrorism, mentoring, assistance in disaster relief, airtime security, cooperation, development, finance and cybersecurity efforts."

Significance of quad- grouping
- All four nations **share a deep interest in maintaining a stable balance of power in the Indo-Pacific** and preventing a regional state from becoming dominant.
- All four states share an interest in **deterring the use of forceful or coercive practices to resolve political and territorial disputes in the region.**
- All four states are committed to the current **rules-based economic order** in the Indo-Pacific. This is based on free trade, open investment environments, open competitive tendering, the rule of law, and standards of good governance from which all continue to benefit.
- All four nations support to **strengthen liberal democratic governance** within the Indo-Pacific. The region has not been immune to the global decline in observance of political rights and civil liberties.

How is china responding to quad?
- China's endeavour is to conflate the Quad with the Indo-Pacific vision, and link both to the so-called China Containment Theory.
- In 2016, China itself established a **Quadrilateral Cooperation and Coordination Mechanism with Afghanistan, Pakistan and Tajikistan.**
- More recently, China has established **Quadrilateral Cooperation with Pakistan, Afghanistan and Nepal.**
- The strategic community in China, nevertheless, had branded it an emerging "Asian NATO".

Quad Nations and China
- **USA** had followed a policy to contain China's increasing influence in East Asia. Therefore, USA **sees the coalition as an opportunity to regain its influence in the Indo-Pacific region.**
- **Australia** is concerned about China's growing interest in its land, infrastructure and politics, and influence on its universities.
- **Japan** has expressed concerns related to **China's territorial transgression in the region**.
- China's violation of international norms, particularly its **construction of military facilities on reclaimed islands** in the South China Sea, and its growing military and economic power, pose a **strategic challenge to India.**

QUAD Significance for India
- <u>**Act East Policy:**</u> It gives a **powerful platform to advance its interests in East Asia,** coordinate strategies with powerful friends and add more strength to its Act East initiative.

- It will **deepen India's ties with US, Australia and Japan** and will provide New Delhi significant leverage in shaping US policies in Afghanistan-Pakistan to the benefit of India.
- Through QUAD India seeks to reassert rule based world order to **counter China's growing power and assertion**.
- **Defence-related spending reduced** in this time of COVID pandemic and associated with lockdowns, Quad will provide heavyweight to India's interests.
- <u>Sustainable Development in the Indian Ocean Region</u>: India holds the responsibility to act as the net security provider in the Indian Ocean region.
- <u>Issue-based alliance or minilateralism</u>: India has moved beyond non-alignment towards an issue-based alliance with no formal agreements. Therefore, joining Quad will be in line with the present foreign policies of the government.

Challenges

- **Translating intent into action** will require a strengthening of ties in existing fields, as well as non-traditional areas such as cyber/information security, energy and climate change, disaster management, etc.
- Poor Indian and Japanese financial and logistical bandwidth to competitively invest in the IPR compounds the Quad's shortcomings.
- **Complex economic relationships between the Core Quad and China –** for all Quad members, China is either the first or the second largest trading partner, or a key import/export partner.
- If the Quad begins a **Quad-plus initiative**, it will not only be confronting these challenges, but will also have to contend with other issues such as disputes even amongst members, and differing dispositions towards China.

Challenges for India

- **Non-alignment:** India is abandoning its "sacred" tradition of non-alignment.
- **Trustworthiness of US**: US military alliances with Japan and the Philippines has not provided any challenge to Chinese aggression in the region.
- **No clarity on objectives:** India wants advancing the security and economic interests of all countries having legitimate and vital interests in the Asia-Pacific region whereas US is pitching for mutating the Indo-Pacific Quad into a more formal security grouping modeled on NATO.
- **Individual visions of the Indo-Pacific:** It would be difficult to align the combined vision of the grouping with that of their individual visions regarding Indo-Pacific.
- **Internal economic changes**: If India wants to engage the Quad partners on reforming the China-centred economic globalisation, it also requires to engineer many changes on trade-related aspects, which might prove to be difficult, given India's drive for self-reliance

Recommendations for greater collaboration among quad member governments in the years to come

- **Establish Working Groups On Defense And Infrastructure**: Broadening the current Quad format of foreign ministry senior official-level meetings to include representatives from defense ministries would be a necessary first step toward creating a whole-of-Quad "working 2+2."
- **Develop An Indo-Pacific Infrastructure And Development Coordination Working Group:** it would ensure that all four Quad nations are committed to creating a roadmap to sustainable, high-quality infrastructure for developing countries.
- It would further permit the streamlining of various inter- Quad infrastructure initiatives, including the Japan India sponsored Asia-Africa growth corridor.
- Pursue An Annual Meeting Of Joint Operational Commands And Encouragement Of Exchanges:
- Add **Crisis Response, Humanitarian Aid, And Disaster Relief to the Quad's Agenda**.
- **Appeal To ASEAN**: The Quad should seek to harness consensus with ASEAN as a whole, promoting cooperation in the shared interests among the two.
- **2+2 And Malabar**: Three of the four Quad countries enjoy ministerial-level "2+2" defense and foreign ministers dialogues with one another. India and Australia should upgrade their "2+2" to the ministerial level to close the loop and complete the square.
- **Boost Non-Traditional Security Cooperation:** elevating collaboration on mine-sweeping technologies, anti-piracy operations, pollution control, pandemic responses, joint escorts of international shipping, force structuring, coast guard collaboration, counter-proliferation initiatives, and exchange of information on white shipping.
- Expand Cooperation On Space And Maritime Domain Awareness

INDIA AND AFGHANISTAN TIES

Context
- Several countries including the United Arab Emirates, Germany, Japan and the European Union begin to discuss the possibility of re-staffing embassies in Kabul, New Delhi is considering its options on its presence in Afghanistan.

Does it means recognizing the Taliban regime?
- Recognition for the Taliban is still "far away" and not even being "remotely considered" by Indian government.
- Establishing a presence in Afghanistan has nothing to do with recognition.
- It simply means to have people on the ground dealing with the new regime, to continue engagement with the people.

India and Afghanistan bilateral relations
Why relations with Afghanistan matters?
- Afghanistan has been a **key player in Asian geopolitics** owing to its geostrategic and geopolitical location.
- Being situated at the **crossroads of the Middle East, Central Asia and the Indian subcontinent**, it has been a transit and transport hub since the ancient Silk route.
- In the context of global affairs, its central location and borders with six other nations including Iran, Pakistan, China, Turkmenistan have made it a hot-bed for conflict and cooperation.

Historical background
- India and Afghanistan have a strong relationship based on historical and cultural links.
- The relationship has its foundations in the historical contacts and exchanges between the people.
- In recent past, India-Afghanistan relations have been further strengthened by the **Strategic Partnership Agreement**, which was signed between the two countries in October 2011.

> **Strategic Partnership Agreement (SPA)**
> - The Strategic Partnership Agreement (SPA) between the two sides, provides for **assistance to help rebuild Afghanistan's infrastructure and institutions, education and technical assistance to re-build indigenous Afghan capacity** in different areas, encouraging investment in Afghanistan's natural resources, **providing duty free access to the Indian market for Afghanistan's** exports support for an Afghan-led, Afghan-owned, broad-based and inclusive process of peace and reconciliation, and advocating the need for a **sustained and long-term commitment to Afghanistan** by the international community.

Political relations
High Level Visits
- Prime Minister of India visited Herat in 2016 and inaugurated the **Afghan-India Friendship Dam, earlier known as Salma Dam.**
- Prime Minister along with a high level delegation paid a visit on 25 December 2016 to inaugurated the newly built **Afghan Parliament** with approx INR 970 crore; announced new **500 scholarships for the children** of the martyrs of Afghan Security Forces and gifted four **Mi-25 Attack helicopters** to the Afghan Air Force.
- President Ghani paid a working visit to India in 2018 and expressed satisfaction at the increase in **bilateral trade that had crossed the US $ 1 billion** mark. He expressed determination to strengthen connectivity between the two countries, including through Chabahar port and Air-Freight Corridor.
- It was agreed to **deepen the 'New Development Partnership'** in the areas of high impact projects in this field of infrastructure, human resources development and other capacity building projects in Afghanistan.
- India agreed to implement important new projects such as the
- **Shahtoot Dam and drinking water project for Kabul that would also facilitate irrigation; water supply for Charikar City;**
- **road connectivity to Band-e-Amir in Bamyan Province that would promote tourism;**
- **low cost housing for returning Afghan refugees in Nangarhar Province to assist in their resettlement;**
- **a gypsum board manufacturing plant in Kabul to promote value added local industry development and import substitution;**
- **a polyclinic in Mazar-e-Sharif** among others.
- In addition, India also committed to take up additional 116 **High Impact Community Development Projects** in 34 provinces of Afghanistan. These projects will be in areas of education, health, agriculture, irrigation, drinking water, renewable energy, flood control, micro-hydro power, sports and administrative infrastructure.

Commercial Relations
- Given the geographical proximity and historical linkages, India has been a **natural trading partner for Afghanistan** and is the **largest market in South Asia** for its products.

- The total bilateral trade between India and Afghanistan for CY 2019-20 was at **US$ 1.5 billion**.
- Difficulties in transit via Pakistan was a major hurdle in expanding the trade ties.
- In order to expand trade to India, the Afghan government in collaboration with Government of India launched a **dedicated Air Freight Corridor** on 19 June 2017.
- Operationalization of the Chabahar Port in December 2017, followed by commercial agreement to manage port operations in February 2018, clearly demonstrate the feasibility of Chabahar Port as a transit point for Afghanistan and eventually to Central Asia.

Afghanistan-India Culture Relations

- There have been several exchanges of artistes and music troupes over the past few years.
- In addition to the above people to people exchanges, the two Governments came together to establish an **India- Afghanistan Foundation (IAF)** in 2007.
- IAF is a trust fund which finances projects aimed at fostering India-Afghanistan relations through enhancement of economic, scientific, educational, technical as well as cultural cooperation.

Sports Cooperation

- India and Afghanistan have robust relations in the field of sports.
- Since 2011, Afghanistan Under-14 & Under-17 Boys' and Under-17 Girls' **football** teams have been participating in the Subroto Cup International Tournament organised every year by the India Air Force.
- **Cricket** has been a major factor in promoting people-to-people ties between the two countries. Afghanistan Cricket Board (ACB) has been alloted three cricket home grounds in India (Noida, Dehradun and Lucknow).
- India is also involved in **construction cricket stadiums** and grounds in various provinces of Afghanistan.

High Impact Community Development Projects (HICDP)

- Since 2005, India and Afghanistan have partnered in the area of community development through the HICDP program.
- Under this scheme, US$ 120 mn has been committed till date to various small to medium scale projects in areas such as education, health, water management, government buildings, sport facilities, agriculture and irrigation, etc.
- Around 433 High Impact Community Development Projects have been completed with Indian financial support in all 34 provinces of Afghanistan so far and around 110 projects are ongoing in various provinces of Afghanistan.
- During FY 2019-20, 37 projects were completed in various provinces of Afghanistan under the High Impact Community Development Project (HICDP) scheme of Government of India.

Human Resource Development and Capacity Building

- Human resource development and capacity building initiatives constitute an important segment of India's assistance in Afghanistan.
- On an average, more than **3,500 Afghan nationals undergo training/education in India every year.**
- More than 15,000 Afghan students pursue education in India on self-financing basis.
- India's assistance in human resource development has helped to create a large pool of trained manpower that has been an asset to both the public and private sectors in Afghanistan.

Humanitarian Assistance

- Major humanitarian assistance by India to Afghanistan in recent years include the following:
- To combat the global pandemic of COVID-19 and related issues of food security, India is committed to **deliver 75,000 MT of Wheat to Afghanistan** in 2020.
- In addition, India has also undertaken supply of **5 lakh tablets of Hydroxy-chloroquinine**, 1 Lakh tablets of Paracetamol and 50,000 pairs of surgical gloves to Government of Afghanistan in 2020.
- To promote food security, particularly children during the times of drought, India has distributed 2000 tonnes of pulses to Afghanistan in 2018.
- A **Medical Diagnostic Centre** in Kabul was set up in 2015. The Centre provides latest diagnostic facilities to children of Afghanistan thereby generating goodwill for India.

Indian Diaspora in Afghanistan

- Presently, there are estimated to be about **1710 Indians in the country**.
- Most of the Indians in Afghanistan are engaged as professionals in Banks, IT firms, construction companies, hospitals, NGOs, telecom companies, security companies, universities, Govt. of India sponsored projects, Govt. of Afghanistan and UN Missions.

Conclusion

- India has invested heavily in peace and development in Afghanistan and believes that the gains of the last two decades must be preserved and the interests of minorities, women and vulnerable sections must be ensured.
- As an important stakeholder, India must looks forward to walk hand in hand with the people of Afghanistan and world community in working towards a peaceful, prosperous, sovereign, democratic and united Afghanistan.

INDIA AND BANGLADESH TIES

GS-II INTERNATIONAL RELATIONS

The story so far

- The **India-Bangladesh CEO Forum** will meet soon for the first time, even as the two countries work towards finalising a **Comprehensive Economic Partnership Agreement (CEPA)** to deepen trade and economic ties as partners rather than competitors.

How has India's relationship with Bangladesh played out over the years?

- The friendship between India and Bangladesh is **historic, evolving over the last 50 years**.
- India's **political, diplomatic, military and humanitarian support** during Bangladesh's Liberation War played an important role towards Bangladesh's independence.
- **Post-Independence**, the India-Bangladesh relationship has oscillated as Bangladesh passed through different regimes.
- The relationship **remained cordial until** the assassination of Bangladesh's founding President Sheikh Mujibur Rahman in August 15, 1**975**, followed by a period of military rule and the rise of General Ziaur Rahman who became President and also assassinated in 1981.
- It **thawed again between 1982-1991** when a military-led government by General H.M. Ershad ruled the country.
- In the **last decade**, India-Bangladesh relations have warmed up, entering a new era of cooperation, and moving beyond historical and cultural ties to become more assimilated in the areas of trade, connectivity, energy, and defence.

Major Achievements of Indo-Bangla cooperation

- Bangladesh and India have achieved the rare feat of **solving their border issues peacefully** by ratifying the historic Land Boundary Agreement in 2015, where enclaves were swapped allowing inhabitants to choose their country of residence and become citizens of either India or Bangladesh.
- The Bangladesh government led by Prime Minister Sheikh Hasina **has uprooted anti-India insurgency elements from its borders, making the India-Bangladesh border one of the region's most peaceful**, and allowing India to make a massive redeployment of resources to its more contentious borders
- Bangladesh is **India's biggest trading partner in South Asia** with exports to Bangladesh in FY 2018-19 at $9.21 billion and imports at $1.04 billion.
- India has **offered duty free access to multiple Bangladeshi products**. Trade could be more balanced if non-tariff barriers from the Indian side could be removed.
- On the development front, **cooperation has deepened,** with India extending **three lines of credit** to Bangladesh in recent years amounting to $8 billion for the construction of roads, railways, bridges, and ports.
- Bangladeshis make up a **large portion of tourists in India,** outnumbering all tourists arriving from western Europe in 2017, with one in every five tourists being a Bangladeshi.
- Bangladesh accounts for **more than 35% of India's international medical patients and contributes more than 50% of India's revenue from medical tourism.**

What are irritants in INDO-Bangladesh relationship?

- Proposed countrywide **National Register of Citizens (NRC) and the Citizenship Amendment Act (CAA)** passed last year.
- Bangladesh had cancelled visits by ministers, and Hasina has expressed reservations about CAA. She commented that the CAA and the proposed nationwide NRC are **"internal matters"** of India, the CAA move was **"not necessary"**.

How have relations between Bangladesh and China been developing?

- "**China is the biggest trading partner of Bangladesh** and is the foremost source of imports.
- In 2019, the trade between the two countries was $18 billion and the trade is heavily in favour of China,"
- Recently, **China declared zero duty on 97% of imports from Bangladesh**. The concession flowed from China's duty-free, quota-free programme for the Least Developed Countries.
- India has provided developmental assistance worth $10 billion, but **China has promised around $30 billion worth of financial assistance to Bangladesh** to overcome India assistance.
- **Bangladesh's strong defence ties with China** makes the situation complicated. China is the biggest arms supplier to Bangladesh and it has been a legacy issue. Bangladesh forces are equipped with Chinese arms including tanks, missile

launchers, fighter aircraft and several weapons systems. Recently, Bangladesh purchased two Ming class submarines from China.

How has India been engaging with Bangladesh post CAA?

- In the wake of the Ladakh standoff, **India has become more sensitive to Chinese defence inroads into Bangladesh.**
- India and Bangladesh have cooperated on pandemic-related moves. Hasina contributed $1.5 million in India's regional emergency fund for fighting Covid-19 and India **provided medical aid to Bangladesh.**
- The two countries have also **cooperated in railways**, with India giving 10 locomotives to Bangladesh.
- The **first trial run for trans-shipment of Indian cargo through Bangladesh to Northeast states under a pact on the use of Chittagong and Mongla ports took place** in July.
- However, in recent weeks, Pakistan PM call to Hasina raised eyebrows in Delhi. While Islamabad portrayed it as a **conversation on Kashmir,** Dhaka said it was about **cooperating to deal with Covid-19.**

How has India sought to address China's latest move?

- During recent diplomats meeting with Hasina, "**security-related issues of mutual interest**" were discussed.
- The visit tried to address **issues on areas that have emerged as potential irritants in the relationship.**
- Bangladesh expressed "deep concern" at the rise in killings at the Indo-Bangladesh border by "BSF or Indian nationals" during the first half of this year, and the Indian side assured that the BSF authorities have been sensitised of the matter.

Among other issues

- The two sides **agreed that Implementation of projects should be done in a timely manner**, and that greater attention is required to development projects in Bangladesh under the Indian Lines of Credit.
- Bangladesh **sought return of the Tablighi Jamaat members impacted by the lockdown in India**, and early release of the 25 Bangladeshi fishermen in custody in Assam. India assured Bangladesh that its nationals would be able to return soon.
- Bangladesh requested for **urgent reopening of visa issuance from the Indian High Commission in Dhaka**, particularly since many Bangladeshi patients need to visit India.
- India was also requested to **reopen travel through Benapole-Petrapole land port, which has been halted by the West Bengal government in the wake of the pandemic.**
- Bangladesh told that it is ready to collaborate in the development of a Covid-19 vaccine, including its trial, and looks forward to early, affordable availability of the vaccine when ready.

What is the way ahead?

- While the **Teesta project is important and urgent from India's point of view,** it will be difficult to address it before the West Bengal elections due next year.
- Now, the test will be if India can implement all its assurances in a time-bound manner.
- Or else, the latent anti-India sentiment in Bangladesh —, which has been revived after India's CAA -NRC push — threatens to damage Dhaka-New Delhi ties.

ANTIBIOTIC CONSUMPTION RATES

Context

- Global antibiotic consumption rates increased by 46% in the last two decades, according to a study covering 204 countries from 2000 to 2018, and published in the Lancet Planetary Health by the Global Research on Antimicrobial Resistance (GRAM) Project.

The key findings

- **10-fold:** Variation between countries in total antibiotic consumption rates, ranging from as low as 5 DDD to 45.9 DDD per 1000 population per day.
- **46% up:** Between 2000 and 2018, global antibiotic consumption rates increased from 9.8 to 14.3 DDD per 1000 population per day).
- **76%** Increase observed between 2000 and 2018 in low- and middle-income countries (from 7.4 to 13.1 DDD per 1000 per day). In high-income countries, consumption rates remained stable.
- **116%** Increase in antibiotic consumption rates in South Asia. The second largest increase was in the North Africa and Middle East region (111%).

Concerns

- Antibiotics are now becoming ineffective as many infectious diseases have ceased to respond to antibiotics.
- Common bugs have developed a variety of mechanisms to develop antimicrobial resistance (AMR).

Reasons behind antimicrobial resistance (AMR)

- Indiscriminate use of antibiotics.
- It is a man-made disaster. Irresponsible use of antibiotics is rampant in human health, animal health, fisheries, and agriculture. They are used as growth promoters in animals.
- Over two-thirds of the antibiotics manufactured by the pharmaceutical industry are used as growth promoters for poultry and cattle.
- The common public purchases more than half without a doctor's prescription, according to WHO.
- The pipeline for the discovery, development, and dissemination of new antibiotics has virtually dried out.
- No new class of antibiotics has been discovered in the past three decades.

Impact of antimicrobial resistance (AMR)

- It has the potential to make fatal even minor infections.
- Complex surgeries such as organ transplantation and cardiac bypass might become difficult to undertake because of untreatable infectious complications that may result post-surgery.
- Inaction in containing AMR is likely to result in annual mortality reaching 10 million people and a 3.5% fall in global GDP by 2050.

Government Approach

- The Sustainable Development Goals have articulated the importance of containing AMR.
- Inter-country development agencies (WHO, FAO, and World Organisation for Animal Health) developed a **Global Action Plan on AMR.**
- India developed its **National Action Plan on AMR (NAP) in 2017.**
- It is based on the One Health approach, which means that human health, animal health, and the environment sectors have equal responsibilities and strategic actions in combating AMR.
- The **FAO has assisted India in forging the Indian Network for Fishery and Animals Antimicrobial Resistance** for the generation of reliable data on the magnitude of the problem and monitoring trends in response to control activities.

Final Thoughts

- There is a need for higher coordination between the state authorities and the centre as health is state subject.
- There is an urgent need to augment capacity for regulatory mechanisms, infection control practices, and diagnostics support.

CCI MARKET STUDY ON PHARMA SECTOR

GS-II HEALTH

Context
- The Competition Commission of India (CC) has recommended the **creation of a National Digital Drugs Databank** and strict enforcement of drug quality standards to boost price competition among generic drugs in India.

CCI Findings
- The market for generic drugs is driven by brand competition instead of price competition despite such drugs being functionally and chemically identical.
- Pharmaceuticals including generic drugs account for about 43.2 per cent of out of pocket healthcare expenditure in India and about 62.7 per cent of the total health spending in the country.
- Manufacturers focus on increasing sales volume bidding up trade margins for retailers thereby incentivizing them to push for the sale of their brands.

CCI'S PHARMA STUDY TO FOCUS ON…
- Discount policy in wholesale and retail distribution
- Role of trade associations
- Regulatory rationalisations of margins
- Impact of e-commerce on pricing
- Hurdles to entry in bio-similar drugs

Suggestions to boost price competition among generic drugs
Drug Quality
- A pre-requisite for competition in generics to move from non-price to price dimension is to dispel concerns about drug quality.
- A multi-pronged and harmonised regulatory response is required to address the issue of drug quality, including setting up a national digital drugs database.
- Another suggestion is to have an institutional quality-signalling mechanism through the printing of standard compliance marks on unbranded drugs, which meet the quality standards.
- This will provide the necessary confidence to the physician community to prescribe generic names.
- This can also boost consumer confidence in unbranded generic drugs.

Addressing Information asymmetry
- A comprehensive, online, **centralised drug databank consolidating real-time data** on active pharmaceutical manufacturing companies in the country, therapeutic class wise/formulation-wise approved branded/unbranded products along with their manufacturing and marketing entities may be created, maintained, and made accessible to regulators, industry, physicians and consumers.
- Such anational digital drugs databank **will help in addressing "information asymmetry"** as well as provide key inputs in mapping the regulatory needs of different states.
- Information gaps on grant of licences, inspections and prosecutions for non-compliance, among others, could be bridged through real-time data that could be published on a central online portal.

Promotion
- **Promotion/ facilitation of generic entry, prescription by generic drug name and substitution between generics** by chemists, which are reckoned as vital pro-competitive instruments, can yield the desired outcome of exposing pharmaceutical expenditure to significant price competition.

Transparency
- Uniform and effective implementation of existing quality standards, better transparency, quality control across the supply chain as well as in public procurement are among the other suggestions.

Online Pharmacies
- About online pharmacies, such entities should adopt self-regulatory measures in the areas of collection, use, sharing of data and privacy.
- However, for safeguarding patient privacy and protecting sensitive personal medical data, necessary regulations need to be enforced until the country legislates its data protection law

About CCI
- The Competition Commission of India (CCI) is the **chief national competition regulator in India.**
- It is a **statutory body within the Ministry of Corporate Affairs** and is responsible for enforcing the Competition Act, 2002 in order to promote competition and prevent activities that have an appreciable adverse effect on competition in India.
- The CCI looks into cases and investigate it if the same has negative impact on competition
- CCI also approves combination under the act so that two merging entities do not overtake the market
- The commission was established in 2003.

CENTER FOR NANOTECHNOLOGY AND CIKS

GS-II HEALTH

Context

- Union Education Minister inaugurated the state-of-the-art Centre for Nanotechnology (CNT) and Centre for Indian Knowledge System (CIKS) at IIT Guwahati.

About

- Centre for Nanotechnology (CNT) aims at meeting future challenges and augment academic partnerships with industry in Nanotechnology.
- The key outcomes expected from the Centre for Nanotechnology include
  - nano-enabled healthcare,
  - energy harvesting,
  - LED prototypes,
  - devices and technologies,
  - start-ups/ incubation ecosystem,
  - high-end R&D outputs,
  - capacity building of highly skilled manpower in the area of nanofabrication and
  - nanoelectronics, etc.
- Centre for Indian Knowledge System (CIKS) will focus on preserving, documenting and sustaining the knowledge that is unique to India.
- The top priorities include Indian classical music, Yoga, Sanskrit, traditional medicines, temple architecture, ceramic tradition and special agricultural practices of North-East India, herbal plants of north-east as health food and metal work of Assam.

Nanotechnology

- Nanoscience and nanotechnology are the study and application of extremely small things and can be used across all the other science fields, such as chemistry, biology, physics, materials science, and engineering.
- Nanotechnology is the understanding and control of matter at the nanoscale, at dimensions between approximately 1 and 100 nanometers, where unique phenomena enable novel applications.
- In the International System of Units, the prefix "nano" means one-billionth, or 10^{-9}; therefore one nanometer is one-billionth of a meter.

APPLICATIONS OF NANOPARTICLES

Few examples and applications of Nanotechnology

- Nanotechnology and nano-materials can be applied in all kinds of industrial sectors. They are usually found in these areas:

Electronics

- Carbon nanotubes are close to replacing silicon as a material for making smaller, faster and more efficient microchips and devices, as well as lighter, more conductive and stronger quantum nanowires. Graphene's properties make it an ideal candidate for the development of flexible touchscreens.

Energy

- A new semiconductor developed by Kyoto University makes it possible to manufacture solar panels that double the amount of sunlight converted into electricity. Nanotechnology also lowers costs, produces stronger and lighter wind turbines, improves fuel efficiency and, thanks to the thermal insulation of some nano-components, can save energy.
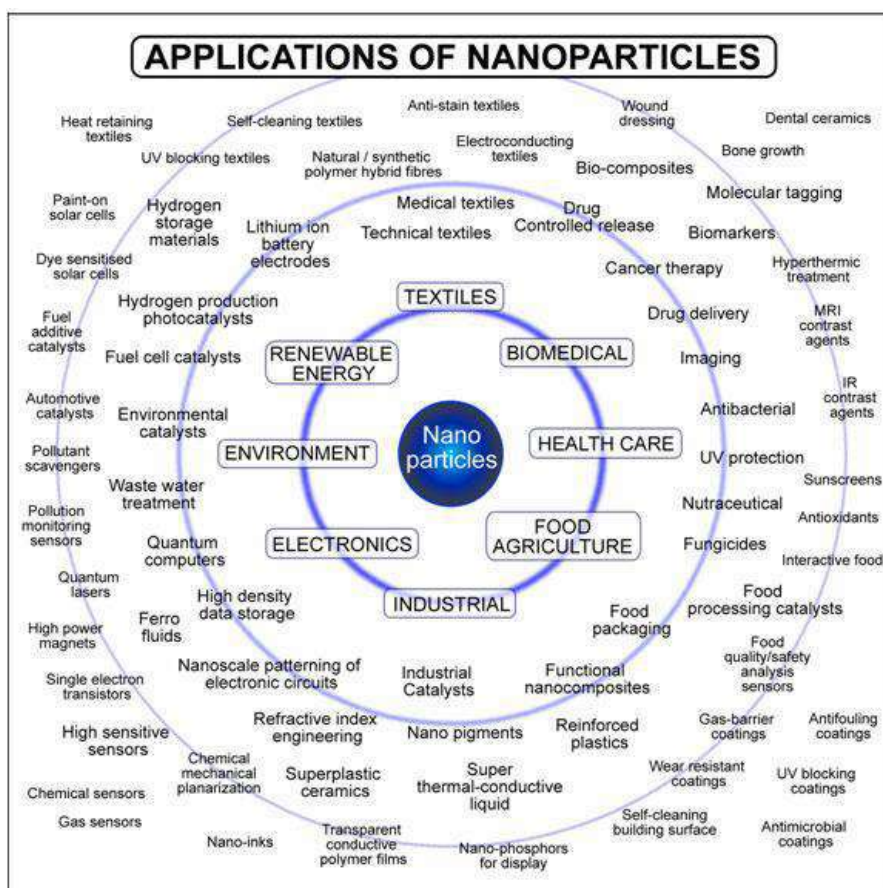
Biomedicine

- The properties of some nano-materials make them ideal for improving early diagnosis and treatment of neurodegenerative diseases or cancer.
- They are able to attack cancer cells selectively without harming other healthy cells.
- Some nanoparticles have also been used to enhance pharmaceutical products such as sunscreen.

Environment

- Air purification with ions, wastewater purification with nano-bubbles or nano-filtration systems for heavy metals are some of its environmentally-friendly applications.
- Nano-catalysts are also available to make chemical reactions more efficient and less polluting.

Food

- In this field, nanobiosensors could be used to detect the presence of pathogens in food or nanocomposites to improve food production by increasing mechanical and thermal resistance and decreasing oxygen transfer in packaged products.

Textile

- Nanotechnology makes it possible to develop smart fabrics that don't stain nor wrinkle, as well as stronger, lighter and more durable materials to make motorcycle helmets or sports equipment.

Nanotechnology and India

Origin and Fields in India

- Nanotechnology **originated in India around 16 years back.**
- It is in its early development phase. This new sphere of scientific innovation has a broader scope.
- The three chief divisions of Nanotech are Nanoelectronics, Nanomaterials, and Nano-Biotechnology.
- The **implications of Nanotechnology in India can be found in the field of telecommunications, computing, aerospace, solar energy, and environment.**
- Nanotech's major contribution can be seen in the **computing, communication and, medical field**.

Medicine

- Nanomedicine is the most important field of Nanotechnology.
- The nano level gadgets and materials are used for diagnosing and treatment of diseases.
- Nano-Pharmacology has generated a specific category of smart drugs that affect negligible side effects.

Crime Detection

- The use of Nanotech has also helped in the detection of narcotics and fingerprints of the suspected criminals.

Research

- The Council of Scientific and Industrial Research, also known as CSIR has set up 38 laboratories in India dedicated to research in Nanotechnology.

Other

- Nano-technology can be used in diagnostic kits, improved water filters and sensors and drug delivery.
- The research is being conducted on using it to reduce pollution emitted by the vehicles.

Final Thoughts

- Looking at the progressive prospects Nanotechnology has certainly acquired an essential position in the Indian Economy and Scientific Research Department and it is expected to reach the pinnacle of Development thereby making India a role model for the countries of the world.

NATIONAL FAMILY HEALTH SURVEY-5- VITAL STATS
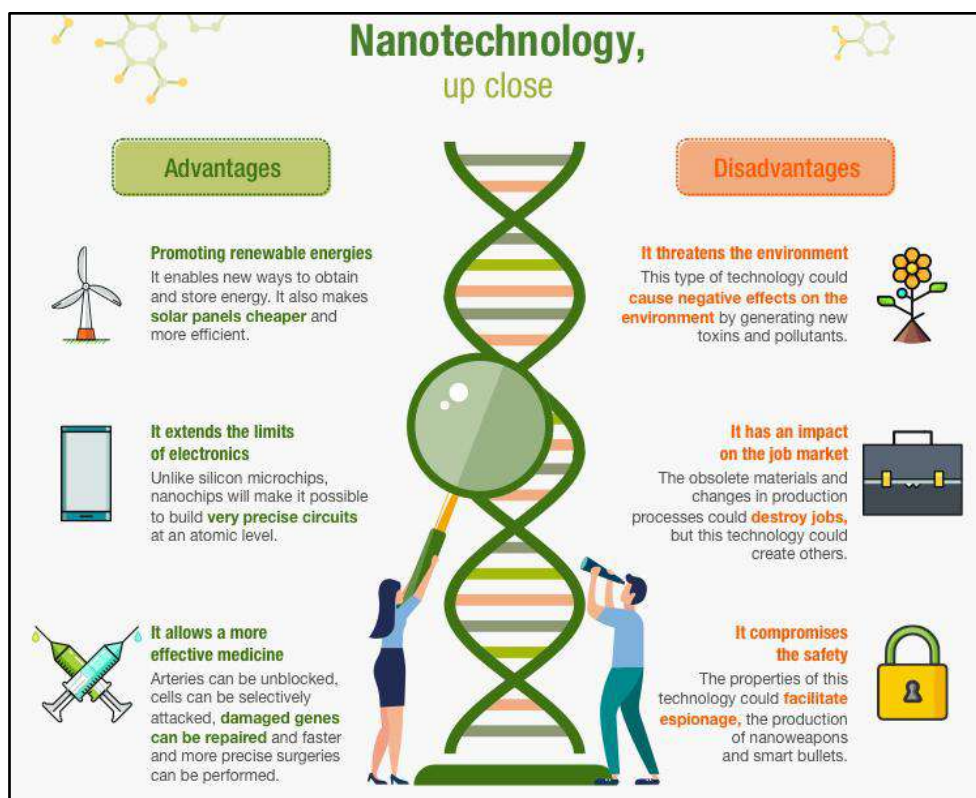
Context

- NFHS-5, the most **comprehensive survey on socio-economic and health indicators** in the country, shows some **surprising demographic transitions**.
- The previous four rounds of the NFHS were conducted in 1992-93, 1998-99, 2005-06 and 2015-16.

Major Outcomes of the Survey

Births in institutional facilities

- Such as a hospital, improved by nearly eight percentage points.

Stunting and wasting

- Children who were either stunted or displayed signs of wasting only dropped by a **maximum of three percentage points**, shows a comparison of National Family Health Survey-5 (NFHS-5) and NFHS-4.
- Slow and steady progress is seen on stunting, which seems to be coming from change happening in big States such as Uttar Pradesh and others.

Total fertility rate (TFR)

- India has also officially hit a **total fertility rate (TFR) of 2.0** that indicates a **decrease from the 2.2** in the NFHS-4.
- According to the United Nations Population Division, a TFR of about 2.1 children per woman is called **replacement-level fertility**.
- If replacement level fertility is sustained over a sufficiently long period, each generation will exactly replace itself.
- The **urban TFR is 1.6** and the **rural TFR is 2.1.**
- **Only six States:** Bihar, Meghalaya, Manipur, Jharkhand and Uttar Pradesh have a TFR above 2.0.
- This is a significant feat for the country's family-planning programme, which does not include coercive policies.
- These findings bust the **population-explosion myth** and show that India must steer away from coercive measures of population control.
- While the increase in the use of modern contraceptive methods is heartening, an increase in female sterilization coupled with continued stagnation in male sterilization uptake shows that the onus of family planning still lies with women.

Use of contraceptives

- An overall survey of the major differences between the NFHS-5 and NFHS-4 suggests that the use of contraceptives has improved from 53.5% to 66.7% in the latest NFHS-5 and institutional births increased from 78.9% to 88.6%.

Vaccination of children

- The proportion of children (12-23 months) who were fully vaccinated improved from 62%-76% and children under 6 months who were exclusively breastfed also showed a sharp improvement from 54.9 to 63.7%.

Nutrition concerns

- Though the gains in childhood nutrition were minimal, women and men (15-49) who had a below normal body mass index (BMI) each dropped roughly four percentage points.
- Those overweight (or had a higher BMI than ideal) increased by around 4 percentage points.
- Abnormal BMIs are linked to an increase in obesity and other non-communicable diseases (NCD).

Hunger watch

The nutritional status of children in India barely improved in 2019-20 from the levels in 2015-16, the National Family Health Survey-5 data show

(IN %)

Indicator	2019-20	2015-16	2005-06
Children aged six to 59 months who are anaemic	67.1	58.6	69.4
Children under five who are stunted	35.5	38.4	48
Children under five who are wasted	19.3	21	19.8
Children under five who are severely wasted	7.7	7.5	6.4
Children under five who are underweight	32.1	35.8	42.5
Children aged six to 23 months receiving an adequate diet	11.3	9.6	-
Institutional births	88.6	78.9	38.7

Anaemia

- The proportion of anaemic children (5-59 months) increased from 58% to 67%.
- Women aged 15-49 who were anaemic increased from 53% to 57% and men of the same age increased from 29% to 31% between both editions of the NFHS.

Obesity

- Nutritionally deficient diet likely explained the rise in obesity.
- Very challenging findings on waist-hip ratio. 56.7% women and 47.7% men have a high-risk waist-to-hip ratio.

Demographic shift in India

- For the first time since the NFHS began in 1992, the proportion of women exceeded men: there were 1,020 women for 1,000 men.
- In the last edition of the survey in 2015-16, there were 991 women for every 1,000 men.

- Only the decadal census is considered the official marker of population trends in India and has a wider surveillance programme.
- The NFHS surveys are smaller but are conducted at the district level and are a pointer to the future.

Sex ratio at birth

- Sex ratio at birth for children born in the last five years only improved from 919 per 1,000 males in 2015-16 to 929 per 1,000, underscoring that boys, on average, continued to have better odds of survival than girls.
- Most States and Union Territories (UTs) had more women than men.
- States that had fewer women than men included Gujarat, Maharashtra, Arunachal Pradesh, Haryana, Madhya Pradesh, Punjab and Union territories such as Jammu & Kashmir, Chandigarh, Delhi, Andaman and Nicobar Islands, Dadra and Nagar Haveli, and Ladakh.
- All of these States and UTs, however, showed improvements in the population increase of women.
- A notable exception is Kerala, a State with among the highest ratios of women to men at 1,121 and improvement over 1,049 recorded in the NFHS-4.

Most populous country in the world

- India is still poised to be the most populous country in the world with the current projection by the United Nations population division forecasting that India's population will peak around 1.6 to 1.8 billion from 2040-2050.
- A Government report projected that India would overtake China as the world's most populous country around 2031 almost a decade later than the United Nations projection of 2022.

About NFHS Survey

- It is a **large-scale, multi-round survey** conducted in a representative sample of households throughout India.
- The survey provides state and national information for India on **fertility, infant and child mortality, the practice of family planning, maternal and child health, reproductive health, nutrition, anaemia, utilization and quality of health and family planning services.**
- The Ministry of Health and Family Welfare (MOHFW) designated the **International Institute for Population Sciences (IIPS) Mumbai**, as the nodal agency, responsible for providing coordination and technical guidance for the survey.

GENERAL STUDIES - III

COOPERATIVE SOCIETIES ARE NOT BANK

GS-III ECONOMY

Context
- Reserve Bank of India (RBI) has cautioned **people against co-operative societies which are using the word "bank" in their titles** and accepting deposits from non-members.

Details
- Post the amendment in the Banking Regulation Act, 1949, which became effective from September 29, 2020, **co-operative societies cannot use the words "bank", "banker" or "banking" as part of their names,** except as permitted under the provisions or by the RBI.
- The **insurance cover from Deposit Insurance and Credit Guarantee Corporation (DICGC) is also not available for deposits placed with these societies**.

About Cooperative Bank
- A Co-**operative bank is a financial entity which belongs to its members, who are at the same time the owners** and the customers of their bank.
- Co-operative banks in India are **registered under the States Cooperative Societies Act**. The Co-operative banks are also regulated by the Reserve Bank of India (RBI) and governed by the
  - Banking Regulations Act 1949
  - Banking Laws (Co-operative Societies) Act, 1955.

Features of Cooperative Banking
- Customer Owned Entities
- The members democratically elect a board of directors and they have equal voting rights
- A significant part of the yearly profit is usually allocated to reserves and a part of it can also be distributed to the members
- They have played a significant role in the financial inclusion of unbanked rural masses.

Structure of Cooperative Banks

Structure of Co-operative Credit Institutions

SCARDBs: State Co-operative Agriculture and Rural Development Banks.
PCARDBs: Primary Co-operative Agriculture and Rural Development Banks.
Note : Figures in brackets indicate the number of institutions at end-March 2006 for UCBs and at end-March 2005 for rural co-operative credit institutions.
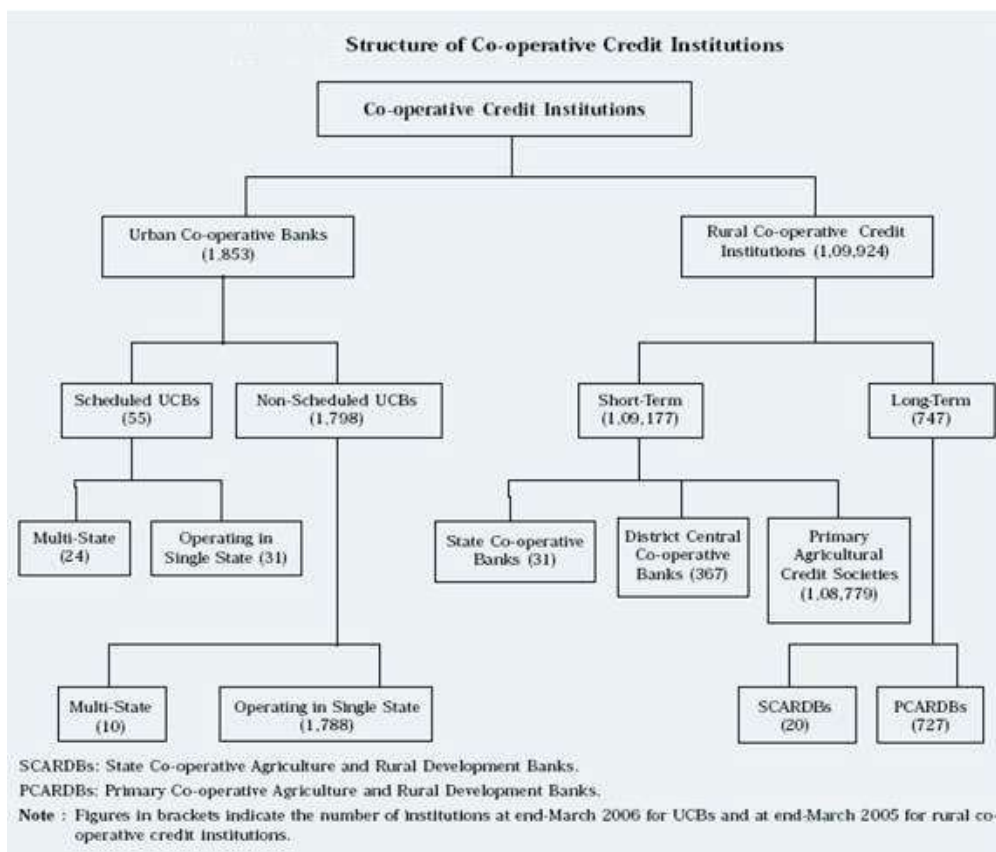
Advantages of Cooperative Banks

- These banks **have provided aid to the rural population** by granting loans and credits with interest rates, lower in comparison to that asked by local money lenders
- They have **their reach at every corner of the country and have managed to maintain a personal rapport with th**e customers
- Since the bank is owned and governed by the members themselves, **they do not seek huge profits and believe in mutual help**
- The **interest rate on deposits is high and** on loans is low
- They **promote productive borrowing**, in order to reduce the risk of loss
- Co-operative Banks **have helped the farmers by providing them agricultural credits to buy basic products like fertili**zer, seeds, etc.

The Banking Regulation Amendment Bill, 2020

- The Banking **Regulation Amendment Bill, 2020 was introduced in the wake of PMC Bank scam, and seeks to strengthen cooperative banks** by increasing professionalism, enabling access to capital, improving governance and ensuring sound banking by giving more powers to RBI. The features of the bill include:
  - o Cooperative banks **will be audited as per RBI norms**, while administrative issues will be guided by Registrar of Cooperative Societies.
  - o **RBI has the powers to supersede the board**, in consultation with the state government if the cooperative bank is under stress.
  - o **Appointment of the chief executives will be based on certain qualifications** and under the supervision of RBI.
  - o The **bill aims to infuse proper regulation and better management of Cooperative banks** to protect the interests of depositors.
  - o The amendments will apply to all cooperative banks including urban cooperative banks and multi-state cooperative banks.

Issues with the Cooperative Banks in India

- Politicians in local as well as **in state use them to increase their vote bank and usually get their representatives elected over the** board of director in order to gain undue advantages.
- The cooperatives in northeast states and in states like West Bengal, Bihar, Odisha are not as well developed as the ones in Maharashtra and Gujarat. There is a lot of friction due to competition between different states, this friction affects the working of cooperatives.
- A serious problem of the cooperative **credit is the overdue loans of the cooperative banks which have been continuously increasing over the years**.
- Large amounts of overdue **restrict the recycling of the funds and adversely affect the lending and borrowing capacity** of the cooperative.
- The cooperatives have resource constraints as their owned funds hardly make a sizeable portfolio of the working capital.
- Raising working capital has been a major hurdle in their effective functioning.

Way Forward

- RBI should be em**powered to implement resolution techniques such as winding-up and liquidating banks**, without involving other regulators under the cooperative societies' laws.
- An **appropriate mechanism of checks & balances** may be evolved & made mandatory for all the Cooperative Bank.
- **Accountability for erroneous audit along** with penal action should also be ensured through appropriate statue.

DIGITAL LENDING　　　　　　　　　　　　　　　　　　　GS-III ECONOMY

Context

- A Reserve Bank of India (RBI) Working Group (WG) on **digital lending, including lending through online platforms and mobile apps, has recommended a separate legislation** to oversee such lending as well as a nodal agency to vet the Digital Lending Apps.

Further Details

- It has also **mooted a Self-Regulatory Organization for participants** in the digital lending ecosystem.
- It has **proposed development of certain baseline technology standards and compliance with those standards as a precondition** for offering digital lending solutions.
- It has also suggested that **disbursement of loans be made directly into the bank accounts of borrowers** and servicing of loans be done only through the bank accounts of the digital lenders.

- **All data collection must require the prior consent of borrowers and** come 'with verifiable audit trails' and the data itself ought to be stored locally.
- The report's thrust has been **on enhancing customer protection and making the digital lending ecosystem safe and sound while encouraging** innovation.

Key Proposals by the Committee
- Digital lending apps **should be subjected to a verification process by a nodal agency** to be set up in consultation with stakeholders
- The working group **proposed the setting up of a Self-Regulatory Organization (SRO) covering** the participants in the digital lending ecosystem
- **Disbursement of loans should be directly into bank accounts** of borrowers
- Maintenance of a 'negative list' of lending service providers by the proposed SRO

About Digital lending
- Digital lending is **the process of availing credit online**.
- Its **increased popularity amongst new-age lenders can be attributed to expanding smartphone penetration, credit range flexibility**, and speedy online transactions.
- Transactions are happening over the internet being **replaced by Fintech's credit-based payment products, such as Buy Now Pay Later (BNPL) or Convert to EMI** Products.
- These companies utilize their customer's financial and transactional data to underwrite digital loans over an API-driven approach, thereby substantially lowering the time required to gain personal or payday loans.

Data on Digital lending
- The RBI says lending through digital mode relative to physical mode is still at a nascent stage in the case of banks (Rs 1.12 lakh crore via digital mode against Rs 53.08 lakh crore through the physical mode).

Role of Digital Lending
- **Financial Inclusion:** Digital lending is a powerful tool that can be used for financial inclusion. With new innovations underway, digital lending has enabled many Financial Service Providers a way to offer much better products to the masses at a much faster rate which is even more cost-efficient.
- **Quality of Financial Services:** Digital lending can prove to be a tool acting towards the growth of higher quality of financial services to underserved businesses and people.
- **Credit to MSME:** Digital lending is mostly preferred by those who are generally not able to avail any credit through the formal sources of finance, like banks. The online lending platforms have gained massive popularity among MSMEs post Covid as they were unable to secure finance through the traditional lending institutions and thus had to go towards digital lending.
- **Ease for Credit**: The quick turnaround time and on boarding, easy KYC, as well as disbursement within minutes have attracted the cash-crunched MSMEs towards these digital routes to secure credit.

Associated Challenges
- Digital lending ecosystem is still evolving and presents a patchy picture.
- They charge excessive rates of interest and additional hidden charges.
- They adopt unacceptable and high-handed recovery methods.
- They misuse agreements to access data on mobile phones of borrowers.

Way Forward
- The Committee proposal must be incorporated and made into separate law.
- Since, India is on the verge of a digital lending revolution and making sure that this **lending is done responsibly only can ensure the success of this revolution.**
- Thus, Digital lenders **should proactively develop and commit to a code of conduct that outlines the principles of integrity**, transparency and consumer protection, with clear standards of disclosure and grievance redressal.
- Moreover, **an agency can be created** that tracks all digital loans and consumer/lender credit history.

REGULATION OF CRYPTO CURRENCY   GS-III ECONOMY

Context
- Recently, the **Prime Minister of India** chaired a meeting regarding the **management of the cryptocurrency sector.** Citing the unregulated nature of the **crypto market**, he called for taking **progressive and forward-looking steps**.

About the Cryptocurrency

- A **cryptocurrency is a form of digital asset based on a** network that is distributed across a large number of computers.
- **Cryptocurrencies typically use decentralized control as opposed** to centralized digital currency and central banking systems.
- Blockchains, which are organizational methods for ensuring the integrity of transactional data, are an essential component of many cryptocurrencies.

Benefits of Cryptocurrency

- <u>Autonomy:</u> **Digital currencies allow users more autonomy over their own** money than fiat currencies do, at least in theory. Users are able to control how they spend their money without dealing with an intermediary authority like a bank or government.
- <u>Discretion:</u> **Bitcoin purchases are discrete. Unless a user voluntarily publishes his Bitcoin transactions,** his purchases are never associated with his personal identity, much like cash-only purchases, and cannot easily be traced back to him.
- <u>Peer-to-Peer Focus:</u> **The bitcoin payment system is purely peer-to-peer, meaning that users are able to send** and receive payments to or from anyone on the network around the world without requiring approval from any external source or authority.
- <u>Elimination of Banking fees:</u> **bitcoin users are not subject to the litany of traditional banking fees associated with fiat** currencies. This means no account maintenance or minimum balance fees, no overdraft charges and no returned deposit fees, among many others.
- <u>Accessibility:</u> **bitcoin is theoretically available to populations of users without access to traditio**nal banking systems, credit cards and other methods of payment.

Challenges with Cryptocurrency

- **Can be used for illegal transactions – Since the privacy and security of cryptocurrency transactions are high**, it's hard for the government to track down any user by their wallet address or keep tabs on their data.
- **Decentralized but still operated by some organization –The cryptocurrencies are known for its feature of being decentralized**. But, the flow and amount of some currencies in the market are still controlled by their creators and some organizations. These holders can manipulate the coin for large swings in its price.
- **Adverse Effects of mining on the environment –** Mining cryptocurrencies require a lot of computational power and electricity input, making it highly energy-intensive.
- **Security Risk: Bitcoin exchanges are digital and therefore** vulnerable to hackers, operational glitches, and malware.
- **Decentralised Control: Given the essentially decentralized control approach associated with cryptocurrencies** like the Bitcoin as against the traditional centralized digital currency and centralized banking systems, they render government monetary policies ineffective.

Indian stand on cryptocurrency

- The **Ministry of Corporate Affairs (MCA) has made it mandatory** for companies to disclose crypto trading/investments during the financial year.
- The **Centre has assured crypto stakeholders that there won't be a blanket ban on digital currencies and** that it's still formulating its full opinion on the matter. Finance minister Nirmala Sitharaman has said the Centre was open to experimentation with new technologies and is not closing its minds for them.
- India **does not have a regulatory framework to govern cryptocurrencies** as of now. The government had constituted an Inter-Ministerial Committee (IMC) on November 2, 2017, to study virtual currencies.

Way Forward

- **Learning from international experience: The U.K. has classified cryptocurrency as property and this has paved the way for cryptocurrencies** to be encompassed within a regulated legal framework in the country's economy. The U.K. has sought to regulate the functioning of crypto-businesses while still imposing some restrictions to protect the interests of investors.
- **There is a need for a balanced regulation of the cryptocurrency which could allow private individuals the freedom to harness** a powerful new technology like blockchain technology-based digital currency with appropriate regulatory standards.

Conclusion

- The **government should use this as an opportunity to allow private individuals the freedom to harness a powerful** new technology with appropriate regulatory standards.

BOOSTING SERVICE EXPORTS

GS-III ECONOMY

Context

- Commerce minister said India will realize by 2030 a lofty services export target of $1 trillion, nearly five times of what it exported last fiscal.

Challenges in Indian Export

- **Poor Quality Image:** Made in India product line does not enjoy a good reputation in markets abroad. Rather it is considered to be a sign of poor quality. The products manufactured in Japan, Korea and now even in China are frequently quoted abroad as examples of dependable quality.

- **High Costs**: In India, the rate of interest on export finance is much higher as compared to other countries.

- **Technological factors and low productivity** also contribute to high cost of production in India.

- Further, Indian exporters are **also deprived of advantages of the economics of scale** and do not utilize their ability of bulk supplies due to lack of finance and other reasons.

- The **Indian policy towards technology has been somewhat lukewarm**. Indians lag

Figure 1.5. **The composition of exports has moved towards skill- and capital-intensive items**
Shares in exports per category, % of total exports, 1996 (inner circle) and 2017 (outer circle)

Note: Circles show the shares per category in total exports for 1996 (inner circle) and 2017 (outer circle).
Source: Atlas of Economic Complexity, Centre for International Development, Harvard University.

behind in the adoption of modem technology and technological innovations, as is done by South-East Asian countries.

- Indian exporters are also looked upon **as unreliable on many counts such as going back on a contract** or refusing to fulfill it on its original terms.

- According to trade circles, **interest payments alone constitute nearly 15 per cent of the cost of production** in India.

- **Infrastructure Bottlenecks**: In India, infrastructure deficiencies such as energy shortages, inadequate and unreliable transport and communication facilities have so far hindered growth of exports. Power shortages and breakdowns are so common that they often disrupt production schedules, increase costs and badly affect timely shipments.

- **Inadequacy of Trade Information System**: Efficient and time bound trade information system is a basic need for success in today's dynamic export business. Electronic commerce including Electronic Data Interchanges (EDI) and Internet play a very crucial role in the world trade at present.

- **Supply Problems**: A very severe shortcoming of the Indian export sector is its inability to ensure continuous and smooth supply in sufficient quantities relating to many products. The main problem is that much of the exporting is the result of the lingering approach and not any deliberate effort of producing for the export.

- **Faceless Presence**: Major export items of India like seafood, leather manufactures, spices, etc. mostly have a faceless presence in world markets. The exports undergo further professing or repacking in many cases.

- **Uncertain Policies**: A basic defect of India's trade policy has been the uncertainty about future policies, incentive schemes, etc. To free the exporters from anxiety and ensure stability in this direction, the Export- Import (EXIM) Policy is given a five-year span.
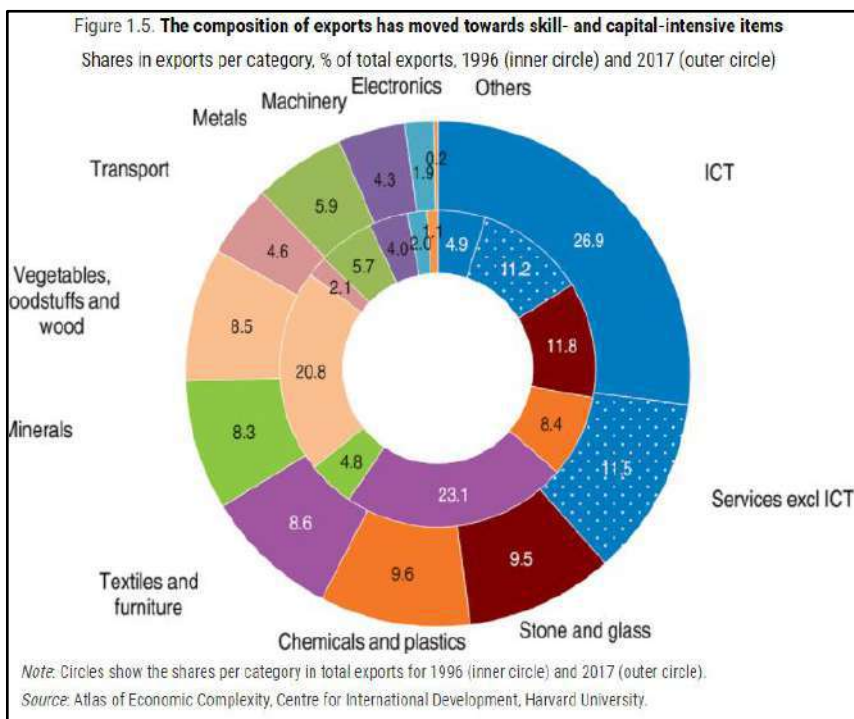
Achievement of Indian Exports

- As an encouraging sign, some multinationals **have made India a manufacturing hub for automobile exports to Africa.** The imposition of US tariffs on Chinese products could accelerate the reigning of value chains.

- Preliminary data suggest that **India has seized some of the market shares lost by China**, with more success in capital- and skill-intensive industries than in labor-intensive ones.

- In India, the **government has made laudable progress in increasing electricity generation and transmission capacities**, in particular from renewable sources, to fulfill its commitment to provide electricity for all.

- The **construction of highway and rural roads has accelerated** in recent years. India has also made great progress in building airport related infrastructure. However, seaport infrastructure lags behind and, together with poor trade logistics, hampers India's external competitiveness.

India has performed well for some goods

- India's market shares for some skill- and capital-intensive goods has surged.
- For pharmaceutical exports, India accounted for 2.5% of total world exports in 2018, up from 1.1% in 1995, making it the 11th largest exporter in the world and, by far, the first among EMEs.
- In the smartphone segment of electronic goods, India has transformed itself from being a net importer to a net exporter.

India's export basket is well diversified

- India has succeeded in increasing the number of goods exported and in serving new markets/countries.
- Its export basket is highly diversified and exports to emerging economies are growing fast.

The large diaspora living abroad is an asset

- Indians living abroad are valuable assets for the Indian economy. Inflows from remittances, at 2.9% of GDP in FY 2018-19, are large.
- They have contributed to reduce poverty, raise consumption and investment in education and health.
- They are also a rather stable source of current account financing.

Figure 1.14. **India has improved and compares well on most trade facilitation dimensions**

Note: OECD, Asia-Pacific and Low-income all refer to unweighted averages.
Source: OECD Trade Facilitation Indicators, 2017.

Way Forward

- **Exports of labor-intensive manufacturing products could grow** faster. The export performance of textiles, leather and agricultural products have lagged behind, thus limiting the positive impact of trade opening on net job creation.
- **Production-linked Incentive Like Scheme in Services**: The government should consider something for the services sector, in line with the production-linked incentive scheme.
- **Becoming Part of Global Value Chains**: India should be striving to embed itself in global value chains. If India wants to become a major exporter, it should specialize more in the areas of its comparative advantage and achieve significant quantity expansion.
- **B2B Model**: Developing a dynamic Business 2 Business (B2B) portal, which can be used by service providers to reach out to the markets abroad.
- **Foreign Trade Policy (FTP):** Unless the government focuses on the sector in the forthcoming Foreign Trade Policy (FTP) by announcing scheme-based export incentives and provides interim relief by continuing with the existing schemes in the short run, the sector will lose the momentum it has gained in the first five months of 2021-22.
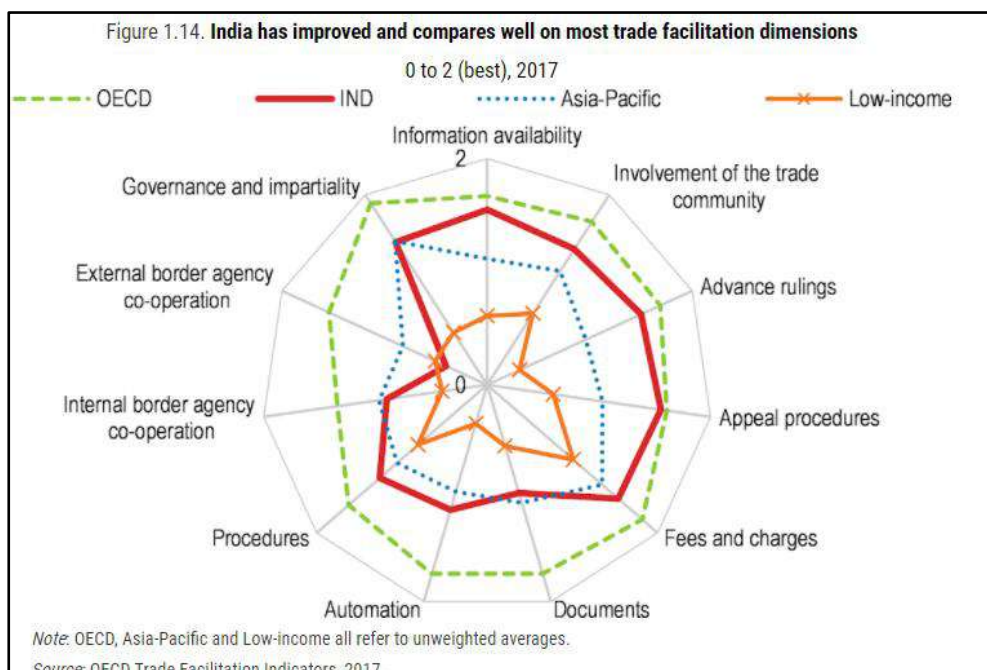
FINANCIAL INCLUSION
GS-III   ECONOMY

Context
- According to SBI research report, India is now ahead of China in financial inclusion metrics.

Details of the Report
- States with **higher financial inclusion / more bank accounts have also seen a perceptible decline in crime along** with a meaningful drop in consumption of alcohol and tobaccos.
- The **number of no-frills bank accounts opened has reached 43.7** crore with Rs. 1.46 lakh crore in deposits as of October 20, 2021.
- Of these, **almost two-thirds are operational in rural and semi-urban areas** and more than 78% of these accounts are with state-owned banks, 18.2% with regional rural banks, and 3% are opened by private sector banks.
- The number of **banking outlets in villages / BCs had risen from 34,174 in March 2010 to 12.4 lakh in December 2020**.

About Financial Inclusion

- Financial Inclusion, broadly defined, refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products.

Need for Financial Inclusion

- Financial inclusion **broadens the resource base of the financial system by developing a culture of savings a**mong large segment of rural population and plays its own role in the process of economic development.
- Further, by **bringing low income groups within the perimeter of formal banking sector**; financial inclusion protects their financial wealth and other resources in exigent circumstances.
- Financial inclusion **also mitigates the exploitation of vulnerable sections by the usurious money** lenders by facilitating easy access to formal credit.

Objectives for Financial Inclusion

- RBI identified six strategic objectives of a national strategy for financial inclusion:
  - universal access to financial services,
  - providing basic bouquet of financial services,
  - access to livelihood and skill development,
  - financial literacy and education,
  - customer protection and grievance redressal,
  - effective coordination.

Milestones for Financial Inclusion

- Providing **banking access to every village (or hamlet of 500 households in hilly areas)** within a five km radius by March 2020,
- Strengthening **digital financial services to create infrastructure to move** towards a cash less society by March 2022,
- Ensuring that every adult has access to a financial service provider through a mobile device by March 2024.

Measurement of Financial Inclusion

- Measure access, such as number of bank branches or ATMs for a specified population,
- Measure usage, such as percentage of adults with a saving account, insurance or pension policy,
- Measure quality of services, such as grievance redressal (through number of complaints received and addressed).

Challenges with Financial Inclusion

- **Financial literacy:** India is home to 17.5 per cent of the world's population but nearly 76 per cent of its adult population does not understand basic financial concepts.
- **Insurance policy issues:** On account of lack of awareness and failure of institutions to guide them, people buy insurance policies without planning and give up midway because they don't have money to pay premium.
- **Access to Credit**: But despite the strong growth, only 200 million borrowers have had access to credit from formal channels This is the reason why the credit penetration index of CRISIL Inclusix remained low. There is also a large degree of self-exclusion due to the existence of informal credit sources meeting their convenience.
- **Digital Connectivity issues**: - When most of the rural areas still not having even a reliable internet facility it is difficult to push for a cashless economy.
- From the demand side, the reasons are low income, poverty and illiteracy and lack of awareness.
- From the **supply side branch proximity, timings, cumbersome documentation and procedures, attitude of the ba**nk staff and language.
- **Remoteness from the financial institutions**: Usually, banks are locating their branches in the high densely populated areas for covering its cost of operations. Low penetration of financial services, less efficiency of business correspondents also limits the success of financial inclusion.

Government Schemes

- **Pradhan Mantri Jan DhanYojana (PMJDY), under** which 34 crore accounts have been opened with deposits amounting to Rs 89,257 crore (as of January 2019).
- **Pradhan Mantri Suraksha BimaYojana to provide accidental death or disability** cover and Atal Pension Yojana to provide pension cover to subscribing bank account holders.
- **Bank-led model of financial inclusion adopted by the RBI through issuance of differentiated banking licenses (small finance banks and payments banks**) and the launch of Indian Post Payments Bank in September 2018 has helped bridge the gap in last mile connectivity.

Way Forward

- <u>Reviving Banking Correspondent Model:</u> Given the infeasibility of locating branches in every nook and corner of the country, bank correspondents are used to reach out to prospective clients. However, an inadequate compensation structure makes correspondent banking unattractive.
- <u>Leveraging JAM Trinity:</u> Technology should be used to improve the assessment of credit-worthiness for households and informal businesses. With the adoption of appropriate technology, a new data-sharing framework (using Jan Dhan and Aadhaar platforms), to enable easier access to credit, with adequate safeguards for maintaining data privacy.
- <u>Need for Data Protection Regime:</u> In addition to greater digitization, there is also a need to strengthen cyber security and data protection regime in the country.
- <u>Leveraging Differentiated Banks:</u> Differentiated Banks like Payment banks and small finance banks can be leveraged to scale up payments systems in underserved areas.
- Promoting USSD for Rural Areas: Payments through the USSD channel should be promoted (by reimbursing the charges incurred in the USSD process), as they have an advantage over the internet in that it can also cover a large proportion of non-smartphone users.

FREE TRADE AGREEMENT   *GS-III ECONOMY*

Context

- India will most likely conclude the free trade agreement with UAE by March.

About Free Trade Agreement

- A Free Trade Agreement is an agreement between countries to reduce or eliminate barriers to trade. Trade barriers include tariff barriers like taxes and nontariff barriers like regulatory laws.
- Trade barriers include tariff barriers like taxes and nontariff barriers like regulatory laws.

Reasons behind FTA

- By eliminating tariffs and some non-tariff barriers, FTA **partners get easier market access** into one another's countries.
- **Exporters prefer FTAs to multilateral trade liberalization** because they get preferential treatment over non-FTA member country competitors.
- **Possibility of increased foreign investment** from outside the FTA.

Advantage of India-UAE FTA

- FTA will help in **enhancing the bilateral trade and investment flows**.
- This agreement will also **assist in post-Covid economic recovery and future economic growth** of both the countries.
- It will create **new job opportunities, boost living standards, and improve general welfare** of the people of both the countries.

Free Trade Agreement Pro and Cons

PROS | CONS

Increased economic growth | Increased job outsourcing

Lower government spending | Poor working conditions

Technology transfer | Degradation of natural resources

the balance

Criticism of FTA

- India's exports to FTA countries **has not outperformed overall export growth or** exports to rest of the world.
- FTAs **have led to increased imports and exports, although the** former has been greater.
- FTAs have **had a bigger impact on metals on the**
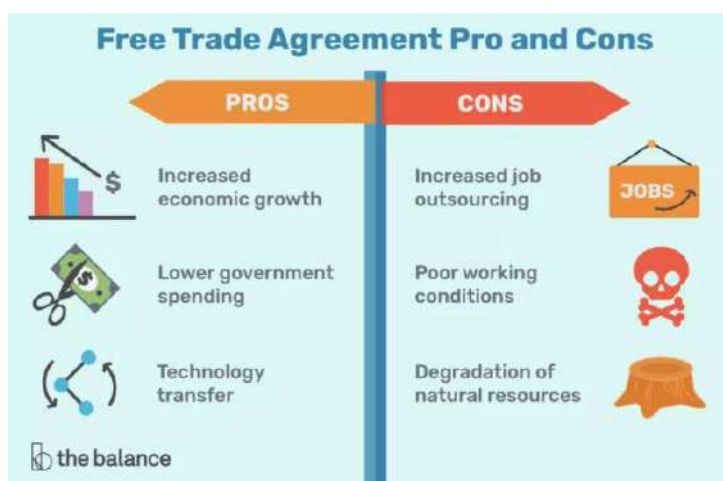
importing side and textiles on the exporting side. Utilisation rate of FTAs by exporters in India is very low (between 5 and 25%).

- Diversification of India's export basket is more responsible for India's export surge than RTAs.
- Bilateral trade increased post signing of all the above FTAs
- As **imports from Korea, Japan and ASEAN have shot up after the respective agreements came into force,** India's trade deficit with these countries has increased since then. Only exports to Sri Lanka have increased much more than imports into India from Sri Lanka.
- Overall **trade deficit with ASEAN, Korea and Japan doubled. Quality of trade has also deteriorated under** India ASEAN FTA.
- In 2005, 98% of Sri Lankan exports availed the FTA route. This has declined to about 50% in recent years. On the other hand, only 13% of India's exports are routed through FTA.

Way Forward

- **Review and assess its existing FTAs** in terms of benefits to various stakeholders and changing trade patterns, before signing new ones.
- **Negotiate bilateral FTAs with countries** where trade complementarities and margin of preference is high.
- **Reduce compliance cost and administrative delays** are extremely critical to increase utilisation rate of FTAs.
- **Proper safety and quality standards should be set to avoid dumping** of lower quality hazardous goods into the Indian market. Circumvention of rules of origin should be strictly dealt with by the authorities.

GLOBAL AGRICULTURAL PRODUCTIVITY REPORT

GS-III AGRICULTURE

Context
- Global agricultural productivity is not growing as fast as the demand for food, amid the impact of climate change, according to 2021 Global Agricultural Productivity Report (GAP Report).

Agricultural Productivity
- Agricultural Productivity is the quantitative measurement of the capacity of land in relation to crop yield.
- It is measured as the ratio of agricultural outputs to inputs.
- For example, as per 2017-18 data;per hectare rice production in India is 2576 kg; hence productivity of rice in India is 2576 kg.

TFP
- TFP tracks changes in how efficiently agricultural inputs such as **land, labour, fertiliser, feed, machinery and livestock**are transformed into outputs like crops, livestock and aquaculture products.
- TFP growth is influenced by climate change, weather events, changes in fiscal policy, market conditions, investments in infrastructure and agricultural research and development.

Difference between TFP and Yield

Yield

Yield measures output per unit of a single input, for example, the amount of crops harvested on a hectare of land.

Yields can increase through productivity growth, but they can also increase by applying more inputs, called input intensification.
Therefore, an increase in yield may or may not represent improvements in sustainability.

TFP

Total factor productivity captures the interaction between multiple agricultural inputs and outputs.

TFP growth indicates that more farmers generate more crops, livestock, and aquaculture products with the same amount or less land, labor, fertilizer, feed, machinery, and livestock. As a result, TFP is a powerful metric for evaluating and monitoring the sustainability of agricultural systems.

Current TFP
- Total factor productivity (TFP) is growing at an annual rate of 1.36 per cent (2020-2019).
- This is below the Global Agricultural Productivity Index that has set an annual target of 1.73 per cent growth to sustainably meet the needs of consumers for food and bioenergy in 2050.

Reason behind low TFP
- Climate change has already reduced productivity growth globally by 21 per cent since 1961.

Regions and Productivity
Drier Region
- In the drier regions of Africa and Latin America, climate change has slowed productivity growth by as much as 34 per cent.

Middle income regions
- Middle-income countries including India, China, Brazil and erstwhile Soviet republics continued to have strong TFP growth rates.
- **India has seen strong TFP and output growth this century.**
- Recent data shows an average annual TFP growth rate of 2.81 per cent and output growth of 3.17 per cent (2010–2019).

Low income countries
- However, in low-income countries, nearly all agricultural output growth comes from land-use change and forest and grassland destruction for cultivation and grazing.
- As a result, TFP in low-income countries was contracting by an average of 0.31 per cent per year.

High income countries
- High-income countries, including those in North America and Europe, showed modest TFP growth.
- In the US, agricultural output had increased 36 per cent since 1982 due to the widespread adoption of efficient irrigation and precision agriculture.

Patterns of Agricultural Productivity in India
- The patterns of agricultural productivity of India have been declined
- Created with the help of Kendall's method.

Kendall divided into five regions based on agricultural productivity

Very High Productivity Region

- Punjab, Haryana, deltaic parts of Eastern Coastal plains.
- Reason for very productivity; Fertile land, Assured Irrigation, Modern agriculture technology usage

High Productivity regions

- Ganga plain, Assam plain, Peninsular river valley.
- Reason for high productivity; Fertile land, High cropping intensity

Medium Productivity region

- Malwa plateau, Gujarat plateau, and Tamil Nadu plateau.
- **Reasons;** Partially irrigation

Low Productivity regions

- Bundelkhand, Bakhelkhand, Chotanapur plateau
- North Eastern Hills
- **Reasons**:No assured irrigation facilities, Shifting cultivation

Very low productivity regions

- Rain-shadow zone of western Ghats, Rajasthan,
- **Reasons:** Infertile landlow rainfall, No irrigation facilities

Region	Classification	Coefficient	Cropping Intensity	Average yield per ha of food crops
I	Very High Productivity Region	<75	175+	>2500 kg
II	High Productivity Region	75-90	160-175	2000-2500 kg
III	Moderate Productivity Region	90-105	140-160	1500-2000 kg
IV	Low Productivity Region	105-125	120-140	1000-1500 kg
V	Very Low Productivity Region	>125	<120	<1000 kg

Need to boost productivity

- Agricultural productivity is an important component of food security.
- Increasing agricultural productivity through sustainable practices can be an important <u>way to decrease the amount of land needed for farming and slow environmental degradation and climate change through processes like deforestation.</u>

Recommendations made by the Report

- The report urged **accelerating investments in agricultural R&D to increase and preserve productivity gains**, especially for small farmers.
- It identified six strategies and policies that would create sustainable agricultural growth at all scales of production:
  1. Invest in agricultural research and development
  2. Embrace science-and-information-based technologies
  3. Improve infrastructure for transportation, information and finance
  4. Cultivate partnerships for sustainable agriculture, economic growth and improved nutrition
  5. Expand and improve local, regional and global trade
  6. Reduce post-harvest loss and food waste
- **Other methods to increase productivity and efficiency**
  - Assured irrigation
  - High-quality seeds
  - The proper dose of fertilizer, pesticides, and Manure
  - Good agriculture practice such as Drip irrigation, sprinkle irrigation.
  - Choosing the good cropping pattern
  - Timely sowing, processing, harvesting, using feedback knowledge
  - Soil health checking
  - Innovative ideas in agriculture
  - Zero budget farming
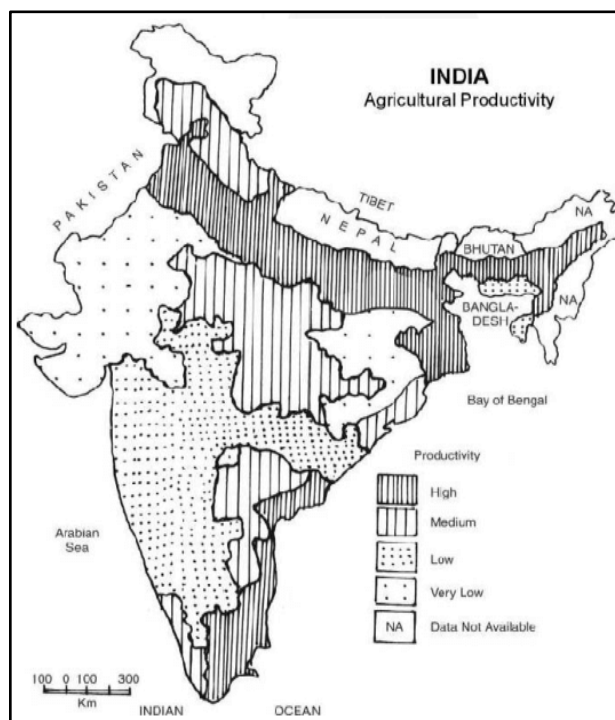
Initiatives taken by India to boost agricultural productivity

- **Soil Health Card Scheme:** To create awareness for farmers about the appropriate amount of nutrients for the crop depending on the quality and strength of the soil.
- **National Mission for Sustainable Agriculture (NMSA):** It is envisaged as one of the eight Missions outlined under National Action Plan on Climate Change (NAPCC), which is aimed at promoting Sustainable Agriculture through climate change adaptation measures.
- **Pradhan MantriKrishiSinchaiYojana (PMKSY):** It was launched during the year 2015-16 with the motto of 'HarKhetKoPaani' for providing end-to-end solutions in irrigation supply chain, viz. water sources, distribution network and farm level applications.

GM CROPS

GS-III AGRICULTURE

Context

- 500 tonnes of genetically modified rice were discovered in a consignment that India exported to the European Union countries in June 2021.

About

- Genetically modified crops (GM crops) are plants used in agriculture, the DNA of which has been modified using genetic engineering methods.
- GM crops were first introduced in the U.S. in the mid-1990s.

The debate around GM Crops

Merits

Reduced input burden

- Since genetically modified crops require minimal pesticides, fertilizers or insecticides the cost of input is greatly reduced.

Disease resistant and Sustainability

- Through genetic modifications the genetically modified crops are made resistant to diseases. This enhances their sustainability and yield.

Environmental Protection

- According to an Oklahoma State University report, the increase of GM animals and crops often requires less time, tools and chemicals, and may help with reducing greenhouse gas emissions, soil erosion and environmental pollution.

Longer Shelf life

- Genetically modified foods have a longer shelf life. This enhances the ease of transportation and storage.

Affordability

- Due to reduced burden of inputs and longer shelf life hence reduced wastages, the prices of the output will be low.
- This increases the affordability.

Fortification

- According to the Food and Agricultural Organization of the United Nations, some GM foods have been engineered to become more nutritious in terms of vitamin or mineral content.
- This not only helps people get the nutrients they need, but also plays a significant role in fighting against malnutrition in third-world countries.

Decreased Use of Pesticides

- It has been proven that genetically modified crops do not need pesticides to become stronger against various types of insects or pests that may destroy them.

Demerits

Gene Transfer

- A constant risk of genetically modified foods is that an organism's modified genes may escape into the wild.
- Experts warn that genes from commercial crops that are resistant to herbicides may cross into the wild weed population, thus creating super-weeds that have become impossible to kill.

Antibiotic resistance

- Genetically modified crops have inbuilt antibiotic properties due to their inbuilt mechanisms for disease control.
- This can result in superbugs which can disrupt the health care sector.

Carcinogen exposure risk

- There are researches which show that crops tolerant to commercial pesticides greatly increase the risk of cancer development in rats.
- Genetically modified crops can also pose serious threats to human health.

Lower Level of Biodiversity

- When we remove a certain pest that is harmful to crops, we could also be removing a food source for a certain species.
- In addition, genetically modified crops could prove toxic to some organisms, which can lead to their reduced numbers or even extinction.

Gene Spilling

- It is unclear what effects, if there are any, the genetic pollution resulting from inadequate sequestering of genetically modified crop populations would have on the wild varieties surrounding them.

Exploitation

- Some countries may use genetic engineering of foods as a very powerful weapon against their enemies.

Widening Gap of Corporate Sizes

- This disadvantage can possibly happen between food-producing giants and their smaller counterparts.
- Larger companies might have more political power and might be able to influence safety and health standards.

New Diseases

- As previously mentioned, genetically modified foods can create new diseases.

Economic Concerns

- Consumer advocates are worried that this will raise seed prices to very high levels that third-world countries and small farmers cannot afford them, thus widening the gap between the rich and the poor.

Case Studies

Monsanto's INGARD cotton

- Monsanto sold its INGARD cotton (also known as Bt cotton) to Australian growers with estimates that there would be a 90% drop in sprays. In fact, for the 1996-97 crops there was a 52% decrease.
- However, Australian farmers generally found themselves worse off financially than they thought they would. Some had to spray just as much as usual, yields were variable and costs higher. More insects survived than had been intended by the developer.

Mannion and Morse report

- On a global level, from 1996 to 2006, GM crops increased farm income by $40.7 billion, occurring in both developed (47%) and developing agricultures (53%). There has been a global yield increase of 377 million tons from 1996 to 2012.

In a nutshell

✅ **Benefits of GMOs**	**Risks of GMOs** ❌
Nutritional value of foods could be improved (e.g. by introducing proteins, vitamins or vaccines)	New traits could cause adverse health reactions (e.g. new proteins may cause allergic responses)
Crops can be produced that lack known allergens	Removal of traits could have unknown effects
Crops can grow in arid conditions for better yield (e.g. by introducing drought resistant genes)	Crops may limit biodiversity of local environment (increased competition with native species)
GM crops can produce herbicides to kill pests	Cross pollination could lead to 'super weeds'
Improve food supply / agriculture in poor countries (GM crops can be engineered for improved yields)	Patents restrict farmers from accessing GM seeds (biotech companies hold monopolies over crop use)
GM crops may have longer shelf lives (less spoil)	Foods with GM components may not be labeled
Reduces economic costs and carbon footprint – less need for land clearing and pesticide usage	Different governments may have conflicting regulatory standards concerning safe usage

The Case of India

- India allows the import of GM soybean and canola oil.
- The only crops approved for cultivation are (bt) cotton.
- India has had an effective ban on other GM seeds for a considerable time.

Note: In India, the Genetic Engineering Appraisal Committee (GEAC) under of Ministry of Environment, Forest and Climate Change is the apex body that allows for commercial release of GM crops

Conclusion

- Genetically modified foods can potentially solve many hunger and malnutrition problems in the world, as well as help protect and preserve the environment by increasing yields and reducing reliance upon chemical pesticides and herbicides.
- However, it is important to proceed with caution to avoid unfavorable consequences for the surroundings and our health, considering that genetic engineering technology is very powerful.

WTO AGRICULTURAL SUBSIDIES

GS-III AGRICULTURE

In News

- Ahead of a key ministerial conference, the World Trade Organization (WTO) is likely to float a revised draft text for a possible agriculture package to break the deadlock in farm talks at the meeting.
- On subsidies for public stockholding programmes, disagreements remain on whether to expand the peace clause to all developing members and new products.

Trade Subsidies

- In WTO terminology, subsidies in general are identified by "boxes" which are given the colours of traffic lights: green (permitted), amber (slow down — i.e. need to be reduced), red (forbidden).

Trade Distortion

- Trade distortion is commonly viewed as any interference that significantly affects prices or market behavior. A tax or action that changes the normal characteristics of trade. For example, many governments subsidize the agricultural sector, which sometimes makes farming economically feasible, at least for certain products. The subsidies can mean farmers gain artificially high prices for their products.
- Some experts believe that trade-distorting agricultural subsidies are partly responsible for increases in global food prices.

Peace Clause (Agreed at the 2013 Bali Meet)

- The peace clause protects India's food procurement programmes against action from WTO members in case the subsidy ceilings – 10 per cent of the value of food production in the case of India and other developing countries – are breached.The clause also requires full disclosure of MSPs and annual procurement for food security programmes.
- India invoked the clause for the first time in 2018-19, when it also became the first country to do so. Second time, it invoked the clause during the pandemic.
- The "peace clause" is an interim solution. Members agreed in Bali to find a permanent solution by 2017 (the 11th Ministerial Conference). No permanent solution yet

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Green box

- Agriculture-related subsidies that fit in WTO's green box are policies that are not restricted by the trade agreement because they are not considered trade distorting.
- To qualify for the green box, WTO says a subsidy must not distort trade, or at most cause minimal distortion.
- These green box subsidies **must be government-funded** — not by charging consumers higher prices, and they must not involve price support.
- They tend to be programs that are not directed at particular products, and they may include direct income supports for farmers that are **decoupled from current production levels and/or prices.**
- **Examples**: environmental and conservation programs, research funding, inspection programs, domestic food aid including food stamps, and disaster relief.

GREEN BOX

- Subsidies that do not distort trade or cause only minimal distortion.
- Usually, these subsidies are not for specific products.
- Green Box subsidies are allowed without any limit.
- They can include direct income support for farmers that are decoupled from current production levels and/or prices.
- Examples: Research funding, conservation and environmental programs, domestic food aid including food stamps, inspection programs, and disaster relief.

Amber box

- Agriculture's amber box, is used for all domestic support measures considered to distort production and trade.
- As a result, the trade agreement calls for committing to reduce their trade-distorting domestic supports that fall into the amber box.
- WTO members without these commitments are required to maintain their amber box supports to **within five to 10 percent of their value of production.**
    - **For Developed Countries: 10%**
    - **For Developing Countries: 5%**
- Any support payments that are considered to be trade distorting and are subject to

AMBER BOX

- Includes subsidies that distort international trade by making the products of the country cheaper as compared to similar products from other countries in the global market.
- They are said to distort trade since they encourage excessive production.
- Examples: Input subsidies such as subsidy for fertilisers, seeds, electricity, irrigation, etc. Minimum Support Price (MSP) also included under this box.
- It is capped at 5% of the total agricultural production for developed countries and at 10% for developing countries.

limitations and disciplines fall into the amber box.

Blue box

- Included in the blue box are any support payments that are not subject to the amber box reduction agreement because they are **direct payments under a production limiting program**.
- To be blue box policies, **direct payments** must be made on fixed areas and yields, or payments must be made on 85 percent or less of the base level of production.

BLUE BOX

- Amber box subsidies that tend to limit production are classified under the Blue Box.
- Its opponents argue that these payments are only partly decoupled from production.
- Countries in favour say that these subsidies are needed for agricultural reforms.
- Examples: Subsidies linked with the capping of acreage or number of animals.
- Only a few nations use subsidies in this box, namely, Norway, Slovenia, Iceland, etc.
- There is no cap on these subsidies.

In a nutshell,

Green Box Subsidies:
1. Non-distorting subsidies.
2. For R&D.
3. Environmental protection and regional development programmes.
4. No limit.

Blue Box Subsidies:
1. Not directly linked to increasing production.
2. Given for livestock.
3. No limit.

Amber Box subsidies:
1. Directly contributing in increasing production.
2. Example: Fertilisers, Seeds, Government procurement etc.
3. Most distorting.
4. Limitations imposed by WTO.

Box	Status	Payment Type
Amber	Trade-distorting	• Marketing loan benefits • Product-specific supports • Crop and revenue insurance subsidies • Irrigation subsidies • Renewable energy programs
Blue	Market-distorting and production-limiting	• Deficiency payments
Green	Non-trade-distorting	• Environmental payments • Natural disaster relief • Decoupled income support • Farm credit programs

The importance of Peace Clause

- The right to food is a basic human right. Therefore, Western misgivings about a country like India − where a third of the 1.3 billion-population lives beneath the poverty line − providing food subsidies seems hypocritical.
- The developed nations see India as a huge market for foodgrains and other products, but their produce is rendered uncompetitive when the government is willing to subsidise farmers, purchase their produce for a minimum support price and then sell it at a loss through the public distribution system and other channels.
- Accepting a temporary peace clause would be tantamount to admitting that the subsidy programmes in India and other developing nations violate global trade norms, leaving the nation a sitting duck if a complaint was to be raised in the WTO or other international forums later. This would also result in India losing its biggest bargaining chip in future WTO meetings.

TEA INDUSTRY IN INDIA

GS-III AGRICULTURE

Context

- The Tea Association of India (TAI) has expressed concern over decline in prices and drop in production, and cautioned that the industry could be heading towards a crisis.

About

- Indian tea is among the **finest in the world** owing to strong geographical indications, heavy investment in tea processing units, continuous innovation, augmented product mix and strategic market expansion.

Major Tea growing regions

- The main tea-growing regions are in the **Northeast (including Assam) and in north Bengal (Darjeeling district and the Dooars region).**
- Dibrugarh is currently known as Tea City of India.
- The soil of the district is mostly fertile, alluvial soil.
- It is the gateway to the three tea-producing districts **of Tinsukia, Dibrugarh, and Sivasagar**.
- These three areas account for approximately 50% of India's Assam tea crop, and this gives Dibrugarh its rightly earned sobriquet as the "Tea City of India".
- The state of Assam is the world's single largest tea-growing region.
- Tea is also grown on a large scale in the Nilgiris in south India.
- India is one of the world's largest consumers of tea, with about three-fourths of the country's total produce consumed locally.

Market Size of Tea Industry in India

- In 2020, nearly 1.10 million tons of tea was consumed in the country.
- The market in the country is projected to witness a further growth in the forecast period of 2022-2027, growing at a CAGR of 4.2%. In 2026, the tea industry in India is expected to attain 1.40 million tons.

Assam produces half of India's tea

Assam **51%** share of total production in 2017-18

West Bengal **29.3%**

Tamil Nadu **12.4%**

Others **7.3%**

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2017-18 data
Source: Tea Board of India
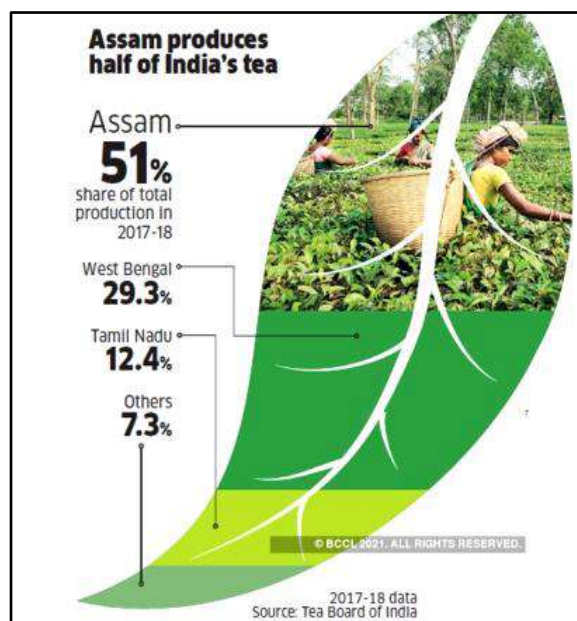
Issues faced by the Tea Industry

Shutdowns of tea plantations

- There are many tea gardens which have closed down in recent years due to various problems affecting the industry.
- Some of these are Red Bank, Dharanipur, Dheklapara, Surendranagar and Bundapani of the Dooars and Raipur Tea estate in West Bengal.
- In Assam too, many tea estates have closed down or are operating just minimally.

Causes

Tea prices started declining

- Across the world, tea's auction price has declined by almost 44% in real terms in the recent past as per World Bank's report.
- In India, all the profits from the tea gardens were siphoned off and there was no real or proper reinvestment in improving quality of tea.
- The burgeoning growth of the small-holder sector (currently 50 per cent of Indian production of 1,390 million kg), consistent with their ability to produce teas at a lower cost, also added pressure to the price lines.
- These have resulted in closing down of the tea gardens.

Less Production

- Financial problems, power problems, labor issues, poor labor schemes, inadequate communication system, increased pollution fee, less subsidy for transport etc. have put the tea industry in North East India in a difficult situation, resulting in low production of tea and tea leaves.

Pest Problem

- Along with the mosquito bug, a disease called the **bacterial black spot** has also affected many plantations in North East Tea Estates.

Low wages for laborers

- As price realization of tea is very less in the international market and as temporary laborers are used in the peak seasons, usually the wages paid for tea industry laborers are very less.
- This made some of them starve and leave out the industry.

High production costs

- Low yields and High production costs are pulling the legs of Small Tea Growers backward.
- Even the corporate companies are slowly exiting out of the industry and were concentrating only on the retailing part instead of production.

Sick industry

- A considerable number of tea gardens have gone sick due to lack of infrastructure, modernization and efficient management.

No proper storage

- The problem of storing premium quality tea has always been there.
- Due to delay in transportation and lack of storage facilities, the processed tea gains moisture from the atmosphere and deteriorates in quality.

Climatic Conditions
- Unfavourable climatic conditions for tea plantations owing to scanty or very heavy rainfall have badly affected the tea industry.

Political turmoil
- In Darjeeling, due to political agitation, production of flag bearer variety of tea has suffered a lot.
- This has forced lot of exporters to substitute that with Nepal tea to compensate the flavor and aroma.

Health problems
- The poor living conditions make these labourers vulnerable to various diseases.
- The major health problems faced by the labourers are worm infestation, respiratory problems, diarrhoea, skin infections, filariasis and pulmonary tuberculosis.

No health benefits
- Under the Plantation Labour Act 1951, each tea garden should have a health centre with proper medical facilities.
- However, the gardens are remotely located and the health centres are located in distant towns.
- The workers do not have proper connectivity to these centres.
- There are no maternity benefit schemes available for the female tea garden workers.
- It has been found that women are engaged in hard jobs even during pregnancy and post natal period.

Wage/Price Movement
- The wage/price movement has been adverse.
- Taking 1995 as the base year, and measuring over a 24-year duration up to 2019, wages have gone up by eight times whereas tea prices have gone up only by 2 per cent. Consequently, many companies turned red.

Collapse of the captive Russian market
- South Indian plantations took an earlier and bigger hit because of the collapse of the captive Russian market.

Exit from captive production
- Branding and moving up the value chain were seen as a means to insulate oneself from the commodity price insecurity.
- But the integrated (forward and backward) tea companies soon figured out that captive production was a burden and exited, either fully or partially from captive production.

Under the circumstances, the industry, in general, is in crying need to have a structural change in the way it operates.

Suggestions

Need for Organized Business
- Indian tea industry is still unorganized and even though Government is controlling this industry with Tea Board, it's not that effective as expected.
- Thus it is the Tea Board that has to undergo structural reforms in order to safeguard the industry as well as so many people who is dependent totally on tea for their survival

Quality Enhancement
- Only quality tea production paves the way to preserve and significantly increase the export prices.
- Moreover this also will increase the demand for Indian tea among international products in the global arena and thereby increasing the profit margins as well as improving the living standards of people who is dependent on tea industry.

Awareness Programs
- Growing Small Tea Growers become a biggest challenge for the Tea Industry that only production is given importance by them because of ignorance.
- Thus to improve the standards of Tea Production, Government and Tea board have to organize more awareness programs on Tea plantations and on entrepreneurship skills, so as to run the business with better profits.

Distribute Land-Ownership
- One way of ensuring a holistic sustainability of the plantation industry would appear to be to distribute land-ownership in favour of the plantation employees and buy back the raw material through a co-operative outfit.

Price Formula
- The green leaf purchase can be based on a price-formula linked to, the published industry auction price.
- Individual corporates may want to pay a higher price, based on their end price realization.
- In consideration of transfer of land ownership, it should be made obligatory for ex-employees to sell the raw materials to the corporate which has the infrastructure and technology for processing the primary produce, adding value as appropriate and marketing the same.

Land disinvestment
- The land disinvestment should also be viewed in the light of the increasing uncertainty over land ownership both due to 'land title' issues, as well as political, social and economic pressure for land ownership.

- The value of a plantation be it in terms of Rs/kg of production or Rs/hectare of plantation will simply be based on operational profits.

Social and Welfare amenities

- Once the workmen become owners of land and cease to be plantation employees, it will be incumbent on the government to provide them with social and welfare amenities, currently provided by the plantation managements, through their various existing schemes.
- This will further bring down production costs for the corporates.
- The government can thus ensure complete social and welfare care for this populace.

Conclusion

- India being the second largest producer of Tea has numerous opportunities to develop the Tea Industry as it is providing employment to a huge number of people in the north eastern states.
- A win-win for all and therefore a truly sustainable and transparent model — is the key requirement for a highly labour-centric industry like tea plantations.

OPERATION GREEN

GS-III AGRICULTURE

Context

- Tomato now at Rs 100/kg in Delhi and Chennai as prices soar due to unseasonal rains.
- Farmers demand support measures.

About

- Operation Green was originally launched in 2018
- Operation Greens **seeks to stabilize the supply of Tomato, Onion and Potato (TOP) crops** and to ensure availability of TOP crops throughout the country round the year without price volatility.
- The scheme was **extended during June 2020 to cover all fruits & vegetables** for a period of six months on pilot basis as part of Aatmanirbhar Bharat Abhiyan.
- The **Ministry of Food Processing Industries has launched the scheme**.
- **NAFED is be the Nodal Agency** to implement price stabilisation measures.

Objectives

- **Value realization:** Enhancing value realisation of TOP farmers by targeted interventions to strengthen TOP production clusters and their FPOs, and linking/connecting them with the market.
- **Price stabilization:** Price stabilisation for producers and consumers by proper production planning in the TOP clusters and introduction of dual use varieties.
- **Reduction in post-harvest losses**: By creation of farm gate infrastructure, development of suitable agro-logistics, creation of appropriate storage capacity linking consumption centres.
- **Enhancing Value Chain:**Increase in food processing capacities and value addition in TOP value chain with firm linkages with production clusters.
- **Market intelligence network:**Setting up of a market intelligence network to collect and collate real time data on demand and supply and price of TOP crops.

Strategy

- The strategy will comprise of a series of measures as decided by the Ministry which includes:
  - o Short term Price Stabilisation Measures: MoFPI will provide 50% of the subsidy on the following two components:
    1. Transportation of Tomato Onion Potato(TOP) Crops from production to storage;
    2. Hiring of appropriate storage facilities for TOP Crops;
- Long Term Integrated value chain development projects
- Capacity Building of FPOs & their consortium
- Quality production
- Post-harvest processing facilities
- Agri-Logistics
- Marketing / Consumption Points
- Creation and Management of e-platform for demand and supply management of TOP Crops.

Funding

- The pattern of assistance will comprise of **grants-in-aid at the rate of 50% of the eligible project cost in all areas,** subject to maximum Rs. 50 crores per project.

Current Status

- Experts feel that it is in <u>slow motion mode and is nowhere near its objectives.</u>
- As per the <u>study at Indian Council for Research on International Economic Relations (ICRIER),</u> "price volatility remains as high as ever, and farmers' share in consumers' rupee is as low as 26.6% in the case of potatoes, 29.1% in the case of onions, and 32.4% in the case of tomatoes"
- The dairy sector has been said to improve more than Greens.
- There are a few lessons Operation Green can take from Operation Flood.
- However, its comparison with Operation Flood is a bit critical as the latter has been in operation for 20 years.

Final Words

- Results are not going to come in three to four years.
- Operation flood lasted for almost 20 years before milk value chains were put on the track of efficiency and inclusiveness.
- There has to be **a separate board to strategize and implement the OG scheme**, more **on the lines of the National Dairy Development Board (NDDB) for milk**, which keeps itself at arm's length from government control.
- The criteria for choosing clusters for TOP crops under OG are not very transparent and clear.
- The reason is while some important districts have been left out from the list of clusters, less important ones have been included.
- The subsidy scheme <u>will have to be made innovative with new generation entrepreneurs, startups and FPOs.</u>
- The announcement to **create an additional 10,000 FPOs along with the Agriculture Infrastructure Fund** and the new farm laws are all promising but need to be implemented fast.

MS SWAMINATHAN REPORT

GS-III AGRICULTURE

Context

- Eminent farm scientist MS Swaminathan expressed happiness over the Centre announcing its decision to repeal the farm laws and said that the future of agriculture depends on the impact on production, procurement and prices.

INDIA'S AGRICULTURE SECTOR: PRODUCTIVITY CHALLENGES

At **169.6 million hectares,** India's cultivated land mass is the largest in the world.[23]

The Government of India's top research institute reports that nearly **60% of agricultural land is at risk** because of fertilizer misuse, poor cropping practices and soil nutrient deficiencies.[24]

India uses **13% of the world's extracted water,** and **87% is used for irrigation.** Expanding irrigation has been a key strategy for increasing productivity; the proportion of arable land under irrigation increased from 20% to 35% from 1981 to 2013.[25]

The country is faced with the prospect of **declining rainfall during the monsoon,** India's prime growing season for rainfed agriculture.

55% of the **population** is engaged in agricultural production. As farms are divided among family members, average **farm size today** (1.16 hectares / 2.87 acres) **is half what it was 40 years ago.**[26]

Irrigation water use efficiency is very low 35–40% efficiency in surface irrigation such as flooding or canals, and 65–75% efficiency when pumping groundwater. These **unsustainable practices** are depleting the country's aquifers.[27]

Unemployment among agricultural workers rose from **9.5%** in 1993–1994 to **15.3%** in 2004–2005.[28]

Government **subsidies to farmers** for fertilizer, electricity and irrigation **increased more than eightfold** between 1990–1991 and 2006–2007. Areas receiving the highest subsidies regularly underperform those with lower subsidies.[29]

Government **subsidies for** buying and distributing **food grains** to low-income and disadvantaged households **grew from 2.2%** of agricultural GDP during the 1990s **to 5%** in the 2000s[30], crowding out investments in agricultural education, research, technology and extension.

India's Ministry of Agriculture reports that from 2005 to 2007, **30%** of harvest and post-harvest **economic losses came from the fruit and vegetable sectors,** although that sector comprised only 13.6% of total production.[31]

MS Swaminathan Recommendations for Agriculture

Public investment

- Substantial increase in public investment in agriculture related infrastructure particularly in irrigation, drainage, land development, water conservation, research development and road connectivity etc.

MSP enforcement

- The Swaminathan Report at many places notes that enforcement of MSP throughout the country is essential for imparting dynamism to agriculture.
- It recommends this safety net to safeguard the interests of the crops, people and regions which are likely to be affected in the process of globalization.

MSP Formula

- C2+50 % is the core of the reports of the National Commission on Farmers.
- The Comprehensive cost (cost C2) includes imputed costs of family labour and rent of owned land, as also the imputed interest on owned capital.
- The National Commission on Farmers has recommended a 50 % margin over C2.

One Nation-One Market.

- The Swaminathan Commission had recognised the **problem of cartelisation** among traders in a particular Agricultural Produce & Livestock Market Committee (APMC) and thus recommended the establishment of One Nation-One Market.
- The report vouched for "development of domestic and international markets for local produce, and move towards a **Single Indian Market."**

EXPRESS explained. | HOW ARE MSPs DETERMINED?

The Centre fixes MSPs for every kharif and rabi cropping season based on recommendations of the Commission for Agricultural Costs and Prices (CACP)

● When a farmer grows a crop, he incurs costs, some of it explicit and some implicit or unpaid. The CACP considers the following costs:

① A2 — Covers all cash and in kind expenses incurred by farmers on seeds, fertilisers, chemicals, hired labour, fuel, irrigation, etc

② A2+FL — Actual costs plus an imputed value of unpaid family labour

③ C2 — Includes 'A2+FL' along with revenues forgone on owned land (rent) and fixed capital assets (interest)

#QUIXPLAINED

National Permit

- It suggested simplification in the movement of goods by abolishing road tax and local taxes and introduced a National Permit for plying commercial vehicles anywhere in India.

Distribute Ceiling-Surplus

- The report recommends to distribute ceiling-surplus and waste lands;

Stop Diversion of Prime Agricultural Land

- Prevent diversion of prime agricultural land and forest to corporate sector for non-agricultural purposes.

Access to forests

- Ensure grazing rights and seasonal access to forests to tribals and pastoralists, and access to common property resources.

Establish National Land Use Advisory Service

- Establish a National Land Use Advisory Service, which would have the capacity to link land use decisions with ecological meteorological and marketing factors on a location and season specific basis.

Regulation of the sale of agricultural land

- Set up a mechanism to regulate the sale of agricultural land, based on quantum of land, nature of proposed use and category of buyer.

Equitable access to water

- A comprehensive set of reforms to enable farmers to have sustained and equitable access to water.

Mandatory water conservation

- Increase water supply through rainwater harvesting and recharge of the aquifer should become mandatory.
- **"Million Wells Recharge"** programme, specifically targeted at private wells should be launched.

Investment in irrigation sector

- Substantial increase in investment in irrigation sector under the 11th Five Year Plan apportioned between large surface water systems; minor irrigation and new schemes for groundwater recharge.

Expand formal credit system

- Expand the outreach of the formal credit system to reach the really poor and needy.

Crop Loan Interest

- Reduce rate of interest for crop loans to 4 per cent simple, with government support.

Debt recovery

- Moratorium on debt recovery, including loans from non-institutional sources, and waiver of interest on loans in distress hotspots and during calamities, till capability is restored.

Agriculture Risk Fund

- Establish an **Agriculture Risk Fund** to provide relief to farmers in the aftermath of successive natural calamities.

Women Farmers

- Issue Kisan Credit Cards to women farmers, with joint pattas as collateral.

Integrated insurance package

- Develop an integrated credit-cum-crop-livestock-human health insurance package.
- Expand crop insurance cover to cover the entire country and all crops, with reduced premiums and create a Rural Insurance
- Development Fund to take up development work for spreading rural insurance.

Promote Sustainable livelihood

- Promote sustainable livelihoods for the poor by improving (i) Financial services (ii) Infrastructure (iii) Investments in human development, agriculture and business development services (including productivity enhancement, local value addition, and alternate market linkages) and (iv) Institutional development services (forming and strengthening producers' organisations such as self-help groups and water user associations).
- Provide affordable health insurance and revitalize primary healthcare centers.
- The National Rural Health Mission should be extended to suicide hotspot locations on priority basis.

State level Farmers' Commission

- Set up State level Farmers' Commission with representation of farmers for ensuring dynamic government response to farmers' problems.

Restructure microfinance policies

- Restructure microfinance policies to serve as Livelihood Finance, i.e. credit coupled with support services in the areas of technology, management and markets.

Low risk -low cost technologies

- Recommend low risk and low cost technologies which can help to provide maximum income to farmers because they cannot cope with the shock of crop failure, particularly those associated with high cost technologies like Bt cotton.

Market Intervention Schemes (MIS)

- Need for focused Market Intervention Schemes (MIS) in the case of life-saving crops such as cumin in arid areas.
- Have Price Stabilisation Fund in place to protect the farmers from price fluctuations.
- Need swift action on import duties to protect farmers from international price.

Village Knowledge Centres

- Set up Village Knowledge Centres (VKCs) or GyanChaupals in the farmers' distress hotspots.
- These can provide dynamic and demand driven information on all aspects of agricultural and non-farm livelihoods and also serve as guidance centres.

Public awareness campaigns

- Public awareness campaigns to make people identify early signs of suicidal behavior.
- The "net take home income" of farmers should be comparable to those of civil servants.

Government Initiatives taken for Agricultural sector

- **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PMAASHA):** PM-AASHA was launched in 2018 with 3 components i.e. Price Support Scheme (PSS), Price Deficiency Payment Scheme (PDPS) and Private Procurement & Stockist Scheme (PDPS).
- **Pradhan MantriKrishiSinchayeeYojana (PMKSY)- Per Drop More Crop:** PMKSY launched with focus on enhancing water use efficiency through expansion of cultivable area under assured irrigation, improve on-farm water use efficiency to reduce wastage of water, enhance the adoption of precision-irrigation and other water saving technologies, enhance recharge of aquifers and introduce sustainable water conservation practices.
- **Pradhan MantriFasalBimaYojana (PMFBY):** PMFBY was introduced to provide better insurance coverage for agricultural crops and thereby mitigate risk.
- **Soil Health Card scheme:** It aims to assist State Governments to issue soil health cards to all farmers in the country. Soil health cards provides farmers information on the nutrient status of their soil along with recommendation on appropriate dosage of nutrients to be used for their soil conditions.
- **E-NAM:** National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities.
- **Micro Irrigation Fund (MIF):** The fund has been set up under NABARD, which will provide this amount to states on concessional rate of interest to promote micro-irrigation.
- **National Mission For Sustainable Agriculture (NMSA):** National Mission for Sustainable Agriculture (NMSA) has been formulated for enhancing agricultural productivity especially in rainfed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation.

- **ParamparagatKrishiVikasYojana (PKVY):** PKVY is an initiative to promote organic farming in the country. According to the scheme, farmers will be encouraged to form groups or clusters and take to organic farming methods over large areas in the country.
- **Livestock insurance Scheme:** This scheme aims to provide protection mechanisms to the farmers and cattle rearers against any eventual loss of their animals due to death with the ultimate goal of attaining qualitative improvement in livestock and their products.
- **National Scheme on Welfare of Fishermen:** This scheme was launched to provide financial assistance to fishers for construction of house, community hall for recreation and common working place.

Conclusion

- Measures, suggested by the Swaminathan Commission, would help in enlarging small regional markets into a large national market, reduce transportation cost and improve the competitiveness of our agriculture.

Read about Repealed Farm Laws here:

https://www.iasgyan.in/blogs/farm-laws-2020-and-farmers-protest-explained

MINIMUM SUPPORT PRICE (MSP)   *GS-III AGRICULTURE*

Context

- Farmers are demanding a legal guarantee that all farmers will receive remunerative prices for all their crops.

What is MSP?

- The minimum support price (MSP) is an agricultural product price, set by the Government of India to purchase directly from the farmer. This is **not enforceable by law.**
- This rate is to safeguard the farmer to a minimum profit for the harvest, if the open market has lesser price than the cost incurred.

Details

- Government of India announces Minimum Support Prices (MSP) for **23 major agricultural commodities** of Fair Average Quality (FAQ) each year in both the Crop seasons.
- It does so after taking into account the **recommendations of the Commission for Agricultural Costs and Prices (CACP).**
- The purpose of MSP is to make sure farmers do not face huge losses because of these crops, that they recover at least 50% of what they invested in cultivating them.

Calculating MSP

- Since 2009, the Commission for Agricultural Costs and Prices fixes the MSP of a crop based on:

1. cost of production
2. demand
3. supply
4. price fluctuations
5. market price trends
6. different costs and
7. international market prices
8. agricultural wage rate

Procurement

- The procurement at MSP is being done by **Central and State Agencies under various schemes of Government.**
- Procurement centres are opened by respective **State Government Agencies and Central Nodal Agencies like NAFED, FCI etc.**
- This is done after taking into account the production, marketable surplus, convenience of farmers and availability of other logistics / infrastructure such as storage and transportation etc.

Current Status

- The MSP comes as a much relief to many farmers.
- The trouble with MSP is that while it is touted as an all-important factor for farmers promising an instant rise in their income and stability, it also has many drawbacks in implementation.
- Also, as at present, there is no legal guarantee vested on MSP roughly one-third of the rice and wheat produced is bought by government agencies at MSP, mostly in the northern states, the balance is procured by other buyers.
- Very often farmers are pushed to sell below MSP. The minimum rate cannot be forced on the buyer since it is just an indicative/desired price and not a mandatory one.
- The farmer unions are seeking a law that would make MSP mandatory, so that the buyer cannot evade it.

Rationale behind MSP/Legalizing MSP

- **Assured Pay:** It is a one-price policy guaranteeing assured pay, which directly influences farmer's pockets.
- **Economically prudent measure:** While liberalisation and free market policies may work in other (industrial) sectors, the agriculture sector has a huge population of poor farmers who do not get adequate remuneration for the effort they put in to cultivate crops.Agriculture accounts for a substantial portion of the nation's GDP, and employs hundreds of crores of people. Hence, providing pricing support is an economically prudent measure, and not just a sop.
- **Counters Food Inflation:** Organizations like SamyuktKisanMorchahave noted that to counter food inflation, the poor can be offered subsidised food — that making the food producer settle for lower prices just to tame inflation is unfair. Subsidies and price support for farmers is **not a 'poor nation' practice**, it is being done the world over.
- **Secures the vulnerable farmer:** It considers various factors when fixing the price and does not leave the farmer at the mercy of the market.
- **Enhances Food Security:** Procurement for public distribution system and buffer stock for food security come from this policy.
- **Influences market price positively**: It has a heavy influence on market prices and also helps the farmer grow production and match up with other sectors in terms of income.

Cons of MSP/legalizing MSP

- **No long term solution**: Hiking the MSP without investing in infrastructure is just a short-term play. While it does deliver immediate results, long-term developments to back-it up are also important.
- **Burden on the exchequer:** If MSP is legalised through an Act of Parliament, the government would have to make sure each of the 23 crops is purchased fully at the prescribed rate. There is also the cost of developing new facilities that would be needed to store and transport the food-grains thus procured.
- **Revenue Diversion**: All the revenue will be diverted toward this and there will be no money left with the government to develop and maintain essential things like roads, bridges and so on.
- **Demand to cover other items**: The move would open a Pandora's box.If MSP is made legal for the 23 crops, soon, other farmers will also come up with the demand for their crops such as fruits and vegetables.
- **Market Inflation:** Too much of a hike on MSP either paves way for inflationary effects on the economy, with a rise in prices of foodgrains and vegetables, or loss to government treasury if it decides to sell at a lower price as compared to the higher MSP it bought at.
- **Disparity in access:** MSP is a nationwide single price policy. However, the actual costing for production varies from place to place, more severely so in areas lacking irrigation facilities and infrastructure. Thus, not all farmers have equal benefits.
- **Falling Market price**: Market prices should ideally never be below MSP. If they fall below the MSP, in concept, the farmer can always sell it to the government, which will then resell it or store as buffer. However, practically this does not always happen. The market value in many cases does fall below MSP due to lack of infrastructure and procurement apparatus on the government's end.
- **Gaps in implementation**: MSP is notified for 23 crops, but effectively ensured only for two-three crops.
- **Not a panacea**: MSP while still being significant is not the only go-to solution for solving all farmer woes.

Final Thoughts

- **Rope in private players**: To implement the MSP, the government can insist that private players also adhere to the regime, akin to the current procedure in sugarcane procurement.

- **Sell to private players**: Alternatively, it can procure the 23 crops at MSP and then sell them to private players. State-run firms such as Food Corporation of India (FCI), National Agricultural Cooperative Marketing Federation of India (Nafed) and Cotton Corporation of India (CCI) can be roped in for this.
- **Direct income transfers:** Public procurement needs to continue for staple cereals, but farmers of non-staple food crops need to be provided with direct income transfers. These are fiscally prudent, obviate the need for physical procurement and storage by the government, do not distort current production, and also provide a basic income to farmers. These will also address the main concern over the recent farm laws related to the vulnerability of small and marginal farmers and may help these farmers to avoid distress sales.

MS Swaminathan Commission Recommendation

MSP enforcement:
- The Swaminathan Report at many places notes that enforcement of MSP throughout the country is essential for imparting dynamism to agriculture.
- It recommends this safety net to safeguard the interests of the crops, people and regions which are likely to be affected in the process of globalization.

MSP Formula
- C2+50 % is the core of the reports of the National Commission on Farmers.
- The Comprehensive cost (cost C2) includes imputed costs of family labour and rent of owned land, as also the imputed interest on owned capital.
- The National Commission on Farmers has recommended a 50 % margin over C2.
- **Deficiency price payment'**: The Govt. can also go for the alternative of **'deficiency price payment'** without requiring the government to purchase undesirable quantities and undesirable commodities. Deficiency price payment must be part of the difference between the actual price received by farmers and the MSP.
- **Example:** The Madhya Pradesh government has launched a 'Price Deficiency Payment' schemes for the farmers called 'BhavantarBhugtanYojana' (BBY) in 2017.

41ST SCIENTIFIC EXPEDITION TO ANTARCTICA

GS-III SCIENCE & TECHNOLOGY

Context
- India has successfully launched the 41st Scientific Expedition to Antarctica with the arrival of the first batch of its contingent at the southern white continent.

Details
- The 41st expedition has two major programs.
- The first program encompasses geological exploration of the Amery ice shelf at Bharati station.
- This will help explore the link between India and Antarctica in the past.
- The second program involves reconnaissance surveys and preparatory work for drilling of 500 meters of ice core near Maitri.
- It will help in improving the understanding of Antarctic climate, westerly winds, Sea-ice and greenhouse gases from a single climate archive for past 10,000 years.

Indian Antarctic Program
- The Indian Antarctic Program is a multi-disciplinary, multi-institutional program under the control of the National Centre for Polar and Ocean Research, Ministry of Earth Sciences.
- It was **initiated in 1981** with the first Indian expedition to Antarctica.
- The program gained global acceptance with <u>India's signing of the Antarctic Treaty</u> and subsequent construction of the **Dakshin Gangotri Antarctic research base in 1983**, superseded by the **Maitri base from 1989.**
- The newest base **commissioned in 2012 is Bharati.**
- Under the program, atmospheric, biological, earth, chemical, and medical sciences are studied by India.
- As of today, Maitri and Bharati are fully operational.
- The National Centre for Polar and Ocean Research (NCPOR), Goa—an **autonomous institute** under the Ministry of Earth Sciences—manages the entire Indian Antarctic program.

The Antarctic Treaty
- The Antarctic Treaty was signed in Washington on 1 December 1959 by the twelve nations (**Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, United Kingdom, United States and USSR**).
- The Treaty now has 52 signatories. India became a member of this treaty in 1983.
- **Headquarters:** Buenos Aires, Argentina.
- The Treaty, applies to the area south of 60° South latitude.

Its provisions are as follows

- stipulates that Antarctica should be used exclusively for <u>peaceful purposes,</u>
- military activities, such as the establishment of military bases or weapons testing, are specifically prohibited;
- guarantees continued <u>freedom to conduct scientific research</u>
- promotes international scientific cooperation including the exchange of research plans and personnel,
- requires that results of <u>research be made freely available;</u>
- Antarctica is <u>not subject to the claim of any country,</u>

The Antarctic Treaty Main Points

1 - No military use
2 - Freedom of scientific investigation
3 - Free exchange of scientific plans and data
4 - Any territorial claims put on hold
5 - Nuclear free zone
6 - Applies to land but not seas
7 - All stations open to inspection by other nations
8 - National laws apply to citizens not to areas
9 - The treaty may be modified at any time, requires unanimous agreement of treaty nations
10 - All treaty nations to ensure no-one carries out acts against the treaty

- prohibits nuclear explosions and the disposal of radioactive waste;
- provides for inspection by observers, designated by any party, of ships, stations and equipment in Antarctica to ensure the observance of, and compliance with, the Treaty;
- requires parties to give <u>advance notice of their expeditions;</u> provides for the parties to meet periodically to discuss measures to further the objectives of the Treaty; and
- puts in place a dispute settlement procedure and a mechanism by which the Treaty can be modified.
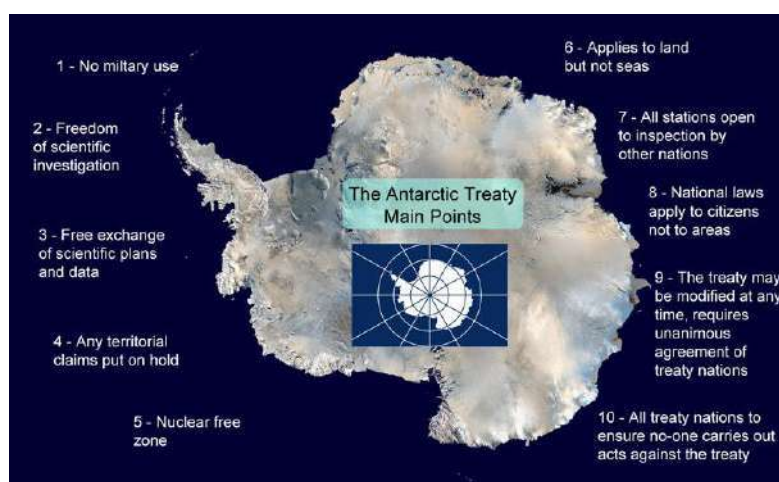
The Antarctic Treaty System

- The Antarctic Treaty System comprises the Treaty itself and a number of related agreements.
- The Treaty System includes the recommendations, measures, decisions and resolutions of matters relating to:
  o scientific cooperation;
  o protection of the Antarctic environment;
  o conservation of plants and animals;
  o preservation of historic sites;
  o designation and management of protected areas;
  o management of tourism;
  o information exchange;
  o collection of meteorological data;
  o hydrographic charting;
  o logistic cooperation; and
  o communications and safety

Major International Agreements of the Treaty System

- The 1959 Antarctic Treaty.
- The 1972 Convention for the Conservation of Antarctic Seals.
- The 1980 Convention on the Conservation of Antarctic Marine Living Resources.
- The 1991 Protocol on Environmental Protection to the Antarctic Treaty
- The development of these agreements has allowed the implementation, with greater precision, of **legally binding provisions for the regulation of activities in Antarctica.**
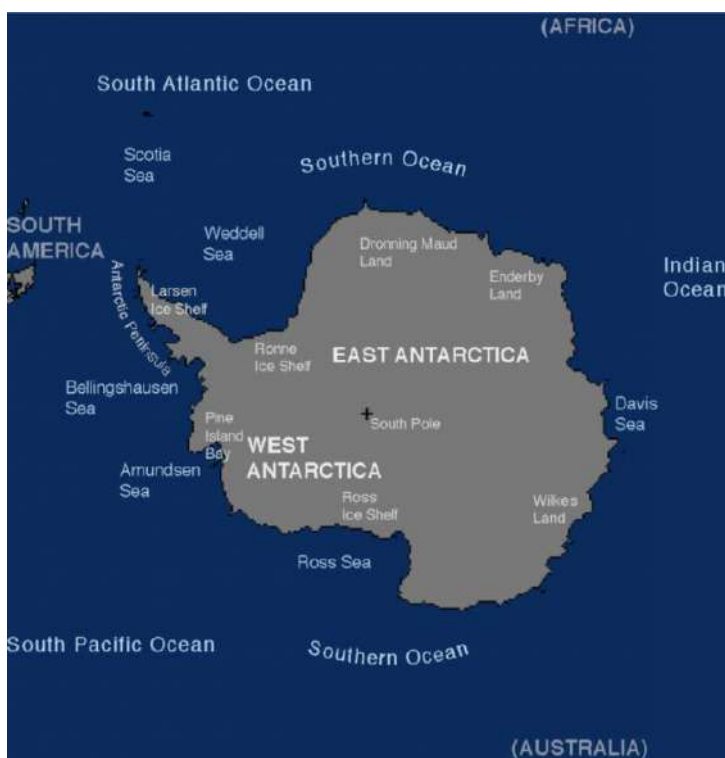
| SHALE GAS | GS-III SCIENCE & TECHNOLOGY |

Context

- Cairn Oil & Gas has announced that it is partnering US-based Halliburton to start shale exploration in the Lower Barmer Hill formation, Western Rajasthan.

What is shale oil?

- Shale oil is an unconventional oil produced from oil shale rock fragments by pyrolysis, hydrogenation, or thermal dissolution. These processes convert the organic matter within the rock (kerogen) into synthetic oil and gas.

How does it differ from conventional crude oil?

- The key difference between shale oil and conventional crude is that the former, **also called 'tight oil'**, is found in smaller batches, and deeper than conventional crude deposits.
- Its extraction requires creation of fractures in oil and gas rich shale to release hydrocarbons through a process called hydraulic fracking.
- **Russia and the US are among the largest shale oil producers in the world,** with a surge in shale oil production in the US having played a key role in turning the country from an importer of crude to a net exporter in 2019.

Status of shale oil exploration in India

- Currently, there is no large-scale commercial production of shale oil and gas in India.
- As per the US EIA 2015 report, India has got technically recoverable shale gas of 96 trillion cubic feet.
- The recoverable reserves are identified in Cambay, Krishna – Godavari, Cauvery, Damodar Valley, Upper Assam, Pranahita – Godavari, Rajasthan and Vindhya Basin.
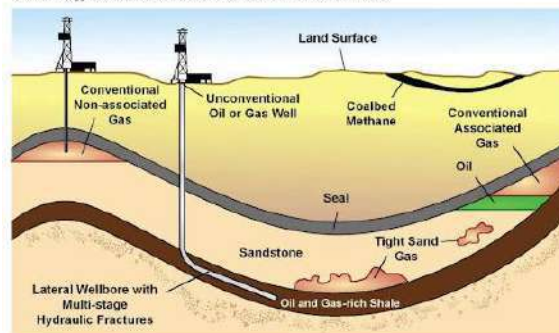
S-400 PURCHASE AND CAATSA

GS-III   SECURITY & DEFENSE

Context

- The United States Government has stated that the delivery of the five S-400 systems is considered a "significant transaction" under its Countering America's Adversaries Through Sanctions Act (CAATSA) of 2017, which could trigger sanctions against Indian officials and the Government.

What kind of sanctions?

- The CAATSA is designed to ensure that **no country is able to increase military engagement with Iran, North Korea and Russia without facing deterrent punitive action** from the U.S.
- The sanctions are **unilateral, and not part of any United Nations decision**, and therefore **no country is bound to accept them.**
- Section 235 lists 12 options, including stopping credit lines from U.S. and international banks such as the IMF, blocking sales of licensed goods and technology, banning banks, manufacturers and suppliers, property transactions and even financial and visa sanctions on specific officials.
- The law **empowers the President to waive sanctions or delay them** if he/she certifies that the deal is not a threat to the U.S. and allies, that waiver of sanctions is in the U.S.'s "vital national security interests" or that the country being sanctioned promises to reduce its future dependence on the "adversary country".

WHAT IS CAATSA?

Countering America's Adversaries Through Sanctions Act. Enacted in August 2017, came into effect in January. Targets Iran, North Korea and Russia

INDIA'S WORRY
One of its provisions targets Russian defence firms and countries doing business with them. India has defence deals worth over $12 billion in the pipeline with Russia

THE SOLUTION
New clauses inserted by the US in the National Defense Authorization Act (US military budget), which empower the Trump administration to suspend CAATSA sanctions, but it has to certify that India is reducing its dependence on Russia

Has the U.S. used CAATSA before for S-400 sales?

- The U.S. has already **placed sanctions on China and Turkey** for purchase of the S-400.

Which way is the Biden administration leaning on India?

- The Biden administration had made it clear that the **S-400 is "dangerous and not in anybody's security interest**", but left the determination on sanctions after India takes delivery of the missiles to President Biden himself.
- Saudi Arabia has also reportedly negotiated with Russia for the S-400, and some experts in the U.S. feel that giving a waiver to India would be the wrong signal for others seeking to go ahead with similar deals.

What is India's position?

- India **has not backed down** in the face of U.S. opposition and is **scheduled to receive the first S-400 deliveries in December**.
- India and Russia had protected the advance payments from triggering U.S. sanctions by ensuring a **rupee-rouble transfer.**

Why is the S-400 deal so important to India?

- S-400 is very important for **India's national security**, especially as it faces **new threats from China, Pakistan and Afghanistan**, calling it a "game changer".
- The system will also **offset the air defence capability gaps** due to the IAF's dwindling fighter squadron strength.
- Integrating the S-400 into the national air defence architecture will be **much easier as India has a large number of legacy Russian air defence systems**, a major reason India did not consider the U.S. air defence systems as a viable alternative.
- For both **political as well as operational reasons, the deal is at a point of no return.**
- Buying the S-400 is a way for asserting India's 'strategic autonomy'.

India inks S-400 Triumf deal with Russia

India has signed a $ 5.43 billion (about ₹ 40,000 crore) deal with Russia to procure five S-400 Triumf advanced air defence missile systems

S-400 Triumf Features

Can engage all types of aerial targets including aircraft, unmanned aerial vehicles and all types of missiles | Locates targets at 600 km and can destroy them at 400 km range, up to an altitude of 30 km | The system can engage multiple targets simultaneously

Integrates:
- Multifunction radar
- Anti-aircraft missile systems
- Launchers
- Autonomous detection and targeting systems
- Command and control centre

Possible deployment options

Range of missiles:
Capable of firing different types of missiles to create a layered defence shield

- 40N6: 400 km
- 48N6: 250 km
- 9M96E2: 120 km
- 9M96E: 40 km

KBK Infographics

What is S-400?

- S-400 (NATO name SA-21 Growler) is considered **one of the world's most advanced air defence**

systems that can simultaneously **track and neutralise a range of incoming objects** spanning aircraft, missiles and Unmanned Aerial Vehicles (UAVs) over very long ranges.

- It is especially suited to **take down strategic aerial platforms** like bombers, mid-air refuellers, reconnaissance aircraft and Advanced Early Warning and Control Systems (AWACS).
- Given their capabilities, the S-400 has emerged as **one of the most controversial arms exports of Russia** and a major point of contention between Washington and Moscow.

INS VELA   GS-III SECURITY & DEFENSE

Context
- Vela, the fourth submarine of P75 of the Indian Navy, was commissioned by Navy.
- This will be the **second addition to the Indian Navy's fleet of warships after INS Vishakapatnam's** commissioning.

What is Project 75?
- Conceptualised for the acquisition for 25 submarines at the time of the IK Gujral government, P 75 evolved into a **30-year plan for building submarines**.
- In 2005, **India and France** signed a $ 3.75 billion contract for building **six Scorpene class submarines**.
- The executing company on the Indian side is Mazgaon Docks Ltd, and on the French side, it is DCNS, which is now called **Naval Group**.
- The project has been dogged by delays and questions over the reluctance of the French government to act on the commitment for **"transfer of technology"** that was an **integral part of the contract**.
- As a result, the first of the six subs, INS Kalvari, was commissioned five years behind schedule, in 2017.

What has been the progress so far?
- After **Kalvari**, two more submarines under the contract, INS **Khanderi and INS Karanj**, were commissioned.
- **Vela is the fourth**, and sea trials are ongoing for **Vagir,** while the sixth, **Vagsheer, is under construction**.

What is special about Vela?
- Vela submarine is equipped with **C303 anti torpedo countermeasure system**, and can carry up to 18 torpedoes or Exocet anti-ship missiles or 30 mines in place of torpedoes.
- Vela is a **diesel-electric powered attack submarine**, designed to act as **"sea denial"** as well as **"access denial"** warfare to the adversary.
- The submarine can engage in **offensive operations** across the entire spectrum of naval warfare, including **anti-surface warfare, anti-submarine warfare, intelligence gathering, mine laying and area surveillance.**

How did Vela get its name?
- Vela is **named after a decommissioned submarine Vela**, which served the Navy from 1973 to 2010.
- The earlier Vela belonged to Foxtrot class **submarine of Soviet origin**.

CYBERCRIME   GS-III SECURITY & DEFENSE

Context
- Cyber crimes have gone up by almost 500% in India during the global pandemic
- With data gradually transcending into the open domain with numerous firms permitting employees to work from their homes amid the pandemic, **sensitive information has become susceptible to security vulnerabilities**.
- The rise of digital payments has also increased complex cyber crimes.

COMPLAINTS RECEIVED ON CYBER PORTAL (JAN-AUG 2020)

Month	Complaints
January	1,479
February	2,091
March	1,895
April	3,367
May	4,184
June	3,205
July	4,113
August	3,821

NATURE OF CYBERCRIME
- Other cybercrimes: 17%
- Related to social media: 24%
- Online financial fraud: 59%

CYBERCROOKS ON THE PROWL

TRENDS DURING THE PANDEMIC
Geographic clusters of specific modus operandi have come up in different parts of the country

- JOB FRAUDS – Delhi/NCR
- FAKE GOVT WEBSITES – North Rajasthan
- OLX-BASED QR CODE FRAUDS – Mewat tri-junction
- SOCIAL MEDIA SOS FRAUD – Western UP
- FAKE COMMERCIAL WEBSITES – Eastern UP/Bihar
- KYC/UPI FRAUDS – Bihar tri-junction, Jharkhand (Jamtara), West Bengal
- Online harassment cases on the up

Modus operandi of online frauds has become diversified and is closely mimicking the online behaviour of internet users

IMPACT OF COVID ON CYBERCRIME

1. New ways to cheat citizens
   - Fake shopping sites
   - Frauds in the name of humanitarian work, SOS messages
   - Job frauds targeting recently laid-off people
   - Fake online-food delivery advertisement on Facebook
2. New users of digital payment apps targeted with old methods – KYC verification, SIM-swap frauds
3. Phishing links in the name of Covid news and alerts pushed through WhatsApp
4. Fake govt websites offering financial assistance and subsidies
5. Fake PM CARES UPI IDs to fraudulently receive public donations

Why India needs a robust cybersecurity strategy?

- **Demonetisation and Covid-19** have pushed indians to adopt digitisation. Work from home is now accepted as a new normal.
- India's **digital growth will not be sustainable** if we do not have a strong shield in the form of data protection laws and privacy policies.
- To address the issue of **protecting critical information infrastructure in cyberspace, build integrated capabilities to prevent and respond to cyber threat**.
- India has **one of the highest number of internet users** in the world and is also **among the top-10 countries facing cyberattacks.**
- To address the **current gaps in governance** and to provide a strong framework to handle issues related to cybersecurity.
- There is **no centralised command** to have oversight and coordinate efforts to handle larger cybersecurity issues.
- **To protect domestic interest:** The discovery of potential North Korean malware at both the Kudankulam Nuclear Power Plant and the Indian Space Research Organisation (ISRO) last year, and recent revelations of a Chinese firm tracking Indians' personal data highlight just how vulnerable Indian cyberspace can be.

Challenges in ensuring cyber security

- **Digital illiteracy** makes Indian citizens highly susceptible to cyber fraud, cyber theft, etc.
- In India, majority of devices used to access internet have **inadequate security infrastructure** making them susceptible to malwares
- **Rampant use of unlicensed software and underpaid licenses** also make them vulnerable.
- **Lack of adoption of new technology**
- There are variety of devices used with **non-uniform standards** which makes it difficult to provide for a uniform security protocol.
- **Import dependence** for majority of electronic devices put India into a vulnerable situation.
- There are currently around 30,000 cyber security vacancies in India but **demand far outstrips supply of people with required skills.**
- Even advanced precision threats carried out by hackers is **difficult to attribute to specific actors, state or non- state.**
- **Lack of coordination** among various agencies working for cyber security.
- **Absence of geographical barriers, majority of servers located outside India** are other factors.

Cyber threats and sources
Sources
- Nation States
- Cyber Criminal Organisations

- Terrorists, DTOs, etc.
- Hackers / Hacktivists

Threats

- Malware – Malicious software to disrupt computers
- Viruses, worms
- Theft of Intellectual Property or Data
- Hactivism – Cyber protests that are socially or politically motivated
- Mobile Devices and applications and their associated Cyber Attacks
- Social Engineering – Entice Users to click on malicious links
- Spear Phishing – Deceptive Communications (e-mails, texts, tweets)
- Domain Name System (DNS) Attacks
- Router Security – Border Gateway Protocol (BGP) Hijacking
- Denial of Service (DoS) – blocking access to websites
- AI and machine learning, IoT, 5G offer number of threats

> **Main *Cyber* Players and their Motives**
>
> - **Cyber Criminals:** Seeking commercial gain from hacking banks & financial institutions as well a phishing scams & computer ransom ware
> - **Cyber Terrorists:** Mission to penetrate & attack critical assets, and national infrastructure for aims relating to political power & "branding"
> - **Cyber Espionage:** Using stealthy IT Malware to penetrate both corporate & military data servers in order to obtain plans & intelligence
> - **Cyber Hackivists:** Groups such as "Anonymous" with Political Agendas that hack sites & servers to virally communicate the "message" for specific campaigns

Institutional framework: Policies, Acts, Schemes

- **INFORMATION TECHNOLOGY ACT 2000** continues to be the omnibus legislation that governs cyber security policy and it includes provisions for e-governance, e-commerce, data protection, cyber offences, critical information infrastructure, interception, monitoring and cyber terrorism.
- **REGULATORY GUIDELINES** are issued by sectoral regulators such as RBI, TRAI, SEBI, IRDA for organizations under their purview.
- **NATIONAL CYBER SECURITY POLICY (NCSP) 2013** document was prepared by the Ministry of Communications and Information Technology to facilitate the creation of a secure cyberspace ecosystem and strengthen the existing regulatory frameworks.
- **CERT-In Rules 2013** outline proactive measures for protecting cyber security, including forecasts and alerts on security incidents, and the prediction and prevention of future incidents.
- The Ministry of Home Affairs developed the **NATIONAL INFORMATION SECURITY POLICY AND RELATED GUIDELINES** in 2014 for securing classified information in all government organizations.
- **Draft IoT Policy** was released) by MeiTY in 2014-15 with a view to solicit inputs from the industry and others on cyber security concerns in the IoT ecosystem.
- **DRAFT M2M (MACHINE-TO-MACHINE) TELECOM ROADMAP:** Developed by DoT, discusses cyber security issues in M2M interactions.
- **NATIONAL DIGITAL COMMUNICATIONS POLICY 2018:** outlines a focus on ensuring individual autonomy and choice, data ownership, privacy and security; while recognizing data as a crucial economic resource.
- MeitY has engaged with the Data Security Council of India for creating cybercrime awareness among law enforcement authorities through workshops at different cities across India.
- A **NATIONAL CYBER SECURITY STRATEGY 2020** is being formulated by the Office of National Cyber Security Coordinator at the National Security Council Secretariat. Aim is to improve cyber awareness and cybersecurity through more stringent audits.

Offices

- **INDIAN COMPUTER EMERGENCY RESPONSE TEAM (CERT-IN),** established within the Ministry of Electronics and Information Technology (MeitY), issues alerts and advisories regarding the latest cyber threats and countermeasures on a regular basis. Power sector CERTs have been created.
- PMO includes within it several cyber portfolios. Among these are the **NATIONAL SECURITY COUNCIL,** usually chaired by NSA, and NSA also chairs the **NATIONAL INFORMATION BOARD**, which is meant to be the apex body for cross-ministry coordination on cybersecurity policymaking.
- Office of the **NATIONAL CYBER SECURITY COORDINATOR** was established under the National Security Council Secretariat as the nodal agency for cyber security established for the purpose.
- **NATIONAL CRITICAL INFORMATION INFRASTRUCTURE PROTECTION CENTER** was established for the protection of critical information infrastructure in the country, as per the provisions of section 70A of the Information Technology (IT) Act, 2000.
- **Proposed CERT-Fin**: creation of a separate CERT for the financial services sector.
- **IB-CART** at IDRBT: CERT-IN has created a Centre of Excellence (CoE) for cyber security within IDRBT in Hyderabad.
- **NATIONAL CYBER COORDINATION CENTRE** was set up to generate necessary situational awareness of existing and

potential cyber security threats and enable timely information sharing for proactive, preventive and protective actions by individual entities.

- **84 SECURITY AUDITING AGENCIES** have been empaneled to support and audit implementation of Information Security Best Practices.
- The government has launched the **'CYBER SWACHHTA KENDRA'** (Botnet Cleaning and Malware Analysis Centre) that provides detection of malicious programs and free tools to remove them.

Global cyber security norms and frameworks

- There have been multiple global forums such as **Global Commission on the Stability of Cyberspace.**
- **ITU Global Cyber Security Agenda & Global Cyber Security Index:** goal is to foster a global culture of cyber security and its integration at the core of information and communication technologies.
- **Tallinn Manual 2.0:** Does an influential resource for legal frameworks around cyber issues and details four sections comprise general legal principles in the cyber domain as well as specific specialized legal regimes.
- **UN Group of Governmental Experts (UN GGE)**: comprises 20 nations equitably distributed based on geography and includes nation states regarded as leaders in cyber areas.
- The UN General Assembly adopted two resolutions on cyber, one creating a **working group to study cyber norms and possible dialogues,** and another setting up a **working group of government experts to study applicability of international law to states in cyberspace**.
- **Paris Call for Trust And Security In Cyberspace**: launched by French President in 2018, as a high-level declaration for cooperation.
- **Open Ended Working Group at UN**: developing norms of responsible state behaviour in cyber space.
- **Cyber security Tech Accord:** Around 34 global technology and security companies came together in 2018 to sign a Cyber security Tech Accord with a pledge to "protect and empower civilians online and to improve the security, stability and resilience of cyberspace."
- **Budapest convention on cybercrime:** This convention of the council of Europe is the only binding international instrument on this issue that addresses Internet and computer crime by harmonizing national laws, improving legal authorities for investigative techniques, and increasing cooperation among nations.

Way forward

- Much-needed **SYNERGY** among various institutions and work out a coordinated approach to cyber security, including cyber deterrence.
- India needs to make a proper assessment of an **OFFENSIVE CYBER DOCTRINE** adopted by many countries where they are acquiring offensive capabilities by building 'cyberweapons' to do enormous damage to the adversary's networks.
- **DOCTRINE ON CYBER CONFLICTS** that holistically captures India's approach to cyber conflict, either for conducting offensive cyber operations, or the extent and scope of countermeasures against cyber-attacks.
- Currently the average cost of a **CYBER INSURANCE** in India is around $7.5 million which in comparison to developed countries is about 20-25% lesser.
- **INVESTMENT IN IT SECURITY** has to be increased with adoption of a cybersecurity plan, purchase of cyber-insurance as well as appointment of a data security officer.
- The regulations need to keep pace with the changing cyber scenario to ensure penalties serves as deterrence for crimes.
- **SKILL DEVELOPMENT:** By 2025, the cybersecurity space is expected to generate around a million jobs in India.
- **SECURITY AUDIT** adhering to international standards may be made applicable for all govt. websites, applications before hosting and publishing.
- Establishing cybersecurity framework at state level.

UN CLIMATE CHANGE CONFERENCE IN GLASGOW

GS-III ENVIRONMENT & ECOLOGY

Context
- **COP 26 United Nations Climate Change Conference is being hosted by the UK.**
- Leaders at the CoP26 global climate conference in Glasgow have pledged to stop deforestation by the end of the decade and slash emissions of methane to help slow climate change.
- India announced that it will reach carbon neutrality by 2070 as part of a five-point action plan that included reducing emissions to 50% by 2030.

Key Highlights

Net Zero
- Net Zero is a state in which a **country's total emissions are offset by absorptions of carbon dioxide from the atmosphere, like that done by trees and forests, and physical removal of carbon dioxide through futuristic technologies.**

PM MAKES FIVE PLEDGES
1. India will increase its non-fossil energy capacity to 500GW by 2030
2. India will meet 50% of its energy requirements from renewable energy by 2030
3. India will reduce the total projected carbon emissions by one billion tonnes from now to 2030
4. By 2030, India will reduce the carbon intensity of its economy by 45% (from a previous target of 35%)
5. By 2070, India will achieve the target of net zero

WHAT IS NET ZERO?
Net zero refers to a balance where emissions of greenhouse gases are offset by the absorption of an equivalent amount from the atmosphere. Experts see net zero targets as a critical measure to successfully tackle climate change and its devastating consequences

PLEDGES BY TOP THREE EMITTERS
- CHINA: Beijing announced no new pledges on Monday. It previously pledged net zero by 2060.
- UNITED STATES: The US touted domestic legislation to spend $555bn to boost renewable power and electric vehicles. It has pledged net zero by 2050.
- INDIA: The country's economy will become carbon neutral by the year 2070

How does India's net zero goal compare to other countries?
- India was the only one among the major greenhouse gas emitters that hadn't specified a so-called net zero year.
- India's setting an **outer-limit of 2070 by which India's emissions would be effectively be zero means that it is asking Western developed countries to do more**, or undertake sharper cuts.
- **China, Russia and Saudi Arabia** have committed to be net zero by 2060.
- The **United States, the United Kingdom and the European Union** have committed to a 2050 target.
- But only 12 countries have enshrined this commitment in law. These are Germany, Sweden, Japan, United Kingdom, France, Canada, South Korea, Spain, Denmark, New Zealand, Hungary, Luxembourg.
- The European Union has a collective target of 2050 and Germany and Sweden have a 2045 target.

Methane Pledge
- **EU and the US** have launched a landmark pledge **to slash emissions of the powerful greenhouse gas methane, a commitment that could prevent 0.2 degrees Celsius of global warming**.
- The alliance's members will seek to lower global emissions of methane - the second-largest contributor to climate change after carbon dioxide - by 30% below 2020 levels by 2030.
- Besides the EU and the US, more than 103 countries have signed up so far, including major methane emitters like Nigeria and Pakistan.
- **China, Russia and India - have not signed up**, while Australia has said it will not back the pledge.

Deforestation Pledge
- More than 100 national leaders pledged to halt and reverse deforestation and land degradation by the end of the decade, underpinned by USD 19 billion in public and private funds to invest in protecting and restoring forests.
- In 2020, the world lost 258,000 sq km of forest — an area larger than the United Kingdom, according to WRI's Global Forest Watch.
- The agreement vastly expands a commitment made by 40 countries **as part of the 2014 New York Declaration of Forests, and promises more resources.**

Call for Climate Finance
- India noted that climate finance cannot continue at the levels decided in 2009 (100 billion USD), and emphasized that it should

be **at least USD1 trillion to meet the goals of addressing climate change**.

- India underlined the unity and strength of Like-Minded Developing Countries (LMDC) as fundamental in the UNFCCC negotiations.

Infrastructure for Resilient Island States

- **India launched this initiative** that would focus on **building capacity, having pilot projects, especially in small island developing states.**
- **ISRO will build a special data window** for them to provide them timely information about cyclones, coral-reef monitoring, coast-line monitoring etc. through satellite.

One Sun One World One Grid Group

- It is an initiative by **India and the United Kingdom to tap solar energy and have it travel seamlessly across borders.**
- It includes a group of governments called the **Green Grids Initiative (GGI)** - One Sun One World One Grid group.
- The aim of GGI is to help achieve the pace and scale of reforms to infrastructure and market structures needed to underpin the global energy transition.

Other important points

- US also re-joined the **High Ambition Coalition**, a group of developed and developing countries that ensured the 1.5C goal was a major focus of the Paris Agreement.
- The country joined the UK, India, China and others by agreeing to participant in the **Glasgow Breakthrough Agenda**, a commitment to join forces to accelerate the development and deployment of the clean technologies and sustainable solutions
- A new energy partnership between the UK, EU, and US was created with South Africa. The **Just Energy Transition Partnership** is a long-term project to support South Africa's pathway to low emissions and climate resilient development,.
- **African countries also committed to establishing a green economy** after agreeing to spend at least $6bn from their tax revenues to help adapt to the effects of climate change, in addition to calling on the wealthier developed countries to provide $2.5bn per year for the next five years.
- To reduce fossil fuel development, over 20 countries and financial institutions including the US, UK, Denmark, Costa Rica, and the European Investment Bank committed to redirecting $8bn a year to green energy.
- **Glasgow Financial Alliance for Net Zero** (GFANZ) saw pledges worth $130tn from the world's biggest banks and pension funds to ensure that by 2050 all assets managed by the institutions will take a net zero stance.
- 28 more countries joined the **Powering Past Coal Alliance**, a group dedicated to phasing out coal.
- COP President Alok Sharma urged ministers to **consider youth priorities** in COP negotiations and national climate action.

COP 26 Goals

- According to the United Nations Climate Change Framework Convention (UNFCCC), COP26 will work towards four goals:
1. **Net Zero by 2050:**
   o To secure Global Net-Zero by Mid-Century and keep 1.5 Degrees within reach.
   o Countries are being asked to come forward with ambitious 2030 emissions reductions targets that align with reaching net zero by the middle of the century.
2. **Adapt to Protect Communities and Natural Habitats:** Countries will work together to 'protect and restore ecosystems and build defences, warning systems and resilient infrastructure and agriculture to avoid loss of homes, livelihoods and even lives.'
3. **Mobilise Finance:** Developed countries must make good on their promise to mobilise at least USD100bn in climate finance per year.
4. **Work Together to Deliver:** Another important task at the COP26 is to 'finalise the Paris Rulebook'.

About Conference of Parties (COP)

- The Conference of Parties **comes under the UNFCCC which was formed in 1994.**
- The UNFCCC was **established to work towards "stabilisation of greenhouse gas concentrations in the atmosphere.**
- COP is the **apex decision-making authority of UNFCCC**.
- COP members have been **meeting every year since 1995.**
- The UNFCCC has **198 parties** including India, China and the USA.
- **Generally it meets in Bonn, the seat of the secretariat, unless a Party offers to host the session.**
- The **office of the COP President normally rotates among the five United Nations regional groups** which are – Africa, Asia, Latin America and the Caribbean, Central and Eastern Europe and Western Europe and Others.
- The **President is usually the environment minister of his or her home country.**

Challenges for COP
Trust
- The key relationships that led to success at the major climate conference in Paris in 2015 have all taken a battering.
- The so-called "high ambition coalition" of island states, developing economies and the EU that really pushed things forward in France in 2015, is now not the force it was.

Credibility
- Key to any success in Glasgow has to be the credibility of the host nation.
- France is generally seen as setting the bar for what a successful presidency looks like, when it hosted the Paris COP in 2015.
- UK government has run into trouble over plans for a coal mine in Cumbria.

The workload
- One of the biggest challenges for this COP is the sheer volume of work.
- Questions on transparency, carbon markets, and having the same timeframes for cutting carbon emissions, have defied the best efforts of negotiators in the six years since Paris.

The process itself
- There is a growing sense among many participants that this UN negotiating process is no longer fit for purpose.
- The need for consensus from 197 parties, and the legalistic and technical nature of the talks, means there is, in reality, very little room for actual negotiations.

Way Forward
- **To deliver on Net Zero targets, countries will need to:**
- Accelerate the phase-out of coal
- Curtail deforestation
- Speed up the switch to electric vehicles
- Encourage investment in renewables.

Finance
- A successful outcome at COP26 on finance requires countries such as Australia, Canada, Japan, Italy and the UK committing to an additional $2 billion to $4 billion a year to fulfill their fair share of climate finance.
- An agreement at COP26 will necessitate the trust of groups of countries like the Africa Group, the Climate Vulnerable Forum, Least Developed Countries, and the Alliance of Small Island States (AOSIS). For these negotiating blocks, fulfilling these currently unfulfilled promises made in Copenhagen and Paris is a prerequisite for a negotiated agreement in Glasgow.
- **Energy:** key question remains for rich countries to provide the financial and technical support required for key regions still reliant on coal such as India, South Africa, and South East Asia to transition to clean energy.
- **Mobility:** set a phase-out date for all non-zero emission vehicles complemented by a clear plan on how to achieve it.
- **Heavy Industry and Heavy-Duty Transport:** Decarbonising these sectors requires driving down the so-called green premium -- the additional cost of choosing a clean technology over one that emits a greater amount of greenhouse gases. Governments can help drive these investments by making carbon emissions cost through reaching an agreement on Article 6 Paris Agreement, which is a key outcome for COP26 negotiators.

INDUS RIVER DOLPHIN   GS-III ENVIRONMENT & ECOLOGY

Why in news?
- The census of one of the world's most threatened cetaceans, the Indus river dolphin (Platanista gangetica minor) — a freshwater dolphin that is found in river Beas, is all set to commence in the winter as part of a project by the Centre.
- However, Punjab's wildlife preservation wing has gone a step ahead to not only protect the dolphins but also their natural habitat.

The Indus river dolphin
- It is **classified as endangered** by the International Union for the Conservation of Nature (IUCN) and, until recently, it was believed that these dolphins were endemic to Pakistan.
- But in 2007, a remnant but viable population of Indus dolphins was **discovered in Punjab's Harike wildlife sanctuary and in the lower Beas river.**
- Since its discovery, research is being done by **Punjab's Department of Forests and Wildlife Preservation in partnership with WWF-India** on the **current distribution, habitat use and population abundance of the mammal.**
- The Indus river dolphin was declared the **State aquatic animal of Punjab in 2019**.
- The Beas river supports a viable population of several key aquatic species and was declared as the **Beas Conservation Reserve in 2018.**

Project Dolphin

- It aims at the **conservation and protection of the Dolphins in rivers and oceans** of the country.
- It involves conservation of Dolphins and the aquatic habitat through the use of **modern technology—specially in enumeration and anti-poaching activities.**
- It will **engage the fishermen** and other rivers and ocean dependent population and will strive for improving the livelihood of the local communities.
- It will help in the **mitigation of pollution in rivers and the oceans.**
- It will give a boost to biodiversity, create **employment opportunities** and act as a centre of **attraction for tourism.**

About South Asian river dolphin *(Platanista gangetica)*

- It is an **endangered freshwater or river dolphin** found in the region of Indian subcontinent, which is split into two subspecies,
  - the Ganges river dolphin and the Indus river dolphin
- Ganges river dolphin is primarily found in the **Ganges and Brahmaputra Rivers** and their tributaries in India, Bangladesh, and Nepal.
- Indus river dolphin is found **only in the main channel of the Indus River in Pakistan** and in the **River Beas** (a tributary of the Indus) in Punjab in India.
- The Ganges river dolphin has been recognized by the government of India as its **National Aquatic Animal** and is the **official animal of the Indian city of Guwahati.**
- The Indus river dolphin has been named as the **National Mammal of Pakistan**.

Synonms

- **Ganges subspecies**: Gangetic dolphin, **Ganges susu**, shushuk (Being a mammal, the Ganges river dolphin cannot breathe in the water and must surface every 30–120 seconds. Because of the sound it produces when breathing, the animal is popularly referred to as the susu.
- **Indus subspecies**: **bhulan**, Indus dolphin, Indus **blind dolphin.**

PROJECT DOLPHIN
PRESERVING OUR UNDERWATER FRIENDS

- 10-YEAR PROJECT TO FOCUS ON BOTH RIVER AND SEA DOLPHINS
- AIM TO STRENGTHEN BIODIVERSITY, CREATE EMPLOYMENT OPPORTUNITIES AND ATTRACT TOURISM
- KILLING, HABITAT FRAGMENTATION BY DAMS AND BARRAGES AND INDISCRIMINATE FISHING HAS REDUCED THE GANGES RIVER DOLPHIN POPULATION FROM TENS OF THOUSANDS TO AROUND 3,700 OVER THE LAST CENTURY
- GANGES RIVER DOLPHIN, A SPECIES OF FRESHWATER DOLPHINS, IS PRIMARILY FOUND IN GANGA AND BRAHMAPUTRA RIVERS, AND THEIR TRIBUTARIES IN INDIA, BANGLADESH AND NEPAL
- IN INDIA, THESE DOLPHINS ARE SIGHTED IN DEEP RIVERS IN ASSAM, BIHAR, JHARKHAND, MADHYA PRADESH, RAJASTHAN, UTTAR PRADESH AND WEST BENGAL
- GANGES RIVER DOLPHIN, OFFICIALLY DISCOVERED IN 1801, CAN LIVE ONLY IN FRESHWATER

Ranges of the Ganges river dolphin and of the Indus river dolphin

Save Dolphin to save Ganga

The Centre has declared the dolphin a national aquatic animal to save the rare freshwater species from disappearing from the country's aqua map

Know about **Platanista gangetica**

1.67m

Males grow up to **2.12m** | Females grow up to **2.67m**

Females give birth to only one calf, once in **2-3** yrs

Generally blind, they catch their prey by emitting ultrasonic sound to gauge distance, mass etc

Assam, UP, MP, Rajasthan, Bihar, Jharkhand & W Bengal in the rivers **Chambal, Sone, Kosi, Brahmaputra** Prefer deep waters, in & around Indian river confluences

GANGETIC DOLPHIN: A rare specie almost extinct

Lost cousin: The Yangtze dolphin, Baiji, of China

Grim Future | Dwindling number due to killing, habitat fragmentation

Once counted in 10's of 1000's, the amount has reduced in last century to **1,500**

"Endangered" & placed in **Schedule-I of Wildlife (Protection) Act, 1972**

Distribution and habitat

- The South Asian river dolphins are native to the freshwater river systems located in Nepal, India, Bangladesh, and Pakistan.

Ecological importance

- The Gangetic dolphin is an **indicator species**, whose

status provides information on the overall condition of the ecosystem and of other species in that ecosystem, for the Ganga ecosystem and is extremely vulnerable to changes in water quality and flow.

Conservation

- International trade is prohibited by the listing of the South Asian river dolphin on **Appendix I of the Convention on International Trade in Endangered Species.**
- It is protected under the **Indian Wildlife Act**.
- Both subspecies are listed by the IUCN as **endangered** on their Red List of Threatened Species.
- The species is listed on **Appendix I and Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals**.
- The Ministry of Environment and Forest declared the Gangetic dolphin the national aquatic animal of India.
- **Dolphin Awareness Program** (Phase - I) has been completed. Further strengthening of networking is being taken up in Phase-II with NGOs, schools and teachers in Ganga and Brahmaputra river basins.
- A stretch of the Ganges River between Sultanganj and Kahlgaon in Bihar has been declared a dolphin sanctuary and named **Vikramshila Gangetic Dolphin Sanctuary**, the first such protected area.
- **National Mission for Clean Ganga (NMCG)** in its efforts of biodiversity conservation in Ganga River basin has been working further on the Ganges River Dolphin Conservation Action Plan and has taken up steps to coordinate with various institutions to:
  o build capacity for Ganga River Dolphin Conservation and Management;
  o minimize fisheries interface and incidental capture of Ganga River Dolphins;
  o restore river dolphin habitats by minimizing and mitigating the impacts of developmental projects;
  o involve communities and stakeholders for sustainable efforts in Ganga River Dolphin conservation;
  o educate and create awareness and set off targeted research.

Major Threats

- Habitat loss /Degradation / Disturbances – Annual flood, Changing River course.
- Inland waterways / Movement of large cargo vessels.
- Various anthropogenic / religious activities.
- Excessive harvesting/hunting/food – subsistence use/ local trade.
- Directed killing/ poaching or Accidental killing – by catch/ fisheries related entanglements.
- Water pollution – Agriculture related or direct disposal of sewage – on both the banks of River/chemical.

MAN-ANIMAL CONFLICTS   *GS-III ENVIRONMENT & ECOLOGY*

Context

- Assam's forest department is planning to collar at least five elephants in high-conflict habitats in the coming months.
- It is being described as a step **to study and mitigate human-elephant conflict in the state**.

What are radio-collars?

- Radio collars are **GPS-enabled collars** that can relay information about an elephants' whereabouts.
- They weigh roughly 8 kg and are fitted around the elephant's neck.
- Collaring includes identifying a suitable candidate (generally an adult elephant), darting it with a sedative, and fitting a collar around the elephant's neck, before the animal is revived.

How does radio-collaring help?

- The objectives are twofold
  o Information from the GPS would help **to track and study the movement patterns of the herd, across regions and habitats**. This would help in understanding what is driving the conflict.
  o The collars would serve as **an early warning system**, and if people know which direction an elephant is moving, they can prepare accordingly. And this would help mitigate conflict incidents.
- However, the main objective is **long-term study of movement patterns**.
- Gradually, as habitats are shrinking and traditional corridors are not in use anymore, it is imperative to study the range of travels and make an inventory of the new habitats.
- Collaring has been attempted in Chhattisgarh, Odisha and Tamil Nadu too.

How bad is human-elephant conflict in Assam?

- From 2010-2019, 761 people and 249 elephants were killed in Assam as a direct consequence of human-elephant conflict.

- More than 65 per cent of the habitat north of the river has been lost in the past few decades to agriculture and settlements, and conflict between humans and elephants has been steadily increasing ever since

What is Man-Animal Conflict (MAC)?

- It refers to the negative interactions between people and wild animals, with consequences for both people and their resources and wildlife and their habitats (IUCN 2020).
- Over 2,000 people in India were killed by elephants while tigers claimed over 200 lives in the last five years, according to data provided by the government.

Common Reasons

- Competition for shared natural resources between people and wildlife
- Human population growth and the transformation of land use.
- shrinking forest cover, poaching, rapid and unplanned urbanization
- electrification penetrating into forest areas
- increasing road density
- destruction of natural animal corridors
- agricultural expansion and cultivation up to forest boundaries.

Consequences of MAC

- Influences food security of people and the well-being of both people and animals.
- serious global threat to **sustainable development** and conservation in urban and rural landscapes.
- destruction of crops and reduced farm productivity
- competition for grazing lands and water, livestock predation, injury and death to farmers,
- damage to infrastructure and
- increased **risk of disease transmission among wildlife and livestock.**

Conflict mitigation strategies includes

- Lethal control
- Translocation of problematic animals
- Predator-deterring guard dogs
- Effective land use planning
- Compensation
- Spatial analyses and mapping conflict hotspots:
- Erection of fences or other barriers
- Managing garbage to prevent attraction of carnivores
- Improving community education and perception of animals
- population size regulation and
- endangered species preservation
- applying scientific research, sociological studies, and the arts to reducing conflicts.

More than 100 human lives were lost in jumbo attack in 2019-20 financial year

Over 70 pachyderms perish every year due to poaching, electrocution, accident and other reasons

119 jumbos were electrocuted in 11 years between 2009-10 and 2019-20 out of which 24 died in 2018-19 alone

599 ha of forests were lost due to industrialization in last 10 years

File photo of a tusker straying into human settlements in Pipli area of Puri district

Existing government policies

- The government has come up with some policies to grapple with the problem: The **compensation for human deaths has been increased from Rs 2.5 lakh to Rs 5 lakh**;
- Project Elephant and National Tiger Conservation Authority (NTCA) guidelines have been issued to mitigate the conflict.
- **Immune-contraception** has been introduced in order to control the population of nilgai, monkeys and wild boars.

Conclusion

- Resolving human-wildlife conflicts and fostering coexistence requires well-informed, holistic, and collaborative processes that take into account underlying social, cultural and economic contexts.
- Government must explicitly include human-wildlife conflict in national policies and strategies for wildlife management, development and poverty alleviation.
- At the national level, cross-sectoral collaboration between forestry, wildlife, agriculture, livestock and other relevant sectors is key to tackle this menace.

IRIS

GS-III DISASTER MANAGEMENT

Context
- Prime Minister Narendra Modi launched **Infrastructure for Resilient Island States (IRIS)** on sidelines of climate summit in Glasgow.
- Infrastructure for Resilient Island States or IRIS is the first major initiative by the Coalition for Disaster Resilient Infrastructure (CDRI.

What is CDRI?
- The Coalition for Disaster Resilient Infrastructure is an international coalition of countries, United Nations agencies, multilateral development banks, the private sector, and academic institutions that aims to promote disaster-resilient infrastructure.
- It was launched by the India at the 2019 UN Climate Action Summit. Headquarters: New Delhi, India.
- **Twenty-six countries,** including the US, Germany, UK, Australia, Brazil, Bangladesh, Afghanistan, Nepal, Bhutan, Sri Lanka, and Japan are already part of the coalition.
- The coalition will not create any new infrastructure — rather, it will **serve as a 'knowledge centre'** for member countries to share and learn best practices with respect to disaster-proofing of infra.
- It will work towards making existing and upcoming infrastructure in member countries more robust and resilient against climate disasters such as floods, heat, cyclones, forest fires, and rain.
- The aim of CDRI is to minimize the damage and disruptions.

Need of such coalitions
- Despite the actions by countries to fight climate change, the frequency and intensity of extreme weather events and disasters will likely only increase in the coming years.
- Countries are already experiencing more intense flooding, heat waves, and forest fires every year.
- India's east coast, especially Odisha and Andhra Pradesh, has for example been experiencing more powerful and frequent cyclones every year.
- Due to significant progress in advance warning and tracking systems, and timely evacuation of people, the loss of lives has been greatly reduced over the years. But the threat to infrastructure has persisted.
- So, power plants stop functioning, communication towers are damaged and street lights uprooted, and trains and flights have to be stopped.
- All this has cascading effects, and the monetary costs of the damage and disruption runs into billions of dollars every year.
- According to CDRI estimates, every one dollar invested in making infrastructure more resilient in low- and middle-income countries can potentially save losses of over $4 when a disaster strikes.

What is IRIS?
- IRIS is a specific work **programme that seeks to operationalize the CDRI initiative in small island nations.**
- Small island states are the most vulnerable to the impacts of climate change.
- As sea levels rise, they face a threat of being wiped off the map.
- According to CDRI, several small island states have lost 9 per cent of their GDPs in single disasters during the last few years.
- Infrastructure in these smaller countries is more critical simply because there is so little of it.
- The bulk of the work in IRIS would involve mobilizing and directing financial resources towards building resilient infrastructure, retrofitting existing infrastructure, development of early warning systems, and development and sharing of best practices.

5th WCDM

GS-III DISASTER MANAGEMENT

Context
- Raksha Mantri Rajnath Singh virtually inaugurated the 5th World Congress on Disaster Management.

About
- The 5th World Congress on Disaster Management (WCDM) is being organized in New Delhi.
- **Theme: '**Technology, Finance and Capacity for Building Resilience to Disasters in the context of COVID-19'.
- It is an initiative of Disaster Management Initiatives and Convergence Society (DMICS) having it's headquarter in Hyderabad to bring researchers, policy makers and practitioners from around the world on the same platform to discuss various challenging issues of disaster risk management.
- The aim is to promote interaction of science, policy and practices to enhance understanding of risks and advance actions for reducing risks and building resilience to disasters.

SHORT NEWS ARTICLES

GS-I
CULTURE & HISTORY

Rani Kamlapati

Context

- Prime Minister Narendra Modi visited Madhya Pradesh on the occasion of renaming the Habibganj railway station after Rani Kamlapati, an 18th century Gond queen

About

- Rani Kamlapati was the **Gond queen of the Bhopal region in the 18th century.**
- She was one of the seven wives of **Gond ruler Nizam Shah.**
- Rani Kamlapati was known for her bravery and beauty.

Palace

- Kamalapati Palace is located on the bridge, between the larger and the smaller lake of Bhopal.
- Kamalapati Palace lies on the eastern side of the ancient embankment known as **Bhojpal, built by the Parmara Rajput King Bhoj (AD 1010-1055)** from which the present name Bhopal is derived.
- The existing structure is a part of the palace which was constructed by Rani Kamlapati in AD 1722.
- The architecture of the **palace was secular**. It was **made out of Lakhauri bricks**.
- The merlons in the palace were designed in the form of water lotuses to honour the queen.
- The Palace has been **designated as a Monument of National Importance by the Archaeological Survey of India (ASI).**

Gond

- The Gond are a **Dravidian ethno-linguistic group.**
- They are spread over the states of Madhya Pradesh, Maharashtra, Chhattisgarh, Uttar Pradesh, Telangana, Andhra Pradesh, Bihar and Odisha. They are **listed as a Scheduled Tribe**.
- The Gondi language is related to Telugu.
- The 2011 Census of India recorded about 2.98 million Gondi speakers.
- Most Gonds, however, speak **regional languages like Hindi, Odia and Marathi.**

Bhasha Sangam Initiative

Context

- Union Education Minister Dharmendra Pradhan launched Bhasha Sangam initiative for schools, Bhasha Sangam Mobile App and Ek Bharat Shreshtha Bharat Mobile Quiz.

About

- Bhasha Sangam is an **initiative of the Ministry of Education under Ek Bharat Shreshtha Bharat**, to teach basic sentences of everyday usage in 22 Indian languages.
- The idea is that people should acquire basic conversational skills in an Indian language other than their mother tongue.
- Ek Bharat Shreshtha Bharat Quiz game is targeted towards children and youngsters for helping them learn more about different regions, states, culture, national Heroes, monuments, traditions, tourist locations, languages, geography and history.
- The Quiz is currently available in English and Hindi and in the next 3 months it will be also available in 12 other different regional languages.

Ek Bharat Shreshtha Bharat

- "Ek Bharat Shreshtha Bharat" was announced on 31st October, 2015 on the occasion of the 140th birth anniversary of Sardar Vallabhbhai Patel.

CELEBRATE
the Unity in Diversity of our Nation and to maintain and strengthen the fabric of traditionally existing emotional bonds between the people of our Country.

PROMOTE
the spirit of national integration through a deep and structured engagement between all Indian States and Union Territories through a year-long planned engagement between States.

SHOWCASE
the rich heritage and culture, customs and traditions of either State for enabling people to understand and appreciate the diversity that is India, thus fostering a sense of common identity.

ESTABLISH
long-term engagements.

CREATE
an environment which promotes learning between States by sharing best practices and experiences.

- Through this innovative measure, the knowledge of the culture, traditions and practices of different States & UTs will lead to an enhanced understanding and bonding between the States, thereby strengthening the unity and integrity of India.
- All States and UTs are covered under the programme.

Dimasa Kingdom

Context

- 46 cadres of the Dimasa National Liberation Army (DNLA), along with Commander-in-Chief Mushrang, laid down arms in Assam's Dima Hasao district to join the mainstream.

Dimasa people

- The Dimasa people are an ethno-linguistic community presently **inhabiting Assam and Nagaland states in Northeastern India.** They speak Dimasa, a Tibeto-Burman language.
- Dimasa kingdom, one of many early states in Assam following the downfall of Kamarupa kingdom, was established by these people.

Dimasa Kingdom

- The Dimasa Kingdom was a late **medieval/early modern kingdom in Assam**, Northeast India ruled by Dimasa kings.
- The Dimasa kingdom and others (Kamata, Chutiya) that developed in the wake of the Kamarupa kingdom were examples of new states that emerged from indigenous communities in medieval Assam that transformed these communities.
- This kingdom ruled large parts of Assam **along the south bank of the Brahmaputra between the 13th and 16th centuries**.
- The British finally annexed the kingdom in 1832.
- This kingdom gave its name to undivided Cachar district of colonial Assam.
- And after independence the undivided Cachar district was split into three districts in Assam: Dima Hasao district (formerly North Cachar Hills), Cachar district, Hailakandi district. The kingdom **finds mention in the Chinese chronicles.**

Rani Gaidinliu

Context

- Union Home Minister Amit Shah will lay the Foundation Stone for setting up the Rani Gaidinliu Tribal Freedom Fighters Museum at Luangkao village in Manipur's Tamenglong district.

About

- Gaidinliu was a **Naga spiritual and political leader** who led a revolt against British rule in India.
- At the age of 13, she joined the **Heraka religious movement of her cousin Haipou Jadonang**.
- The movement later turned into a political movement seeking to drive out the British from Manipur and the surrounding Naga areas.
- Within the Heraka faith, she came to be considered an incarnation of the Goddess Cherachamdinliu.
- Gaidinliu was arrested in 1932 at the age of 16, and was sentenced to life imprisonment by the British rulers.
- Jawaharlal Nehru gave her the title of "Rani" ("Queen"), and she gained local popularity as Rani Gaidinliu.
- She was released in 1947 after India's independence, and continued to work for the upliftment of her people.
- An advocate of the ancestral Naga religious practices, she staunchly resisted the conversion of Nagas to Christianity.
- She was honoured as a freedom fighter and was awarded a Padma Bhushan by the Government of India.

Veer Surendra Sai

Context

- Udan Utsav celebrated at Veer Surendra Sai Airport in Jharsuguda, Odisha.

About

- Surendra Sai (23 January 1809 – 28 February 1884) was an Indian freedom fighter who sacrificed his life fighting against the British East India Company.
- Surendra Sai and his associates resisted the British and successfully protected most **parts of Western Odisha region** for some time from the British rule.
- Most of them died unnoticed fighting for freedom from the British.

Pochampally Village

Context

- The Pochampally Village in Telangana State has been selected as one of the best Tourism Villages by the United Nations World Tourism Organisation (UNWTO).
- The prestigious award will be given on the occasion of the 24th session of the UNWTO General Assembly on 2nd December 2021 in Madrid, Spain.

About

- Pochampally, 50 Kms from Hyderabad, is a town in Telangana and is often referred to as the **Silk City of India** for the exquisite sarees that are woven through a unique style called Ikat.
- This style, Pochampally Ikat, received a **Geographical Indicator (GI Status) in 2004.**

Ikat

- Ikat is a Malaysian, Indonesian word which means "Tie and Dye".
- Ikat involves the process of wrapping (or tying) and dyeing sections of bundled yarn to a predetermined colour pattern before they are woven.
- The dye penetrates into exposed sections while the wrapped section remains undyed.
- This pattern formed by the yarn in this process is woven into fabric.
- Pochampally is also known as Bhoodan Pochampally to commemorate the Bhoodan Movement that was launched by Acharya Vinobha Bhave from this village on April 18th, 1951.

Best tourism village

- The Best Tourism Villages by UNWTO Pilot initiative aims to award those villages which are outstanding examples of rural destinations and showcase good practices in line with its specified nine evaluation areas.
- It also aims to support villages to enhance their rural tourism potential through training and access to opportunities for improvement.

> The World Tourism Organization is the United Nations specialized agency entrusted with the promotion of responsible, sustainable and universally accessible tourism, having its headquarters in Madrid, Spain.

Vanniyars

Context

- The Madras High Court has quashed the 10.5% special internal reservation provided by the Tamil Nadu government to Vanniyars.

About

- The Vanniyar, also spelled Vanniya, formerly known as the Palli, are an **Australoid Dravidian community or jāti found in the northern part of the Indian state of Tamil Nadu**.
- Vanniyars in the 1980s constituted around 10% of the population of Tamil Nadu.
- The Vanniyars who previously were of the Backward Class category, were now designated as a Most Backward Caste after successful agitations by them in the 1980s entitling them to 20% reservations.
- The reason for the agitation and subsequent re-classification was to avail more government benefits for the community.

Kadar Tribe

Context

- Over two years of struggle by 23 families of the aboriginal Kadar tribe to get homestead patta in the Anamalai Tiger Reserve (ATR) has come to an end.

About

- The Kadar are a tribal community in India, a designated Scheduled Tribe **in the states of Tamil Nadu, Karnataka, and Kerala.**
- They are an aboriginal tribe whose traditional way of life has been based on hunting and gathering.
- The People of Paraiyar Community claims that Kadar is part of Paraiyar who lives and take care of forest and forest lives.

UNESCO Creative Cities Network

Context

- Srinagar joins UNESCO Creative Cities Network (UCCN).

Details

- Srinagar has joined UNESCO's network of creative cities and has been designated as a creative city of craft and folk arts.
- Along with Srinagar, 49 cities have newly joined the Creative Cities Network in recognition of their commitment to placing culture and creativity at the heart of their development and to sharing knowledge and good practices.
- Other Indian cities that are in the network are:
  - Chennai and Varanasi – UNESCO cities of music
  - Jaipur – UNESCO city of crafts and folk arts
  - Mumbai – UNESCO city of film
  - Hyderabad – UNESCO city of gastronomy
- Currently, UCCN has 295 cities in 90 countries.

- By joining the UNESCO Creative Cities Network (UCCN), cities commit to sharing their best practices and developing partnerships involving the public and private sectors as well as civil society in order to strengthen the creation, production, distribution and dissemination of cultural activities, goods and services.
- They also pledge to develop hubs of creativity and innovation and broaden opportunities for creators and professionals in the cultural sector.
- The UCCN was created in 2004 to promote cooperation with and among cities that have identified creativity as a strategic factor for sustainable urban development.

Onnake Obavva

Context
- Prime Minister Narendra Modi bowed to the great Kannada warrior woman, Onake Obavva on the special occasion of her Jayanti.

About
- Onake Obavva was a **brave hindu woman who fought the forces of Hyder Ali** single-handedly with a pestle (Onake) in the kingdom of Chitradurga of Karnataka.
- Her husband was a guard of a watchtower in the rocky fort of Chitradurga.
- In the state of Karnataka, she is celebrated along with Abbakka Rani, Keladi Chennamma and Kittur Chennamma, as the foremost women warriors and patriots.
- She belonged to the **Holayas (Chalavadi) community.**

Acharya Kripalani

In News
- The Prime Minister Narendra Modi has paid tributes to Acharya Kripalani on his Jayanti.
- He earned the moniker 'Acharya' around 1922 when he was teaching at the Gujarat Vidyapith, founded by the Mahatma a couple of years before.

Independence Activist
- He was involved in the organization of Non-Cooperation Movement and the Civil Disobedience movements and Quit India Movement.
- He was the President of Indian National Congress (INC) at the time of independence.
- He served in the Interim government of India (1946–1947) and the Constituent Assembly of India.

Political Career in post-independent India
- Post-independence, he left the Congress and became one of the **founders of the Kisan Mazdoor Praja Party (KMPP).**
- This party subsequently merged with the Socialist Party of India to form the Praja Socialist Party (PSP).
- He remained in opposition for the rest of his life and was elected to the Lok Sabha in 1952, 1957, 1963 and 1967 as a member of Praja Socialist Party.
- Kripalani **moved the first-ever No confidence motion in Lok Sabha in 1963,** immediately after the India-China War.
- He remained a critic of Nehru's policies and Indira Gandhi's authoritarian rule. He was arrested during Emergency.

Environmentalist
- He along with Vinoba Bhave, was involved in in preservation and conservation activities throughout the 1970s.
- His autobiography **'My Times'** was released 22 years after his death in 2004.

Madhubani Painting

Context
- Prime Minister Narendra Modi has expressed gratitude for the gesture by Dulari Devi, an artist from Bihar's Madhubani, who presented him a sample of her artwork during an informal interaction with Padma awardees at Rashtrapati Bhavan.

Origin
- Traditionally, created by the women of Bihar Mithila region.

Characteristics
- Traditionally done on freshly plastered mud walls and floors of huts.
- However, now they are also done on cloth, handmade paper and canvas.
- Paintings are made from the paste of powdered rice.
- Uses two-dimensional imagery.
- **Tools used**: Twigs, Fingers, brushes, nib-pens matchsticks.
- Colors used are derived from plants. Ochre, Lampblack and Red is used for reddish-brown and black, respectively.

- This painting is done with a variety of tools, including fingers, twigs, brushes, nib-pens, and matchsticks and using natural dyes and pigments. It is characterised by its eye-catching geometrical patterns.

Styles & Theme

- Madhubani art has five distinctive styles: Bharni, Kachni, Tantrik, Godna and Kohbar.
- Themes: Mainly religious. Depict Gods and Goddesses.
- Natural objects like the sun, the moon, and religious plants like Tulsi are also widely painted, along with scenes from the royal court and social events like weddings.

Centres

- Kalakriti in Darbhanga, Vaidehi and Benipatti in Madhubani district are some of the major centres of Madhubani painting, which have kept this ancient art form alive.

Recognition

- Madhubani painting has remained confined to a compact geographical area and the skills have been passed on through centuries.
- The content and the style have largely remained the same. Thus, Madhubani painting has received GI (Geographical Indication) status.
- Madhubani art has received worldwide attention.

Sabz Burj

Context

- It took four years to complete the conservation and restoration project for Sabz Burj.

About

- Sabz Burj ("Green Dome") is an <u>octagonal tomb situated in Mathura Road, Nizamuddin complex, beside Humayun's Tomb,</u> New Delhi.
- Built between AD 1530-40, Sabz Burj is an **architectural treasure as it is one of the earliest examples of Mughal architecture in Timurid-style** and is also one of the first instances of double-domed tombs in the country.

Namda Craft

Context

- Union Minister of State, launched a pilot project to revive and promote traditional 'Namda' craft in Jammu and Kashmir.
- 'Revival of Namda craft of Kashmir as a special pilot project under Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 3.0' and 'Upskilling of artisans and weavers of Kashmir under Recognition of Prior Learning (RPL), component of PMKVY',

About

- Namda making is a rare and unique craft wherein splendid floor pieces are made from wool by practice of felting the wool rather than weaving it.
- It is reported to have originated in the 11th century when Mughal Emperor Akbar ordered the making of suitable covering for his horse for protection from the cold.
- The craft is primarily practiced by the Pinjara and Mansuri communities, Sama Muslims native to Kachchh.
- There are Namda artisans throughout India, working in Kashmir, Himachal Pradesh and Rajasthan.

Need for revival

- Due to low availability of raw material, lack of skilled manpower and marketing techniques, the export of this craft has declined almost 100 per cent between 1998 and 2008.

GEOGRAPHY

Vatican City

Context

- His Holiness Pope Francis received Prime Minister Shri Narendra Modi in a private audience at the Apostolic Palace in the Vatican on Saturday, 30 October 2021.

About

- Vatican City State is a **landlocked and independent city state** and enclave located within Rome, Italy.
- The Vatican City State **became independent from Italy with the Lateran Treaty (1929)**.

- It is the **smallest state in the world by both area and population.**

Barbados

Context

- Nearly 400 years after the country became a British colony, Barbados has become the world's newest republic.
- The Caribbean island nation removed Queen Elizabeth II as the head of the state in a ceremony attended by Prince Charles. Barbados, however, will continue to be one of the 54 Commonwealth nations.

About

- Barbados is an <u>island country in the Lesser Antilles of the West Indies</u>, in the <u>Caribbean region of the Americas</u>, and the most easterly of the Caribbean Islands.
- It is in the western part of the North Atlantic, 100 km east of the Windward Islands and the Caribbean Sea.
- Barbados is located <u>roughly 13°N of the equator</u>.
- Barbados is outside the principal Atlantic hurricane belt.
- Barbados, which is said to have been made a 'slave society' by the British, first became an English colony when a ship arrived at the Caribbean in 1625.
- In 1966, Barbados gained its independence.

Lamkhaga Pass

Context

- Death of 21 trekkers in four mountaineering and trekking expeditions in Uttarakhand and Himachal Pradesh.

About

- The Lamkhaga Pass (5,282 m) is one of the toughest pass which **connects Kinnaur district of Himachal Pradesh with Harshil in Uttrakhand.**
- The Lamkhaga Pass **trek starts from Chitkul the last Village of sangla valley in Himachal**.
- This pass is <u>located near Indo - Tibetan border</u> and to cross the pass **one needs to obtain inner line permit** from the district administration of Kinnaur, Himachal Pradesh.

Some other passes in Kashmir
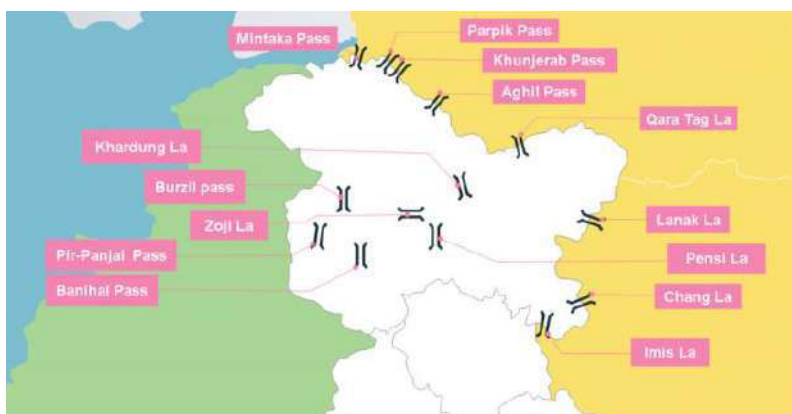
Middle East

Context

- The American B-1B Lancer bomber flew over the Strait of Hormuz, the narrow mouth of the Persian Gulf through which 20% of all oil traded passes.
- It also flew over the Red Sea, its narrow Bab el-Mandeb Strait and Egypt's Suez Canal.

Strait of Hormuz

- The Strait of Hormuz is a **strait between the Persian Gulf and the Gulf of Oman**.
- A third of the world's liquefied natural gas and almost 25% of total global oil consumption passes through the strait, making it a highly important strategic location for international trade

Bab-el-Mandeb

- The Bab-el-Mandeb is a strait <u>between Yemen on the Arabian Peninsula, and Djibouti and Eritrea in the Horn of Africa.</u>
- It **connects the Red Sea to the Gulf of Aden.**
- The Bab el-Mandeb Strait is a chokepoint between the Horn of Africa and the Middle East, and it is a strategic link between the Mediterranean Sea and the Indian Ocean.
- The **island of Perim** divides the strait into two channels, of which the **eastern is known as the Bab Iskender (Alexander's Strait),** while the western is known as **Dact-el-Mayun.**

Suez Canal

- The Suez Canal is an artificial sea-level waterway **in Egypt, connecting the Mediterranean Sea to the Red Sea** through the Isthmus of Suez and dividing Africa and Asia.
- The Canal provides the shortest maritime route between Europe and the lands lying around the Indian and western Pacific oceans.
- The canal extends 193 km between Port Said in the north and Suez in the south.
- The canal utilizes several lakes: from north to south, **Lake Manzala, Lake Timsah , and the Bitter Lakes—Great Bitter Lake and Little Bitter Lake.**
- About 12% of world trade passes through the canal each year, everything from crude oil to grains to instant coffee.
- It allows tankers and container ships to avoid a long trip around the southern tip of Africa.

Gadchiroli District

Context

- At least 26 Naxals were killed in an encounter with the Maharashtra police in Gadchiroli district.

About

- Gadchiroli is located on eastern side of Maharashtra.
- The **main river flowing through city is the Wainganga**.
- Gadchiroli is known for its forests. Teak is grown commercially and bamboos are used for various crafts.
- The district is known for activity of Naxalites – the People's Liberation Guerrilla Army – who have taken shelter in the dense forests and hills.

Kittur Karnataka

Context

- The Karnataka Cabinet renamed the Mumbai-Karnataka region, consisting of seven districts, as Kittur Karnataka.

About

- The Cabinet has decided to rechristen the Mumbai-Karnataka region, **consisting of Uttara Kannada, Belagavi, Dharwad, Vijayapura, Bagalkote, Gadag and Haveri districts, as Kittur Karnataka.**
- Pro-Kannada organisations in the state had long raised the demand to rename the region that had been under the erstwhile Bombay Presidency before Independence.
- It recently renamed the Hyderabad-Karnataka region as **Kalyana Karnataka.**
- The name Kittur comes after a historical taluk in north Karnataka's Belagavi district that was ruled by Rani Chennamma (1778-1829).
- Kittur Rani Chennamma had fought against the British about 40 years before Jhansi Rani Laxmibai.

Kittur Chennamma

- Kittur Chennamma was the Queen of Kittur, a princely state in Karnataka.
- She led an **armed rebellion against the British East India Company** in 1824 **in defiance of the doctrine of lapse** in an attempt to maintain Indian control over the region, **in which she defeated them**, but she was dead in the imprisonment of second rebellion by the British East India Company.
- One of the first female rulers to rebel against British rule, she became a folk hero in Karnataka and symbol of the independence movement in India.

Chisumle to Demchok Tarmac Road

Context

- Director General Border Roads (DGBR) Lt Gen Rajeev Chaudhry received the Guinness World Records certificate for the achievement of Border Roads Organisation (BRO) of constructing and black topping the world's highest motorable road at 19,024 feet at Umlingla Pass in Ladakh.

About

- The 52-kilometre long Chisumle to Demchok tarmac road **passes through the 19,024 feet high Umlingla Pass** and betters the previous record of a road in Bolivia, which connects volcano Uturuncu at 18,953 feet.
- The Umlingla Pass road has been constructed at an altitude higher than the North and South Base Camps of Mount Everest which are at an altitude of 16,900 feet and 17,598 feet respectively.

Significance

- The BRO provided a black topped road to the important village of Demchok in Eastern Ladakh that will be a boon to the local population of the region as it will enhance the socio-economic conditions and promote tourism in Ladakh.
- The strategically important road, which is approximately 15 kilometres long, highlights the focus of the Government in developing road infrastructure in border areas.

Persian Gulf and Gulf of Oman

Context

- INS Trikand is currently deployed in the Persian Gulf and Gulf of Oman as part of Operation Sankalp.

About

- The Persian Gulf is a mediterranean sea in Western Asia.
- The body of water is an extension of the Arabian Sea (Gulf of Oman) through the Strait of Hormuz and lies between Iran to the northeast and the Arabian Peninsula to the southwest.
- The **Shatt al-Arab river delta** forms the northwest shoreline.

- Countries with a coastline on the Persian Gulf are (clockwise, from north): Iran; Oman's Musandam exclave; the United Arab Emirates; Saudi Arabia; Qatar, on a peninsula off the Saudi coast; Bahrain, an island nation; Kuwait; and Iraq in the northwest.

Gulf of Oman

- The Gulf of Oman also known as Gulf of Makran connects the Arabian Sea with the Strait of Hormuz, which then runs to the Persian Gulf.
- It borders Iran and Pakistan on the north, Oman on the south, and the United Arab Emirates on the west.

Chushul

Context

- A Ladakh politician representing Chushul, along the Line of Actual Control in eastern Ladakh, urged Defence Minister to provide infrastructure, telecommunication and other facilities in national security interest in the villages of the area to make them comparable to the ones that the Chinese are building to assert territorial claims.

About

- Chushul is a village in the Leh district of Ladakh.
- It is located in the Durbuk tehsil, south of the Pangong Lake and west of the Spanggur Lake.
- The Line of Actual Control with China runs about 5 miles east of Chushul.
- In August 1842 the concluding **battle of Dogra-Tibetan War** with subsequent signing of Treaty of Chushul in September 1842 for border non-proliferation took place at Chushul.

Lithuania

Context

- China has officially downgraded its diplomatic ties with Lithuania after it allowed Taiwan to open a de facto embassy in Vilnius.

About

- Lithuania is one of three Baltic states and lies on the eastern shore of the Baltic Sea.
- Lithuania shares land borders with Latvia to the north, Belarus to the east and south, Poland to the south, and Russia (Kaliningrad Oblast) to the southwest.
- Lithuanians belong to the ethno-linguistic group of the Balts and speak Lithuanian, one of only a few living Baltic languages.

Moirang

Context

- The Union Minister of Textiles Piyush Goyal announced that the Ministry of Textiles has decided to set up a Handloom Village at Moirang of Manipur.

About

- The city- Moirang of Manipur is a very important place in the history of India's freedom movement.
- The Netaji Subhas Chandra led INA hoisted the tricolour flag at Moirang in its Imphal Campaign during the second World War.
- An INA Museum is there at Moirang and tourists across the globe visit the Museum.
- To showcase the rich handloom products of Manipur and attract the tourists, the ministry decided to set up the Handloom Village there and work on it will be started very soon.

El Salvador

Context

- El Salvador, the only country to recognize Bitcoin as a legal tender, is planning to build an entire city based on the largest cryptocurrency Bitcoin.

About

- El Salvador is a country <u>in Central America</u>.
- It is bordered on the northeast by Honduras, on the northwest by Guatemala, and on the south by the Pacific Ocean.
- Among the Mesoamerican nations that historically controlled the region are the Lenca (after 600 AD), the Mayans, and then the Cuzcatlecs.
- Despite high rates of poverty and gang-related violent crime, El Salvador has the second-highest level of income equality in Latin America.
- Among 77 countries included in a 2021 study, El Salvador was one of the least complex economies for doing business.

Rayalaseema

Context

- In Andhra Pradesh, though the intensity of rains has come down, the flood situation in Rayalaseema continues to be grim.
- The swelling Papagni, Chitravati, and Penna Rivers continue pose a threat in Rayalaseema, a region known for fewer rains.

About

- Rayalaseema (Rāyalasīma) is a geographic region in the state of Andhra Pradesh.
- It comprises four southern districts of the state namely, **Anantapur, Chittoor, Kadapa and Kurnool.**

Rivers

- Papagni River is a non-perennial, inter-state river that flows through the states of Karnataka and Andhra Pradesh.
- It is a right bank tributary of the Penna river.
- The Penna **rises in the Nandi Hills in Chikkaballapur District of Karnataka**.
- After originating from Nandi hills, it flows as two different streams, one in North and South directions
- It runs north and east in Karnataka, south towards Tamil Nadu and then flows east through the states of Karnataka and Andhra Pradesh, as Uttara Pinakini, to empty into the Bay of Bengal.
- The river basin **lies in the rain shadow region of Eastern Ghats** and receives 500 mm average rainfall annually.
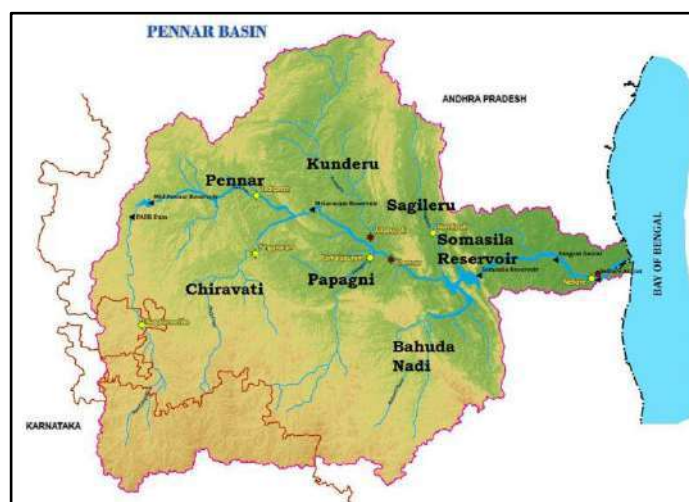
Kongthong village

Context

- Prime Minister, Shri Narendra Modi has expressed gratitude to the people of Kongthong for a special tune in his honour and in appreciation of Government of India's efforts in promoting the village as a prime tourism destination**.**

About

- Meghalaya's Kongthong village, which is **also known as the "whistling village",** recently honoured Prime Minister Narendra Modi by making him part of a unique tradition that goes back centuries.
- In this village, located in the lush, rolling hills of the northeast state, everyone's name is a melody as mothers compose a special tune for each child when it is born.

- Everyone in the village, inhabited by the Khasi people, then addresses the person with the individual little tune or whistle for a lifetime. They have conventional "real" names too, but they are rarely used.
- The custom of assigning tunes to residents here is known **as "jingrwai lawbei", meaning "song of the clan's first woman",** a reference to the Khasi people's mythical original mother.
- The Ministry of Tourism recently nominated the village for the UNWTO Best Tourism Villages Contest from India.

Solomon Islands'

Context

- The Solomon Islands' decision to switch its diplomatic allegiance from Taiwan to Beijing has been blamed for arson and looting in the national capital Honiara, where protesters are demanding the prime minister's resignation.

About

- Solomon Islands is a sovereign country consisting of six major islands and over 900 smaller islands in Oceania, to the east of Papua New Guinea and northwest of Vanuatu.
- The Solomon Islands are famous as a battleground of World War II, the pivotal **Battle of Guadalcanal** named after the country's largest island where the restive capital Honiara is located.
- It was then known as the British Solomon Islands Protectorate and became the Solomon Islands before independence in 1978.

Zuari Bridge and River

Context

- The new Zuari bridge is expected to be ready by September 2022.

About

- The Zuari Bridge is a bridge between North Goa and South Goa.
- It carries the NH 66 over the tidal part of the Zuari River, between the villages of Agaçaim and Cortalim.
- It is a few metres downstream of the Konkan Railway Bridge.

River

- The Zuari River is the largest river in the state of Goa.
- It is a tidal river which originates at **Hemad-Barshem in the Western Ghats**.
- The Zuari is also referred to as the **Aghanashani in the interior regions**.
- The Zuari and Mandovi Rivers form an estuarine system.
- The Cumbarjua Canal, linking the two rivers has enabled ships navigate to the interior regions to the iron ore mines. The waters of the Mandovi and Zuari both flush out into the Arabian Sea at Cabo Aguada, a common point forming the Mormugao harbour.
- The port city of Vasco da Gama, Goa lies on the mouth of the Zuari River.

Pakul Dul and Marusdar River

Context

- Power Minister R K Singh inaugurates diversion of Marusudar River of Pakal Dul Hydro Electric Project in J-K's Kishtwar.

The River

- Marusudar river or Maru Sudar river is the **largest river tributary of the Chenab River**, beginning at the **Nunkun glacier of the Warwan Valley and joining the Chenab at Bhandarkoot in the Kishtwar district**.

Pakul Dul

- The Pakal Dul Dam is an **under construction concrete-face rock-fill dam on the Marusudar river**, in Jammu and Kashmir.
- The primary purpose of the dam is hydroelectric power generation.
- It will **divert water to the south on the reservoir of the Dul Hasti Dam**, on the Chenab.

Read: https://www.iasgyan.in/blogs/dams-in-jammu-and-kashmir

Kaho Village

Context

- Arunachal Pradesh is planning to make a documentary about one of its most "patriotic destinations" — Kaho, a village in Anjaw district on the China border — to mark the 75th year of Independence.

About

- Kaho is a **small village on the banks of Lohit River** at an elevation of 1,240 metres (4,070 ft) on the India-China LAC in Anjaw district of Arunachal Pradesh.
- It is 30 km west of Diphu Pass near India-China-Myanmar tri-junction, and 10 km north of Kibithu.
- Its people belong to the Meyor community.
- Anjaw is one of the 11 districts of Arunachal Pradesh that share their border with China.

Kameng River

Context

- Kameng river continues to remain black, avalanche suspected.

About

- The Kameng River (previously named Bharali River, now called Kameng in Arunachal Pradesh and Jiabharali (Jia Bharali) in Assam) in the eastern Himalayan mountains, originates in Tawang district from the glacial lake below snow-capped Gori Chen mountain on the India-Tibet border and flows through Arunachal Pradesh and Assam.
- It is one of the major tributaries of the Brahmaputra River, joining it at Tezpur, just east of the Kolia Bhomora Setu bridge.
- The Dafla Hills are east and the Aka Hills (**home of Aka tribe**) are west of the Kameng River.
- The Kameng river had an important historical significance.
- During the medieval period i.e. between 13th to early 16th century, it marked the **borders between the Chutiya kingdom and the Kamata kingdom.**

Earth's First Landmass

Context

- A new study has challenged the widely accepted view that the continents rose from the oceans about 2.5 billion years ago.

About

- It suggests this happened 700 million years earlier — about 3.2 billion years ago — and that the earliest continental landmass to emerge may have been **Jharkhand's Singhbhum region.**
- The study, is done by researchers from India, Australia and the US.
- Scientists have found sandstones in Singhbhum with geological signatures of ancient river channels, tidal plains and beaches over 3.2 billion years old, representing the earliest crust exposed to air.
- The researchers studied the granites that form the continental crust of Singhbhum region.

Rezang La

Context

- Defence Minister Rajnath Singh will inaugurate the revamped war memorial at Rezang La in eastern Ladakh next week.
- The memorial, dedicated to those who laid down their lives in the Battle of Rezang La during the 1962 war, now includes the names of Army personnel who lost their lives in the violent clash at Galwan last year.

About

- Rezang La is a mountain pass on the Line of Actual Control between Indian-administered Ladakh and the Chinese-administered Spanggur Lake basin that is also claimed by India.
- The pass is located on the eastern watershed ridge of the Chushul Valley that China claims as its boundary.
- It is at the head of the Rezang Lungpa valley, which houses a stream draining into the Spanggur Lake.
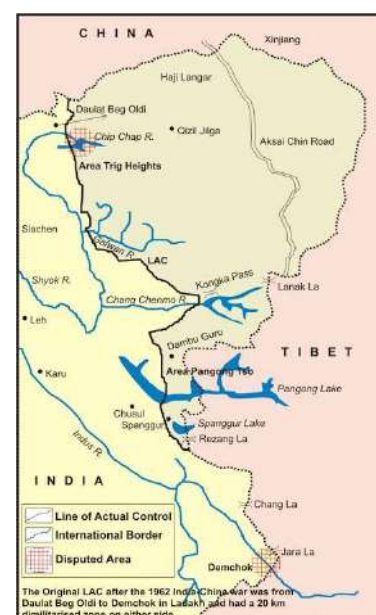
GS-2
POLITY

Bail

Context
- The National Human Rights Commission (NHRC) announced a pilot project for improving access to justice for prisoners of 16 Delhi jails by allowing law students to help them in filing bail applications and appeals.

Details
- The NHRC signed an **MoU with Delhi Prisons, the National Law University, Delhi and the Delhi State Legal Services Authority**.
- The aim of this collaborative **exercise is also to promote and protect the human rights of prisoners besides inculcating profession**alism among the law students.
- The students from NLU Delhi now may assist the prisoners in filing bail applications and appeals and other research work that may help the court with factual information and ensure early justice of the inmates under the supervision of the DSLSA.

Payment of Stipend
- The **NHRC would monitor the project and provide the payment of stipend** to the students.
- The **NLU would nominate 48 third-year and above** students.
- The students would visit the prisons under the DSLSA legal aid counsels' supervision for one week every month for a year.

About Bail
- Bail denotes provisional **release of accused in Criminal Case in which court the trial is pending and the Court is yet to announce judgement**. There are 3 types of bail Regular, Interim and Anticipatory.

Interim Bail
- **Interim bail is granted for a short period of time** and it is granted before the hearing for the grant of regular or anticipatory bail.

Anticipatory Bail
- If any person has reason to believe that he/she may be arrested for non-bailable offence, he/she **may apply to Sessions court or High court for anticipatory bail praying** that in the event of arrest, he/she shall be released on bail. (Section 438 Cr.PC).

Significance of Bail
- Bail is the **balance between not allowing release and allowing release** on a person's own recognizance.
- Bail ensures **that people show up at court**.
- It **eliminates a burden on taxpayers to track and monitor defendants** – it also protects those defendants' rights to remain innocent while awaiting trial.

Repealing for the law

Context
- Government has **announced on Friday that the three contentious farm laws passed last year would be repealed.**
- The process of repealing the laws — which are currently stayed by the Supreme Court — will take place in the upcoming Winter Session of Parliament.

Meaning of Repealing of the law
- Repealing a law **is one of the ways to nullify a law**. For this, Parliament has to pass another legislation to repeal the law.
- Legislation **can also have a "sunset" clause**, a particular date after which they cease to exist. For example, the anti-terror legislation Terrorist and Disruptive Activities (Prevention) Act 1987, commonly known as TADA, had a sunset clause, and was allowed to lapse in 1995.
- **Role of Article 245**: Article 245 of the Constitution gives Parliament the power to make laws for the whole or any part of India, and state legislatures the power to make laws for the state. Parliament draws its power to repeal a law from the same provision.
- A law can be repealed **either in its entirety, in part, or even just to the extent that it is in contravention** of other laws.

Process of Repealing the law
- Laws can be repealed in **two ways — either through an ordinance, or through legislation**.

Ordinance way
- In case an ordinance is used, it would need to be replaced by a law passed by Parliament within six months.
- If the ordinance lapses because it is not approved by Parliament, the repealed law can be revived.

By Law
- The government can also bring legislation to repeal the farm laws.
- It will have to be passed by both Houses of Parliament, and receive the President's assent before it comes into effect.

- All three farm laws can be repealed through a single legislation.
- Usually, **Bills titled Repealing and Amendment are introduced** for this purpose.

Data on Repealing the law

- The government has passed six Repealing and Amendment Acts since it came to power in 2014.
- It has repealed over 1,428 statutes that are obsolete.

Governor's Discretionary Power

Context

- Tamil Nadu Assembly Speaker **questioned why the President does not provide reasons for withholding assent and returning a Bil**l passed by the State Assembly.
- He also called for setting a binding time frame for the governor for deciding on any Bill.

Bills in Contention

- President had **withheld assent to two Bills opposing the National Entrance-cum-Eligibility Test (NEET) adopted by the Tamil Nadu Assembly in 2017** when the AIADMK was in power.
- A Bill to admit students to **undergraduate medical courses on the basis of their Plus-Two marks, instead of the NEET score,** passed by the DMK government earlier this year was sent to the Raj Bhavan. But its fate remains unknown.

Issue with the arbitrary power of governor & President

- Since the House **reflected the will of the people**, withholding of assent to a Bill "amounted to rejection of the will of the people of that State".
- Indefinite period by the governors and President **are eroding the authority of legislatures**.

Constitutional provisions

- As per Article 200 of the Constitution, the governor can reserve certain types of bills passed by the State Legislature for the President's consideration. The President can either give assent to it or ask the governor to send it back for the state legislature to reconsider it, along with his comments.
- Ac**cording to Article 200, when a Bill, passed by the Legislature of a State, is presented to the Governo**r, he has four options:
  o He assents to the Bill
  o He withholds assent
  o He reserves the Bill for the consideration of the President
  o He returns the Bill to the Legislature for reconsideration.

Punchi Commission observation regarding the same

- A provision should be made according to which the President's decision to exercise his Pocket Veto Power is communicated within a period of six months to the respective State.

First Audit Diwas

Context

- Prime Minister will address an event on Tuesday to mark the first Audit Diwas at the CAG office.

About Audit Diwas

- Audit Diwas is **being celebrated to mark the historic origin of the institution of CAG** and the contribution it has made to the governance, transparency and accountability over the past several years.

About Comptroller and Auditor General (CAG):

Constitutional Provisions	
Article 148:	Independent office of CAG
Article 149 -151 :	Duties & Powers, Form of Accounts of the Union and the States and Audit Reports
Article 279:	Calculation of Net Proceeds
Third Schedule	Oath or Affirmation
Sixth Schedule	Administration of Tribal Areas in the States of Assam, Meghalaya, Tripura and Mizoram
Other Provisions	
Appointment	President of India
Tenure	**Six years** or up to the age of **65** years, whichever is earlier.
Removal	Same grounds and in the same manner as a judge of the Supreme Court. He does not hold his office till the pleasure of the President.
Other	Not eligible for further office Salary and other service conditions are determined by the Parliament. No minister can represent CAG in the Parliament Salaries are charged on Consolidated Fund of India thus not subject to vote

Functioning	Audit of the accounts of Central government and State government
	Conscience Keeper of the government
	Does Wisdom audit, procedural audit
	Acts as a guide, friend and philosopher of the Public Accounts Committee of the Parliament.

Zonal Councils

Context
- Home Minister has recently chaired the meeting of southern zonal council.

About Zonal Councils
- The idea of creation of Zonal Councils was first mooted by the first Prime Minister of India, PanditJawaharLal Nehru in 1956.

Zonal Councils in India
- **Northern Zonal Council**: Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, National Capital Territory of Delhi and Union Territory of Chandigarh.
- **Central Zonal Council**: Chhattisgarh, Uttarakhand, Uttar Pradesh and Madhya Pradesh.
- **Eastern Zonal Council**: Bihar, Jharkhand, Orissa, Sikkim and West Bengal.
- **Western Zonal Council**: Goa, Gujarat, Maharashtra and the Union Territories of Daman & Diu and Dadra & Nagar Haveli.
- **Southern Zonal Council**: Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and the Union Territory of Puducherry.
- **The North Eastern States** i.e. (i) Assam (ii) Arunachal Pradesh (iii) Manipur (iv) Tripura (v) Mizoram (vi) Meghalaya and (vii) Nagaland are not included in the Zonal Councils and their special problems are looked after by the North Eastern Council, set up under the North Eastern Council Act, 1972

Organization Structure of Zonal Councils
- Chairman - The Union Home Minister is the Chairman of each of these Councils.
- Vice Chairman - The Chief Ministers of the States included in each zone act as Vice-Chairman of the Zonal Council for that zone by rotation, each holding office for a period of one year at a time.
- Members- Chief Minister and two other Ministers as nominated by the Governor from each of the States and two members from Union Territories included in the zone.

Objectives of the Zonal Councils
- Bringing out national integration;
- Arresting the growth of acute State consciousness, regionalism, linguism and particularistic tendencies;
- Enabling the Centre and the States to co-operate and exchange ideas and experiences;
- Establishing a climate of co-operation amongst the States for successful and speedy execution of development projects.

- The Zonal Councils are the **statutory** (NOT the constitutional) bodies.
- They are established by an Act of the Parliament, that is, **States Reorganization Act of 1956.**
- The Act divided the country into **five zones** (Northern, Central, Eastern, Western and Southern) and provided a Zonal Council for each zone.
- Factors taken into account while forming these zones:
  - ❑ The natural divisions of the country,
  - ❑ The river systems and means of communication
  - ❑ The cultural and linguistic affinity and
  - ❑ The requirements of economic development, security and law and order.

Functions of Councils
- Any matter of common interest in the field of economic and social planning;
- Any matter concerning border disputes, linguistic minorities or inter-State transport;
- Any matter connected with or arising out of, the re-organization of the States under the States Reorganization Act.

Privilege Motion

Context
- Congress chief whip moved a privilege motion against Culture Minister over the appointment chairperson of the National Monuments Authority.

About the Whip
- A whip is an official of a political party whose task is to ensure party discipline in a legislature.
- This means ensuring that members of the party vote according to the party platform, rather than according to their own individual ideology or the will of their donors or constituents.
- Whips are the party's "enforcers".
- A legislator may face disqualification proceedings if she/he disobeys the whip of the party unless the number of lawmakers defying the whip is 2/3rds of the party's strength in the house.
- Disqualification is decided by the Speaker/Chairman of the house.

Limitation of Whip

- There are some cases such **as Presidential elections where whips cannot direct a Member of Parliament (MP) or Member of Legislative Assembly (MLA**) to vote in a particular fashion.

About Privilege Motion

- **All Members of Parliament (MPs) enjoy rights and immunities, individually and collectively**, so that they can discharge their duties and functions effectively.
- Any instance when these rights and immunities are disregarded by any member of Lok Sabha or Rajya Sabha is an offence, called 'breach of privilege', which is punishable under the Laws of Parliament.
- Any **member from either house can move a notice in the form of a motion** against the member who he/she thinks is guilty of the breach of privilege.
- Both Houses of the Parliament reserve the right to punish any action of contempt (not necessarily breach of privilege) which is against its authority and dignity, as per the laws.

Rules concerning the privilege Motion:

- The rules governing the privilege are mentioned in the **Rule No 222 in Chapter 20 of the Lok Sabha Rule Book and Rule 187 in Chapter 16 of the Rajya Sabha rulebook.**
- The rules explain that any member of the House may, **with the consent of the Speaker or the Chairperson, raise a question involvi**ng an incident that he or she considers a breach of privilege either of a member or of the House or of a committee.

Role of Speaker and Chairperson:

- The speaker of Lok Sabha and the Chairperson of Rajya Sabha are **the first level of scrutiny of a privilege motion** in the two Houses of Parliament.
- They can **either take a decision on the privilege motion or can also refer it to the privileges committee** of Parliament.

About Privilege Committee:

- It is a standing Committee.
- The Speaker of Lok Sabha nominates a committee of privileges consisting of 15 members of parliament from each party.
- The report prepared by the committee is submitted to the House for its consideration.

History of Privilege Motions in Parliament:

- Most of the privilege motions passed in the **Parliament in the past have been rejected**. Penal actions have been recommended only in a few, so far.
- Among the **most significant privilege motions passed so far was in 1978 against Indira Gandhi. Indira Gandhi**, who had just won the Lok Sabha elections from Chikmagalur, was expelled from the House
- **In 1976, BJP MP Subramanian Swamy was expelled from Rajya Sabha** for bringing disgrace to Parliament through his interviews to foreign publications.

Constitution on Parliamentary Privileges:

- Parliamentary privileges are special rights, immunities and exemptions enjoyed by the two Houses of Parliament, their committees and their members.
- The Constitution also **extends the parliamentary privileges to those persons who are entitled to speak and take part in the proceedings of a House of Parliament or any** of its committees. These include the Attorney General of India and Union ministers.
- The parliamentary **privileges do not extend to the President** who is also an integral part of the Parliament. Article 361 of the Constitution provides for privileges for the President.
- **Article 105 of the Constitution expressly mentions two privileges, that is, freedom of speech in Parliament and right of publication** of its proceedings.
- Apart from the privileges as specified in the Constitution, the Code of Civil Procedure, 1908, provides for freedom from arrest and detention of members under civil process during the continuance of the meeting of the House or of a committee thereof and forty days before its commencement and forty days after its conclusion.

About National Monument Authority

- National Monuments Authority is a statutory body set up as per the provisions of Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010.
- It functions under the Ministry of Culture.
- Its task is to protect and preserve centrally protected monuments and sites.
- Construction activities in such protected sites require permission from the NMA.
- The Director General of Archaeological Survey of India is the ex-officio chairperson of the NMA.

Padma Awards

Context

- President presented the Padma Awards for the year 2020.

Details

- **The Padma Awards were instituted in the year 1954, and is announced every year on the occasion of Republic Day except for brief interruption(s) during the years 1978 and 1979 and 1993 to 1997.**
- **Padma Vibhushan:** It is the second highest civilian honour of India is given for exceptional and distinguished service in any field including service rendered by the government servants.
- The highest award in India is the Bharat Ratna.
- **Padma Bhushan:** This award is given to recognize distinguished service of a high order to the nation.
- **Padma Shri:** It is given by distinguished service in any field including service rendered by the Government servants.

Nomination of People:

- The state **governments, union territory administrations, central ministries and departments, the institutions of Excellence etc. submit the recommendations** for the Padma awards.
- These nominations are then considered by an Awards Committee who give their recommendations.
- The **Padma Awards Committee is constituted by the Prime Minister** every year.
- The Awards are given in three categories:
- o Padma Vibhushan (for exceptional and distinguished service),
- o Padma Bhushan (distinguished service of higher order)
- o Padma Shri (distinguished service)

Eligibility of Padma Awards:

- All persons **without distinction of race, occupation, position or sex are eligible** for these awards.
- However, except doctors and scientists, government servants including those working with PSUs, are not eligible for the Padma Awards.

GOVERNANCE

SDG Urban Index

Context

- First Sustainable Development Goals **(SDG) Urban Index has been released by Niti Aayog,** the country's economic think-tank.

Finding

- **Bengaluru is the best and only city in the country that is providing decent jobs** and ensuring economic growth.
- Shimla is ensuring sustainable development, as it has topped the index based on 15 parameters.

Scoring

- The maximum score a city can achieve is 100.
- A score between 65 and 99 categorizes a city as a 'front-runner',
- cities scoring between 50-64 were called 'performers',
- those scoring below 50 were considered 'aspirants'.

About the Index

- The SDG Urban Index **and Dashboard ranks 56 urban areas on 77 SDG indicators across 46 targets** of the SDG framework.
- The data on these indicators **have been sourced from official data sources such as NFHS, NCRB, U-DISE, data portals of various ministries,** and other government data sources.
- SDG 14 (life below water) has not been included as it is relevant for only coastal areas, which are only a few of the selected cities,

SHIMLA LEADS THE WAY IN ACHIEVING SDGs

Rank	City	State	SDG Score 2021
Top 5			
1	Shimla	Himachal Pradesh	76
2	Coimbatore	Tamil Nadu	73
3	Thiruvananthapuram	Kerala	72
4	Chandigarh	Chandigarh	72
5	Kochi	Kerala	72
Bottom 5			
52	Patna	Bihar	57
53	Guwahati	Assam	56
54	Itanagar	Arunachal Pradesh	55
55	Meerut	Uttar Pradesh	55
56	Dhanbad	Jharkhand	52

SOURCE : NITI AAYOG SDG URBAN INDEX

- **SDG 17 (partnerships for the goals) has been excluded as the progress of its targets** are monitored at the national level.

Benefits

- The index and dashboard will further strengthen SDG localization and institute robust SDG monitoring at the city level.
- It highlights the strengths and gaps of ULB-level data, monitoring, and reporting systems.

- It will go a long way in instituting a robust SDG monitoring system in our cities, and is a milestone step in our SDG localization journey.
- It seeks to empower local administrations to adopt a measurement-based approach to decision making.

Challenges

- These index **lack the benchmarking with the global cities** that where does the global cities lie compared to Indian cities.
- The Focus of these index is more on output rather **than improving the people's participation**.
- There is **little clarity on whether the data captures the migrants life** or not.
- Shimla has topped the sustainable development despite the wide spread destruction of the environment in the wake of tourism testifies the shallowness of the index.

Way Forward

- A **measurement to the global cities** must also be incorporated.
- **Best practices followed by good cities** must be disseminated for other cities to emulate.
- The index must also consider the benchmark data (either of independence or liberalization)to provide the temporal growth of the city.

GOAL-WISE GOOD PERFORMERS

Goal 1: No Poverty — Coimbatore [TN], Shillong [ML], Madurai [TN], Tiruchirapalli [TN], Aizawl [MZ]

Goal 2: Zero Hunger — Kochi [KL], Imphal [MN], Kohima [NL], Vijayawada [AP], Shillong [ML], Amritsar [PB]

Goal 3: Good Health and Well-being — Shimla [HP], Amritsar [PB], Panaji [GA], Visakhapatnam [AP], Srinagar [JK], Kochi [KL], Gwalior [MP], Coimbatore [TN]

Goal 4: Quality Education — Tiruvanantapuram [KL], Kochi [KL], Chandigarh [CH], Coimbatore [TN], Pune [MH]

Goal 5: Gender Equality — Kochi [KL], Tiruvanantapuram [KL], Panaji [GA], Kohima [NL], Rajkot [GJ], Nashik [MH], Pune [MH], Agartala [TR]

Goal 6: Clean Water and Sanitation — Bhopal [MP], Kochi [KL], Panaji [GA], Prayagraj [UP], Chandigarh [CH], Ahmedabad [GJ], Gwalior [MP]

Goal 7: Affordable and Clean Energy — Shimla [HP], Itanagar [AR], Srinagar [JK], Aizawl [MZ], Ludhiana [PB], Hyderabad [TS]

Goal 8: Decent Work and Economic Growth — Bengaluru [KA], Raipur [CG], Panaji [GA], Dehradun [UK], Bhubaneshwar [OD]

Goal 9: Industry, Innovation and Infrastructure — Surat [GJ], Bhopal [MP], Bhubaneshwar [OD], Shillong [ML], Coimbatore [TN]

Goal 10: Reduced Inequality — Amritsar [PB], Ludhiana [PB], Mumbai [MH], Nashik [MH], Delhi [DL]

Goal 11: Sustainable Cities and Communities — Nashik [MH], Surat [GJ], Chandigarh [CH], Vadodara [GJ], Ahmedabad [GJ]

Goal 12: Responsible Consumption and Production — Multiple

Goal 13: Climate Action — Shimla [HP], Kochi [KL], Tiruvanantapuram [KL], Shillong [ML], Aizawl [MZ]

Goal 14: Life Below Water — N/A

Goal 15: Life on Land — N/A

Goal 16: Peace, Justice and Strong Institutions — Panaji [GA], Gangtok [SK], Kochi [KL], Aizawl [MZ], Rajkot [GJ], Srinagar [JK], Tiruvanantapuram [KL], Tiruchirapalli [TN]

Global Bribery Risk Ranking

Context

- Recently, Bribery Risk Matrix 2021 was released by TRACE, an anti-bribery standard setting organization.

Details

- North Korea, Turkmenistan, Venezuela and Eritrea pose the highest commercial bribery risk.
- Denmark, Norway, Finland, Sweden and New Zealand present the lowest bribery risk.
- India has slipped to 82nd position in 2021, five places down from 77th rank last year.
- India fared better than its neighbors – Pakistan, China, Nepal and Bangladesh.
- Bhutan, meanwhile, secured 62nd rank.
- over the past 10 years, the business bribery risk environment worsened significantly in countries that also experienced democratic backsliding: Egypt, Venezuela, Turkey, Poland and Hungary.
- From 2020 to 2021, all of the Gulf Cooperation Council (GCC) countries saw an increase in commercial bribery risk.

About the Matrix

- It measures business bribery risk in 194 countries, territories, and autonomous and semi-autonomous regions.
- Parameters:
  - business interactions with the government,
  - anti-bribery deterrence and enforcement,
  - government and civil service transparency,
  - capacity for civil society oversight
- It was originally published in 2014 to meet a need in the business community for more reliable and nuanced information about the risks of commercial bribery worldwide.
- It aggregates relevant data obtained from leading public interest and international organizations, including the United Nations, World Bank, V-Dem Institute at the University of Gothenburg and World Economic Forum.

Steps taken by India to improve the Ranking

- Systemic **improvements and reforms to provide transparent citizen-friendly services** and reduce corruption.
- **Disbursement of welfare benefits directly to the citizens** under various schemes of the Government in a transparent manner through the Direct Benefit Transfer initiative.
- **Implementation of E-tendering** in public procurements.
- **Introduction of e-Governance** and simplification of procedure and systems.

- **Introduction of Government procurement through the** Government e- Marketplace (GeM).
- The **Prevention of Corruption Act, 1988**: It clearly criminalizes the act of giving bribes and will help check big ticket corruption by creating a vicarious liability in respect of senior management of commercial organizations.

Pradhan Mantri Gram SadakYojana

Context
- Recently, Cabinet has approved the continuation of the phases 1 and 2 of the Pradhan Mantri Gram SadakYojana, till September 2022 for completion of the roads and bridge works that are yet to be finished under the first two phases.

PMGSY - Phase I
- PMGSY - Phase I was launched in December, 2000 as a 100 % centrally sponsored scheme.
- Under the scheme, 1,35,436 habitations were targeted for providing road connectivity and 3.68 lakh km. for upgradation of existing rural roads in order to ensure full farm to market connectivity.

PMGSY - Phase II
- The Government of India subsequently launched PMGSY-II in 2013 for upgradation of 50,000 Kms of existing rural road network to improve its overall efficiency.
- While the ongoing PMGSY - I continued, under PMGSY phase II, the roads already built for village connectivity was to be upgraded to enhance rural infrastructure.
- The cost was shared between the Centre and the states/UTs.

Eligibility for the Scheme:
- Rural areas with a **population of 500 and above in plain areas**; and hill states including NE, desert states, tribal areas and other backward areas with a population of 250 and above.
- Apart from building new roads, the scheme **also has provisions for the upgrade of existing roads in these area**s, although the primary focus is to provide connectivity to unconnected habitations.
- The **scheme does not cover repairs to black-topped or cement roads**, even if the surface condition is bad.

Monitoring:
- The roads developed under this scheme are maintained by the Panchayati Raj institutions.

Significance of the Scheme:
- It is a key component of rural development by **enhancing access to social and economic services thereby increasing farm incomes and employme**nt opportunities to people. Secondly, it is a key ingredient in poverty alleviation.
- The development of roads, apart from national highways, is the responsibility of the state governments. Because of inadequate funds and diverted focus of planners, rural roads hardly received any attention. This scheme seeks **to fill this gap and take the fruits of development to remote corners of the country.**
- Increased **connectivity will help the rural population avail opportunities of employment, health, education and various other social welfare schemes** provided by the government. Good, dependable roads translate to easier and faster connectivity from farm to market, timely movement of perishable products from village to market Centre's, and provide an incentive to industry to move to the hinterland among many other such benefits.
- Connectivity **also encourages government functionaries such as health workers, teachers, and agriculture extension workers to willingly move to the villages to** offer their services. This ultimately contributes to prosperity, and allows economies of scale and sustainable employment.

Challenges
- Lack of dedicated funds.
- Limited involvement of the Panchayati Raj Institutions.
- Inadequate execution and contracting capacity.
- Less working season and difficult terrain particularly in Hill States.
- Scarcity of the construction materials.
- Security concerns particularly in Left Wing Extremism (LWE) areas.

Way Forward
- Rural Road Connectivity is a key component of Rural Development as it promotes access to economic and social services.
- Further, it helps in generating increased agricultural incomes and productive employment opportunities in India.
- In this regard, the government can consider engagement with international financial institutions to construct basic rural infrastructure.

Road Connectivity Project for Left Wing Extremism Area (RCPLWEA)
- Government launched Road Connectivity Project for Left Wing Extremism affected Areas in the year 2016 as a separate vertical under PMGSY .
- To provide all-weather road connectivity with necessary culverts and cross-drainage structures in 44 districts (35 are worst LWE affected districts and 09 are adjoining districts), which are critical from security and communication point of view.

Smart Policing

Context

- Indian Police Foundation **constructed a survey framework to measure citizens' perceptions** from a perspective of public trust in police.

Details

- Indian Police Foundation **constructed a survey framework to measure citizens' perceptions from a perspective of public trust** in police.
- Trust was identified as the overarching element of the SMART policing vision.
- The SMART scores are set on a scale of 1 to10 and are indicative of the levels of citizen satisfaction, a score of 10 being the highest level of satisfaction.

Finding of the Survey

- With a **perception score of 5.74, Bihar ranked the lowest** in police sensitivity.
- while the **score for Uttar Pradesh was 5.81 followed by Chhattisgarh** at 5.93.
- With a **score of 8.11 and 8.10, Andhra Pradesh and Telangana police** topped the ranking.
- a majority of citizens [a weighted average of 66.93%] believes **that the police are doing their job well and strongly support the police.**
- It added that the levels of popular satisfaction with the quality of policing was highest in Andhra Pradesh, Telangana, Assam, Kerala, Sikkim, Mizoram and Gujarat in that order.

About Smart Policing

- The SMART Policing idea was **envisioned, articulated and introduced by the Indian PM at the Conference of DGPs of State** and Central Police Organizations, held at Guwahati, in the year 2014.
- It envisaged systemic changes to transform the Indian Police to be: **Strict and Sensitive, Modern and Mobile, Alert and Accountable, Reliable and Responsive, Techno-savvy and Trained (SMART).**
- The strategy combined the development of physical infrastructure, technology adoption, a focus on the critical soft skills and attitudes, as well as a deep commitment to the values of professional excellence and service to the people, considered essential to take the Indian Police to the next level.

Advantage of Smart Policing

- It will **bring more "science" into police operations by** leveraging innovative applications of analysis, technology, and evidence-based practices.
- New capabilities **can log locations, listen for gunshots, stream video, flag license plates, scan databases, and go on virtual patrol**, allowing officers unprecedented awareness in their environments.
- It promotes **pro-active policing by preventing criminalactivity** through enhanced police visibility and public engagement.

S for strict but sensitive,
M for modern and mobile,
A for alert and accountable,
R for reliable and responsive and
T for techno-savvy and trained."

- Smart policing **encourages a system-wide and strategic view of police operations**.
- It encourages **focus on outcomes i.e. reduced crime & safer communities in cost effective ways. Smart policing paradigm** promotes integration & interoperability of information & communication systems.
- These initiatives **help to protect civil rights and to make police force** more citizen friendly.

SOCIAL JUSTICE

Evolution of Indian States

Context

- Six Indian states celebrated their foundation days on November 1.

Details

- The states are Haryana, Madhya Pradesh, Chhattisgarh, Karnataka, Kerala and Andhra Pradesh.

First Commission on States

- The **creation of Andhra state in 1953 on the linguistic basis** intensified the demand from other regions for creation of states on linguistic basis.
- Government of India appointed (in December 1953) a three-member States Reorganization Commission under the **chairmanship of Fazl Ali to re-examine** the whole question. Its other two members were K M
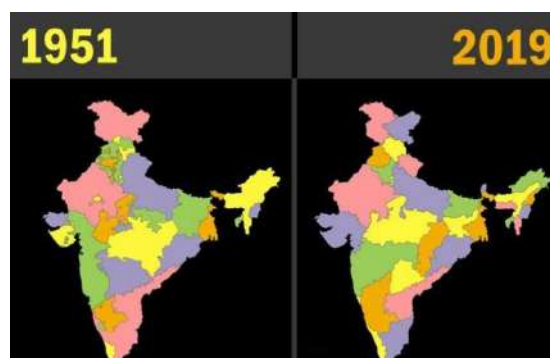
Panikkar and H N Kunzru.

- It **rejected the theory of 'one language– one state'**. Its view was that the unity of India should be regarded as the primary consideration in any redrawing of the country's political units.
- It identified four major factors that can be taken into account in any scheme of reorganization of states:
  - o Preservation and strengthening of the unity and security of the country.
  - o Linguistic and cultural homogeneity.
  - o Financial, economic and administrative considerations.
  - o Planning and promotion of the welfare of the people in each state as well as of the nation as a whole.

INTERNATIONAL RELATIONS

East Asia Summit

Why in news?

- At East Asia Summit, PM Modi reaffirmed India's focus on **free, open and inclusive Indo-Pacific and the principle of "ASEAN Centrality" in the region.**
- India remained committed to **strengthening respect for shared values of multilateralism, rules-based international order, international law and sovereignty and territorial integrity of all nations.**
- The PM also raised the idea of developing global standards on cyber security.

16th East Asia Summit outcomes

Outcomes of the 16th East Asia Summit:

- Reaffirmed the EAS as the premier Leaders-led forum for dialogue and cooperation on broad strategic, political and economic issues of common interest and concern.
- Underscored the importance of engaging in constructive dialogue to reinforce mutual trust and confidence, as well as advancing practical cooperation for mutual benefit.
- Committed to advance cooperation towards a holistic pandemic recovery, especially in the areas of vaccine distribution, mental health, sustainable economic growth, including revitalising the tourism sector and sustainable development to enhance ongoing efforts in climate action.
- Stressed the need to strengthen collaboration and uphold multilateralism to ensure regional resilience and preparedness against future crises, as well as maintaining an ASEAN-centred regional architecture.
- Adopted EAS Leaders' Statements on "Mental Health Cooperation", "Economic Growth through Tourism Recovery" and "Sustainable Recovery", complementing the vision for an inclusive and comprehensive regional recovery.

About East Asia Summit

- The East Asia Summit is a premier leaders-led forum in the Indo-Pacific region.
- Since its inception in 2005, it has played a key role in the strategic and geopolitical evolution of east Asia.
- Apart from the 10 ASEAN member states, East Asia Summit **includes India, China, Japan, the Republic of Korea, Australia, New Zealand, the United States and Russia.**
- **India, being a founding member of the East Asia Summit**, is committed to strengthening the East Asia Summit and making it more effective for dealing with contemporary challenges.

- ASEAN-India summits are held annually and provide the opportunity for India and ASEAN to engage at the highest levels.
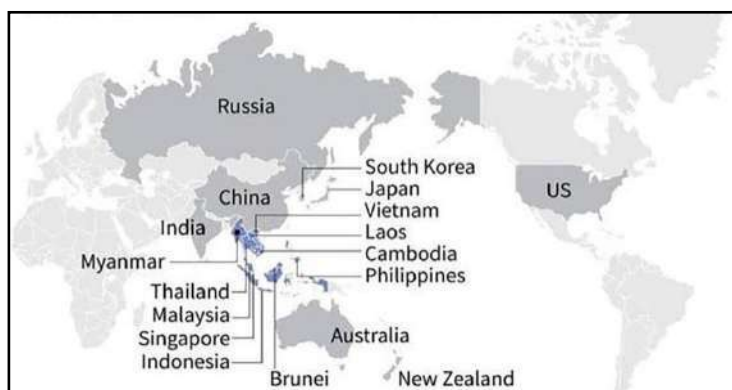
Chicago Convention

Context

- Pakistan's 'no' to airspace for Srinagar-Sharjah flight could be breach of freedom of air rules

What is the issue?

- A direct flight between Srinagar and Sharjah operated on a route that took it through Pakistani airspace before heading southwest and arriving in Sharjah.
- However, the **flight was denied permission to enter Pakistan** and flew south over Rajasthan and Gujarat before heading west over the Arabian Sea and flying through Omani airspace before entering the UAE.

Why did Pakistan deny use of its airspace?

- While there has been **no official explanation given by Pakistan authorities**, the country had made a similar move in 2009 prohibiting an Air India Express flight from Srinagar to Dubai from using its airspace.
- It raises the concern of **Pakistan violating the first freedom of air.**

What is freedom of air?

- Following the **Chicago Convention in 1944**, the signatories to the convention decided to set rules that would act as fundamental building blocks to international commercial aviation.
- As a part of these rules, initially, **six 'freedoms of air' were decided**.
- These freedoms or rights — which still operate within the ambit of multilateral and bilateral treaties that allow them — grant airlines of a particular country the privilege to use and/or land in another country's airspace.
- The **first freedom of air** grants the right to an airline of one country to fly over a second country and land in a third country.
- The **second freedom of air** grants the right to refuel or carry out maintenance in a foreign country without embarking or disembarking passengers or cargo.
- The **third and the fourth freedoms grant** the right to fly from the airline's home country to another and from a foreign country to the airline's own, respectively.
- Other freedoms of air —pertain to operation of an airline between two countries not including the country of its origin and within a foreign country with and without having a stop in the home country.

What is Chicago Convention?

- The **Convention on International Civil Aviation**, also known as the Chicago Convention, **established the International Civil Aviation Organization (ICAO), a specialized agency of the UN** charged with coordinating international air travel.
- The Convention **establishes rules of airspace, aircraft registration and safety, security, and sustainability, and details the rights of the signatories** in relation to air travel.
- The Convention also contains **provisions pertaining to taxation.**
- Convention on International Civil Aviation (also known as Chicago Convention), was signed on 7 December 1944 by 52 States including India. Thus, **India is founding member of this convention**.

India, U.S. Defence Technology and Trade Initiative

Why in news?

- India, U.S. held 11th Defence Technology and Trade Initiative group meeting.

About Defence Technology and Trade Initiative (DTTI)

- The meetings are **normally held twice a year**, alternating between India and the U.S.
- The aim of the group was **to bring sustained leadership focus to the bilateral defence trade relationship and create opportunities for co-production and co-development of defence equipment**.
- This forum offers an opportunity for Indian and U.S. industries to be directly involved in DTTI and facilitates dialogue between government and industry on issues that impact industrial collaboration

Key outcomes

- They agree on revised Statement of Intent **to strengthen dialogue on defence technology cooperation**.
- As part of efforts for co-production and co-development of defence equipment under the **Defence Technology and Trade Initiative (DTTI)**, India and the U.S. agreed on a revised Statement of Intent (SOI) to strengthen dialogue on defence technology cooperation by "pursuing detailed planning and making measurable progress".
- Four Joint Working Groups focused on **land, naval, air and aircraft carrier technologies** had been established under DTTI to promote mutually agreed projects.
- The groups reported to the co-chairs on ongoing activities and collaborative opportunities, including a number of near-term projects targeted for completion on priority,"
- The two sides recently signed the first project agreement for Air-Launched Unmanned Aerial Vehicle under the Joint Working Group Air Systems.

Defence relations between India-U.S.

- Defence relationship has emerged as a major pillar of India- U.S. strategic partnership with intensification in defence trade, joint exercises, personnel exchanges, and cooperation in maritime security and counter-piracy.
- India conducts more bilateral exercises with the U.S. than with any other country. Some important bilateral exercises are: **Yudh Abhyas, Vajra Prahar, Tarkash, Tiger Triumph, and Cope India.**
- **Aggregate worth of defence-related acquisitions from the U.S. is more than US$ 15 billion.**
- The **India-U.S. Defence Technology and Trade Initiative** (DTTI) is aimed at promoting co-development and co- production efforts.
- In June 2016, the U.S. recognised India as a **"Major Defence Partner",** which commits the U.S. to facilitate technology sharing with India to a level commensurate with that of its closest allies and partners.
- The announcement of India's elevation to **Tier I of the Strategic Trade Authorization (STA)** license exception will further contribute towards facilitating interaction in advanced and sensitive technologies.
- Apart from the 2+2 Ministerial Dialogue, some other important dialogue mechanisms on defence cooperation are: Defence Policy Group, Military Cooperation Group, Defense Technology and Trade Initiative etc.

Delhi Declaration

Context

- India and 7 other nations adopt Delhi Declaration to form open govt in Afghanistan.

More about news

- India's NSA Ajit Doval, along with security chiefs of **Iran, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Uzbekistan,** during the **Regional Security Dialogue on Afghanistan** adopted the Delhi Declaration and reiterated strong support for a peaceful, secure and stable Afghanistan

Delhi declaration

- It underlined the need for forming an **open and truly inclusive government in Kabul that represents the will and representation of all sections of Afghanistan.**
- It emphasise the respect for **sovereignty, unity and territorial integrity and non-interference in its internal affairs**.
- It also stressed that **Afghanistan's territory should not be used for sheltering, training, planning or financing any terrorist acts.**
- Recalling the relevant UN Resolutions on Afghanistan, the **United Nations has a central role to play in Afghanistan** and that its continued presence in the country must be preserved.
- Humanitarian assistance should be provided in an unimpeded, direct and assured manner to Afghanistan.

Taliban reaction

- Taliban have welcomed the 'Delhi Declaration' on Afghanistan after India hosted seven countries from its neighbourhood to discuss the situation in the geo-strategically significant country.
- Unlike Pakistan and China, the **Taliban have shown more openness to India's efforts towards establishing normalcy in Afghanistan.**

HEALTH

Tobacco Usage

Context

- Tobacco use in all forms, whether smoking or chewing, is associated with severe COVID-19 casualties, according to the Ministry of Health and Family Welfare and the Indian Council of Medical Research.

Details

- The **National Commission for Protection of Child Rights (NCPCR)** has appealed to the Central Government to strengthen the tobacco control law to prevent the youth from taking up tobacco use.
- Experts have urged the Government to put curbs on the sale of tobacco products to those below 21, to impose a comprehensive ban on tobacco advertising and to ban sale of single sticks of cigarettes/bidis.
- Increasing the minimum legal age for sale of tobacco products from 18 to 21 and banning the sale of loose/single stick of cigarettes by amending **COTPA 2003 (Cigarettes and Other Tobacco Products Act)** are crucial to protect youth from tobacco as it has the potential to reduce tobacco use initiation and progression to regular smoking.
- Nearly **27% of all cancers in India are linked to tobacco usage.**

Provisions of COTPA ACT, 2013

- The Act prohibits smoking of tobacco in public places, except in special smoking zones in hotels, restaurants and airports and open spaces.
- Advertisement of tobacco products including cigarettes is prohibited.
- Tobacco products cannot be sold to person below the age of 18 years, and in places **within 100 yards radius** from the outer boundary of an institution of education, which includes school colleges and institutions of higher learning established or recognized by an appropriate authority.
- Tobacco products must be sold, supplied or distributed in a package which shall contain an appropriate pictorial warning, its nicotine and tar contents.
- The owner/manager/in-charge of a public place must display a board containing the warning "No Smoking Area – Smoking here is an offence" in appropriate manner at the entrance and inside the premises.
- The Act also gives power to any police officer, not below the rank of a sub-inspector for search and seizure of premises where tobacco products are produced, stored or sold, if he suspects that the provision of the Act has been violated.

Har Ghar Dastak

Context

- The Centre has launched a mega vaccination campaign- 'Har Ghar Dastak' with a view to speed up Covid -19 vaccination drive.

Details

- Under the campaign, healthcare workers in all the States will visit door-to-door to vaccinate people eligible for second dose and also those who have not taken the first dose.
- More than 106 crore COVID-19 vaccine doses have been administered in the country so far under the Nationwide Vaccination Drive.
- The recovery rate is currently at 98.20 per cent: Health Ministry

Ayushmaan CAPF

Context

- Union Home Minister Amit Shah launched the 'Ayushmaan CAPF' Scheme health cards at the national level in New Delhi.

About

- 'Ayushmaan CAPF' Scheme has been launched on pilot basis <u>in Assam</u> to provide health care services to all Central Armed Police Force (CAPFs) personnel and their dependents.
- The scheme is a **joint initiative of the Home Ministry, Health Ministry and National Health Authority (NHA).**
- The health card distribution will be undertaken in all CAPFs and the number of cards distributed will be displayed on the website of Home Ministry on a daily basis.

COVAXIN

Context

- Covaxin gets WHO's emergency use no.

About

- According to WHO, Covaxin has **78% efficacy against COVID-19 of any severity,** 14 or more days after the second dose, and is extremely suitable for low- and middle-income countries due to its easy storage requirements.
- Covaxin vaccine was reviewed by the WHO's Strategic Advisory Group of Experts on Immunization (SAGE).

Significance

- Validation by the WHO is a very significant step towards ensuring global access to India's widely administered, safe and efficacious Covaxin.

Long wait ends

The WHO's emergency use licence for Covaxin has come after over 12 crore doses were administered in the first 11 months of its use in India. A lowdown:

- Efficacy results were published in July showing the vaccine was about **93%** effective in preventing severe COVID-19 and roughly **65%** effective against infection with the delta variant
- Covaxin was developed by Bharat Biotech in partnership with ICMR
- Covaxin shots were sent to Myanmar, Paraguay and Zimbabwe as grants, apart from Mauritius and Iran

SOURCE: AFP

New Protocol for Post-Mortem Procedure

Context

- Union Health Ministry of India notifies new protocol for post-mortem procedure.

Aim

- To promote ease of living by reducing burden imposed due to compliance to government processes.

Provisions

- Apart from friends and relatives of the deceased, this new procedure **promotes organ donation and transplant** as organs can be harvested in the stipulated time window after the procedure.
- **Performing night time post-mortem in hospitals is now feasible.**
- The protocol stipulates that **post-mortem for organ donation be taken up on priority** and be conducted even after sunset at the hospitals which have the infrastructure for conducting such post-mortem on a regular basis.
- **Fitness and adequacy of infrastructure etc., shall be assessed by the hospital-in-charge** to ensure that there is no dilution of evidentiary value.
- It is also to be ensured by the facility that **video recording of post-mortem shall be done for all post-mortem conducted in the night,** to rule out any suspicion and preserved for future reference for Legal purposes.
- However, cases under **categories such as homicide, suicide, rape, decomposed bodies, suspected foul play should not be subjected for post-mortem during night time** unless there is a law and order situation.

Global Innovation Summit of the Pharmaceuticals Sector

Context

- Prime Minister Shri Narendra Modi will inaugurated the First Global Innovation Summit of the Pharmaceuticals.

About

- It aims to bring together key Indian and international stakeholders from the government, industry, academia, investors, and researchers to discuss and strategize priorities to foster a thriving innovation ecosystem in the pharmaceuticals industry in India.
- It will also highlight the opportunities in the Indian pharma industry that has huge growth potential.

National Epilepsy Day

Context

- The National Epilepsy Day was observed on November 17, 2021.

About

- Epilepsy is a **chronic non-communicable disease of the brain** that affects around 50 million people worldwide.
- It is **characterized by recurrent seizures, which are brief episodes of involuntary movement** of the body sometimes accompanied by loss of consciousness and control of bowel or bladder function.
- Nearly 80 per cent of people with epilepsy live in low and middle-income countries.
- Epilepsy is usually treated by medication and in some cases by surgery, devices or dietary changes.
- Although epilepsy is treatable, yet three-fourths of affected people in developing countries do not receive the required treatment.
- In many parts of the world, people with epilepsy and their families suffer from stigma and discrimination.

Tobacco Users

Context

- The number of people using tobacco globally decreased to 1.30 billion in 2020, from 1.32 billion in 2015, the World Health Organization WHO has reported.

Findings

- About 70 per cent of the world's 1.3 billion tobacco users did not have access to tools to help them to quit successfully.
- Taxation was the single most effective tool for reducing tobacco use.
- But the illicit trade in tobacco products undermined the effectiveness of tax policies.
- Illegal tobacco trade is a threat to public health as it increases access to often cheaper tobacco products.
- The access to such products fuels the tobacco epidemic and undermines tobacco control policies.
- It also causes substantial losses in government revenues.
- Eliminating the illicit trade in tobacco products is an important goal for public health.

Pfizer and Moderna Covid Vaccine

Context

- In the United States, the Food and Drug Administration (FDA) has extended the authorization of the Pfizer and Moderna Covid vaccine booster doses for all adults aged 18 and older.

About

- Earlier, booster shots were allowed for people aged over 65 or for those at high risk of severe disease.
- Booster shot is an additional dose of a vaccine needed periodically to 'boost' the immune system.

- In medical terms, a booster dose is an extra administration of a vaccine after an earlier (primer) dose.
- After initial immunization, a booster injection or booster dose is a <u>re-exposure to the immunizing antigen.</u>
- It is intended to increase immunity against that antigen back to protective levels, after memory against that antigen has declined through time.
- For example, tetanus shot boosters are often recommended every 10 years, by which point memory cells specific against tetanus lose their function or undergo apoptosis.

Conclusion
- The decision will help to provide continued protection against Covid-19, including the serious consequences that can occur, such as hospitalization and death.

Know your Vaccination Status

Context
- A new feature "Know Your Vaccination Status" has been enabled on the CoWIN digital platform.

About
- This will help to verify or retrieve a citizen's vaccination status and details as per the authorized rights of the verifying entity by Co-WIN and Health Ministry.
- The service could be utilized by a service provider for facilitating a service requested by the citizen.
- The service can be utilized by travel agencies and help making travel safe for individuals by allowing travel only for vaccinated individuals.
- Employers can use this service to verify vaccination status of employees and resume the functions in offices and workplaces.

Sanitary Pads from Jute Cellulose

Context
- A Bangladeshis scientist Farhana Sultana has successfully built a machine to produce sanitary pads using the jute cellulose for sustainable menstrual health.

About
- She developed the jute-cellulose based disposable sanitary pad as an alternative solution for the menstrual health and hygiene for women and girls in Bangladesh.
- Currently, there is no machine available to utilize the jute-cellulose to make sanitary pads.

Community Kitchens Scheme

Context
- Centre has constituted a "Group of Food Secretaries" from States along with Senior officers of Central Govt to deliberate on the framework of the Community Kitchens Scheme.

About
- The Group of Food Secretaries include Food Secretaries from 8 states of Kerala, Odisha, Uttar Pradesh, Gujarat, Assam, Bihar, West Bengal and Madhya Pradesh.
- The Food Secretary of Madhya Pradesh will be heading the Group.
- Community Kitchen will be of the community, run by the community & for the welfare of the community.
- It will be built on 4 pillars of Quality, Hygiene, Reliability & Spirit of Service.
- It will help us realize the goal that no one Sleeps Hungry.

6-8 participants and group leaders
Meet weekly or fortnightly
Group leaders can be paid employees or volunteers

Plan together
All participants make a weekly payment (eg, $5/week)
The group plans together what they will cook and what they need

Cook
Everyone is involved in cooking

Share
The meal is eaten together or taken home to share with family
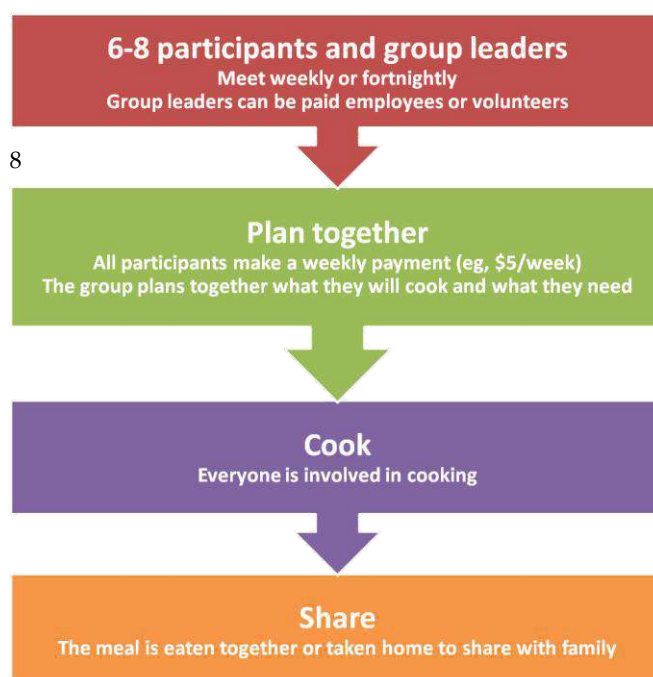
Omicron Variant

Context

- The World Health Organization (WHO) classified a new variant of SARS-CoV-2, currently circulating in South Africa, as a 'variant of concern'. It also named it Omicron

About

- The Network for Genomics Surveillance in South Africa (NGS-SA) had identified the variant.
- It had detected a group of related SARS-CoV-2 viruses, which belong to a **lineage named B.1.1.529**.
- Early indications are that this variant is possibly even **more transmissible than the highly infectious Delta variant**, and that current vaccines may be less effective against it.
- From what is known currently, B.1.1.529 has multiple spike protein mutations, and preliminary analysis suggests it is highly infectious.
- 1.1.529 has "very unusual constellations of mutations" — with 30 in the region that encodes the spike protein, which is responsible for the virus's entry in human cells.
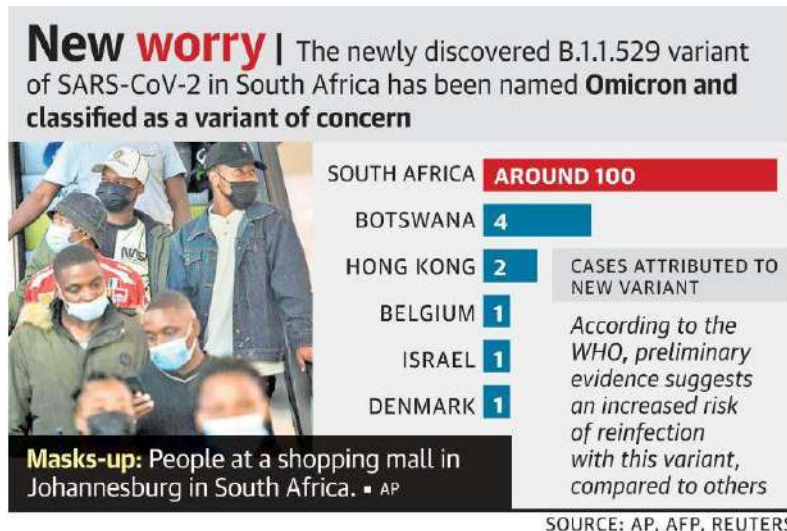
What is a Variant of Interest?

- All viruses mutate or undergo certain changes over time, helping them to spread easily, escape our vaccines, medicines and survive.
- There are several SARS-CoV-2 variants circulating globally.
- WHO places a SARS-CoV-2 variant in the VOI list if it is seen to have certain "genetic changes that are predicted or known to affect virus characteristics such as transmissibility, disease severity, immune escape, diagnostic or therapeutic escape"
- To be added to the VOI list, a variant must also be "identified to cause significant community transmission or multiple Covid-19 clusters in multiple countries", and suggest "an emerging risk to global public health".

'Variants of Concern' (VOC).

- More dangerous mutants are categorized as 'Variants of Concern' (VOC).
- According to the WHO, a VOI can become a VOC if it is demonstrated to be associated with an increase in transmissibility or virulence, or with a "decrease in effectiveness of public health and social measures or available diagnostics, vaccines, and therapeutics".

GS 3

ECONOMY

Amendment to Energy Conservation Act, 2001

Context

- The Power Ministry proposes amendments in the EC Act to boost renewable energy use.

Details

- The Ministry of Power **has proposed amendments to the Energy Conservation Act, 2001**.
- The amendments are **aimed at promoting the consumption of renewable energy**.
- They include a **provision for specifying the minimum quantum of renewable energy in the overall consumption** by establishments and industrial units.
- The objective **will be to enhance demand for renewable energy at the end-use sectors such as industry, buildings**, transport, etc.
- There will be provision to **incentivize efforts on using clean energy sources by means of carbon saving certificates.**
- The proposal also includes expanding the scope of the Act to include larger Residential buildings, with an aim to promote Sustainable Habitat.

Benefits

- The proposed amendments **would facilitate the development of a carbon market in India and**

prescribe **minimum consumption of renewable energy** either as direct consumption or indirect use through the grid.

- This will help in the **reduction of fossil fuel-based energy consumption and carbon emission to the atmosphere.**
- This is expected to **help India achieve its ambitious Nationally Determined Contributions (NDCs) of reducing emission intensity by 33-35 per cent in 2030** against the levels of 2005.
- Furthermore, by adopting energy efficiency measures, India holds the potential to reduce about 550 MtCO2 by 2030.
- The **proposed changes to the EC Act will boost the adoption of clean technologies** in various sectors of the economy.
- The provisions would facilitate the promotion of Green Hydrogen as an alternative to the existing fossil fuels used by the industries.
- The additional incentives in the form of carbon credits against the deployment of clean technologies will result in private sector involvement in climate actions.

About Energy Conservation Act

- The Government of India enacted **the Energy Conservation Act, 2001 (52 of 2001**). The Act provides for the **legal framework, institutional arrangement and a regulatory mechanism at the Central and State level to embark** upon energy efficiency drive in the country.
- Five major provisions of EC Act relate to **Designated Consumers, Standard and Labelling of Appliances, Energy Conservation Building Codes, Creation of Institutional Set up (BEE**) and Establishment of Energy Conservation Fund.
- The Energy Conservation Act **became effective from 1st March, 2002 and Bureau of Energy Efficiency (BEE) operationalized from 1st** March, 2002.
- Energy efficiency institutional practices and programs in India are now mainly being guided through various voluntary and mandatory provisions of the Energy Conservation Act.
- The EC Act was amended in 2010 and the main amendments of the Act are given below:

The Energy Conservation (Amendment) Act, 2010- Main Amendments

- The Central Government **may issue the energy savings certificate to the designated consumer whose energy consumption is less** than the prescribed norms and standards in accordance with the procedure as may be prescribed.
- The designated consumer **whose energy consumption is more than the prescribed norms and standards shall be entitled to purchase the energy savings certificate** to comply with the prescribed norms and standards.
- The Central Government may, **in consultation with the Bureau, prescribe the value of per metric ton of oil equivalent of energy** consumed.
- Commercial buildings which are having a connected load of 100 kW or contract demand of 120 kVA and above come under the purview of ECBC under EC Act.
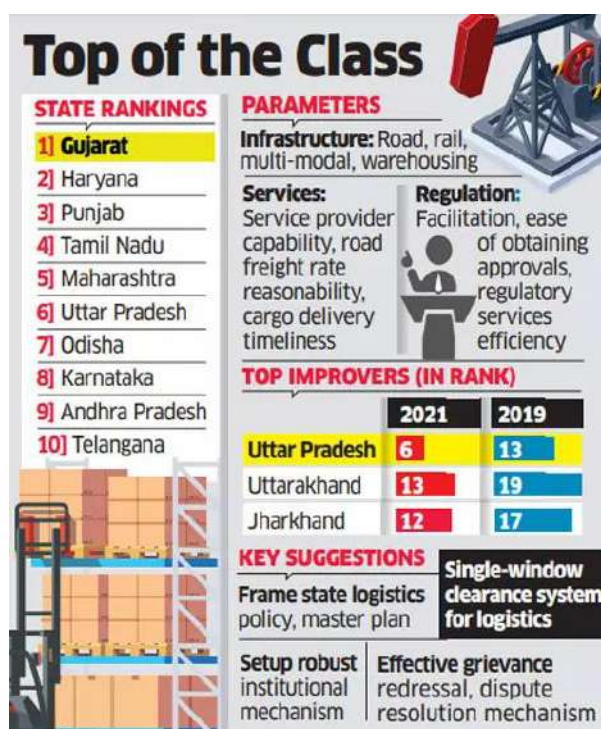
LEADS Index

Context

- Central government has released annual logistics rankings for states.

Details of the Report

- The Logistics Ease Across Different States (LEADS) report is aimed at gauging the logistics performance of states and Union Territories (UT) and identifying areas where they can improve logistics performance.
- States are ranked based on quality and capacity of key infrastructure such as road, rail and warehousing as well as on operational ease of logistics including security of cargo, speed of terminal services and regulatory approvals.
- India's logistics costs account for 13-14 per cent of GDP, compared to 7-8 per cent in developed countries.
- Infrastructure, Quality Services & Conducive Regulatory Framework as the three pillars of Resilient logistics.
- Gujarat was followed by Haryana, Punjab, Tamil Nadu, and Maharashtra.
- It was launched in 2018.

Its impact

- The construction of highway and rural roads has accelerated in recent years.
- India has also made great progress in building airport related infrastructure.

Top of the Class

STATE RANKINGS	PARAMETERS
1] Gujarat	**Infrastructure:** Road, rail, multi-modal, warehousing
2] Haryana	
3] Punjab	
4] Tamil Nadu	**Services:** Service provider capability, road freight rate reasonability, cargo delivery timeliness / **Regulation:** Facilitation, ease of obtaining approvals, regulatory services efficiency
5] Maharashtra	
6] Uttar Pradesh	
7] Odisha	
8] Karnataka	
9] Andhra Pradesh	
10] Telangana	

TOP IMPROVERS (IN RANK)

	2021	2019
Uttar Pradesh	6	13
Uttarakhand	13	19
Jharkhand	12	17

KEY SUGGESTIONS

Frame state logistics policy, master plan	Single-window clearance system for logistics
Setup robust institutional mechanism	Effective grievance redressal, dispute resolution mechanism

- Turn around time on the port has decreased substantially.

Legal Metrology (Packaged Commodities) Rules 2011

Context

- To safeguard interest of consumers, **the Department of Consumer Affairs under Ministry of Consumer Affairs, Food and Public Distribution has omitted the Rule 5 of** the Legal Metrology (Packaged Commodities), Rules 2011 defining the Schedule II prescribing the pack sizes of various types of commodities.
- A new provision has **been introduced to indicate the unit sale price on pre packed commodities**, which will allow easier comparison of the prices of the commodities at the time of purchase.
- The **provisions of declarations of MRP has been simplified by removing illustrationand providing for making the mandatory declaration of MRP** in Indian currency inclusive of all taxes.
- This has allowed the manufacturer/packer/importer to declare the MRP on the pre packed commodities in a simplified manner.

Its impact

- It will **safeguard the interest of the consumers**.
- will allow **easier comparison of the prices of the commodities** at the time of purchase.
- It will allow **manufacturer to declare the MRP on the pre packed** commodities in a simplified manner.
- It will remove the **ambiguity of declaration of quantity sold** by number in pre packed commodities.

About Legal Metrology Act, 2009

- With respect to provide **uniform standards of weights and measures, the Legal Metrology Act, 2009 enforced in India.** The Act was implemented with effect from 1st April, 2011.
- **Enforcement of Weights and Measures and Standards is entrusted with the Directorate of Legal Metrology in e**ach state in India, and almost every business is impacted by the Laws of Legal Metrology being involved in sale, distribution or any transaction of goods by weight, measure or number.

Objective

The Act came into force with the following objectives:

- To regulate trade and commerce in weights and measures
- To set and enforce the standards of weight and measure
- To regulate the manufacture, sale and use of goods by weights, measures or numbers
- To rationalize the Metric system (meter, kilogram etc.) to be used in India

Mandatory declarations

- Legal Metrology Act Imposes an obligation of declarations to manufacture, pack, sell, import, distribute, deliver, offer, expose or possess for sale any prepackaged commodity in standard quantities or number.
- Mandatory declaration to be made on every package or pre-packaged commodities intended to be commercialized in India.
- The following declarations are mandatory to put on the packages:
  - The name and address of the manufacturer or packer or importer
  - The common or generic name of the commodity
  - Country of Origin
  - The net quantity of the content
  - Month and year of manufacturer or packing or import
  - Best before or expiry date, month and year' of a commodity
  - Retail sale price: MRP (including all taxes)
  - Size/dimension of the commodity when relevant

E-commerce firms

- The Legal Metrology (Packaged Commodities) **Amendment Rules, 2017 issued especially for market place E-Commerce entities.**
- E-commerce companies **have to mention above declarations (similar to packaged commodities) on the digital or electronic platform mainly used for e-commerce platforms**.

Current Account Deficit

Context

- According to **a recent report by British brokerage Barclays, India's trade deficit has been jumping continuously since July 2021.** The **widening Current Account Deficit (CAD)** is driven by the **massive spike in commodity prices led by crude oil.**

Finding of the report

- Every $10 per barrel rise in global crude prices widens the trade deficit by $12 billion or 35 bps of GDP, as close to 85% of the oil demand is met through imports.

- The brokerage has raised its current account deficit forecast to $45 billion for FY22, from $35 billion earlier.
- It said that with record high foreign reserves, there is no major risks to macro stability.
- The pace of oil demand is likely to accelerate in the coming months.
- Another force driving down the foreign exchange is gold imports which have been on a faster clip for months.

About Current Account
- Current Account Deficit or CAD is the shortfall between the money flowing in on exports, and the money flowing out on imports.
- Current Account Deficit (or Surplus) measures the gap between the money received into and sent out of the country on the trade of goods and services and also the transfer of money from domestically-owned factors of production abroad.

Difference from Balance of Trade
- Current Account Deficit is slightly different from Balance of Trade, which measures only the gap in earnings and expenditure on exports and imports of goods and services. Whereas, the current account also factors in the payments from domestic capital deployed overseas.
- For example, rental income from an Indian owning a house in the UK would be computed in Current Account, but not in Balance of Trade.

Calculation of Current Account Deficit
- The current account constitutes net income, interest and dividends and transfers such as foreign aid, remittances, donations among others. It is measured as a percentage of GDP.
- Trade gap = Exports – Imports
- Current Account = Trade gap + Net current transfers + Net income abroad

Impact of Deficit
- A country with rising CAD shows that **it has become uncompetitive, and investors are not willing to invest there. They may withdra**w their investments.
- Current Account Deficit **may help a debtor nation in the short-term, but it may worry in the long-term as investors begin** raising concerns over adequate return on their investments.

Means to deal with Current Account Deficit
- For the Current Account Deficit in India, crude oil and gold imports are the primary reasons behind high CAD.
- The Current Account Deficit could be reduced by boosting exports and curbing non-essential imports such as gold, mobiles, and electronics.
- Currency hedging and bringing easier rules for manufacturing entities to raise foreign funds could also help.
- The government and RBI could also look to review debt investment limits for FPIs, among other measures.

Integrated Ombudsman Scheme

Context
- Recently. Government has launched the integrated Ombudsman Scheme.

About the Scheme
- The scheme is **based on "One Nation-One Ombudsman" with one portal, one email, and one address** for the customers to lodge their complaints.
- The integrated ombudsman scheme **amalgamates three ombudsman scheme of RBI - banking ombudsman scheme of 2006, ombudsman scheme for NBFCs of 2018 and ombudsman scheme of digital transactions of 2019.**
- The unified ombudsman scheme will provide **redress of customer complaints involving deficiency in services rendered by RBI regulated entities viz. banks, NBFCs and pre-paid instrument players** if the grievance is not resolved to the satisfaction of the customers or not replied within a period of 30 days.
- The new **scheme also includes non-scheduled primary co-operative banks with a deposit size of Rs 50 crore and above**.
- The integrated scheme makes it a "One Nation One Ombudsman' approach and jurisdiction neutral.

Implementation of the Scheme
- Customers will be able to file complaints, submit documents, track status, and give feedback through a single email address.
- There will also be a multilingual toll-free number that will provide all relevant information on grievance redress.
- Now, there will be a single point of reference for customers to file their complaints, submit the documents, track status, and provide feedback.

Significance of the Scheme
- The first **ombudsman scheme was rolled out in the 1990s.**
- One of the primary concerns with earlier ombudsman was the lack of maintainable grounds on which the consumer could challenge the actions of a regulated entity at the ombudsman or a rejection of the complaint on technical grounds. It led to in a preference for the consumer court notwithstanding the extended timelines for redressal.

Feature of the Scheme

- It will **no longer be necessary for the complainant to identify** under which scheme he/she file complaint with the ombudsman.
- The scheme **includes a wider definition of deficiency of services** which ensures complaints will not go unaddressed or rejected simply on account of "not covered under the grounds listed in the scheme".
- The scheme is jurisdiction neutral and a centralized receipt and processing Centre has been set-up in Chandigarh for initial handling of complaints in any language.
- RBI says the regulated entity will not have any right to appeal in cases where an award is issued by the ombudsman against it for not furnishing satisfactory and timely information.

Retail Direct Scheme

Context

- **Prime Minister Narendra Modi on Friday launched** two customer-centric initiatives of the Reserve Bank of India (RBI) — the RBI Retail Direct Scheme and the Integrated Ombudsman Scheme.

About Retail Direct Scheme

- The scheme allows retail investors to buy and sell government securities (G-Sec) online, both in the primary and secondary markets.
- these small investors can now invest in G-Secs by opening a gilt securities account with the RBI.
- The account opened will be called Retail Direct Gilt (RDG) Account.

Implementation of the Scheme

- Participation and allotment of securities will be as per the non-competitive scheme.
- Only one bid per security is permitted.
- On submission of the bid, the total amount payable will be displayed.
- Payment to the aggregator/receiving office can be made through using the net-banking or UPI facility from the linked bank account.

Significance of the Scheme

- **Building an Atmanirbhar Bharat:** So far, in the government securities market, small investors class, salaried class, small traders had to invest through banks and mutual funds in an indirect manner.
- **Improved Ease of Access:** It will make the process of G-sec trading smoother for small investors therefore it will raise retail participation in G-secs and will improve ease of access.
- **Facilitate Government Borrowings:** This measure together with relaxation in mandatory Hold to Maturity (securities that are purchased to be owned until maturity) provisions will facilitate smooth completion of the government borrowing programme in 2021-22.
- **Financialize Domestic Savings:** Allowing direct retail participation in the G-Sec market will promote financialization of a vast pool of domestic savings and could be a game-changer in India's investment market.

United Payment Interface (UPI)

Context

- The UPI payments system has cut across the Indian socio-economic digital divide amazingly fast.

About UPI

- UPI is a single platform that merges various banking services and features under one umbrella.
- A UPI ID and PIN are sufficient to send and receive money.
- **Real-time bank-to-bank payments can** be made using a mobile number or virtual payment address (UPI ID).
- In 2020, **UPI enabled commerce worth $457 billio**n, which is equivalent to approximately 15% of India's GD

Involved Institutions

- UPI is an initiative taken **by the National Payments Corporation of India (NPCI) together with the Reserve Bank of India and Indian Banks Association (IBA).**
- NPCI is the firm that handles RuPay payments infrastructure, i.e. similar to Visa and MasterCard.

Achievements

- Digital transactions through **UPI recorded phenomenal growth during the pandemic year 2020-21 and several countries have evinced interest to** learn from Indian experience so that they could replicate the model.
- The **value of transactions made using the UPI crossed USD100 billion in a month for the first time in October, 2021** according to data from the NPCI, further cementing its position as India's most popular digital payments system.
- India's digital payments industry is **likely to grow from Rs. 2,153 trillion at 27% Compounded Annual Growth Rate (CAGR) to Rs. 7,092 trillion** by 2025.

- The growth is likely to come on the back of strong use cases of merchant payments, government policies including Jan DhanYojana, personal data protection bill along with the growth of MSMEs, growth of millennials and high smartphone penetration.

Industrial Corridors

Context

- Recently, Prime Minister has inaugurated Purvanchal Expressway.

About Purvanchal Expressway

- Cost: 22,500 Crore
- starts from Chandsarai village in the district of Lucknow located on the Lucknow-Sultanpur road and ends at Haidaria village on National Highway 31 in Ghazipur district. (Basically from Lucknow to Gazipur)
- Connect: Agra Lucknow and Agra –Noida Yamuna Expressway

National Industrial Corridor Programme

Objective

- give a boost to the economic development of eastern parts of Uttar Pradesh, especially the districts of Lucknow, Barabanki, Amethi, Ayodhya, Sultanpur, Ambedkar Nagar, Azamgarh, Mau and Ghazipur.
- It will have **CNG stations, electric recharge stations** for vehicles and will be connected with the defence corridor through the Agra and Bundelkhand expressways.

About Industrial Corridors

About the program:

- India is developing various Industrial Corridor Projects as part of the National Industrial Corridor programme.
- National Industrial Corridor Development Programme is India's most ambitious infrastructure programme aiming to develop new industrial cities as "Smart Cities" and converging next generation technologies across infrastructure sectors.

Ganga Expressway
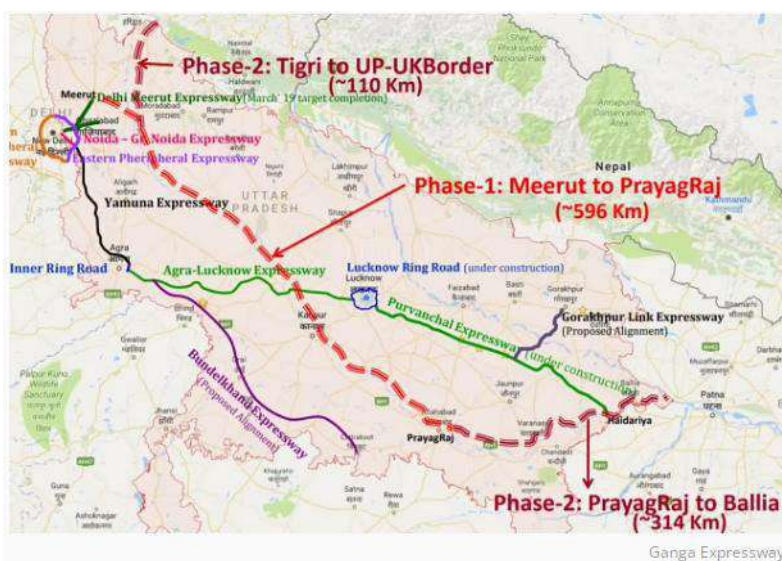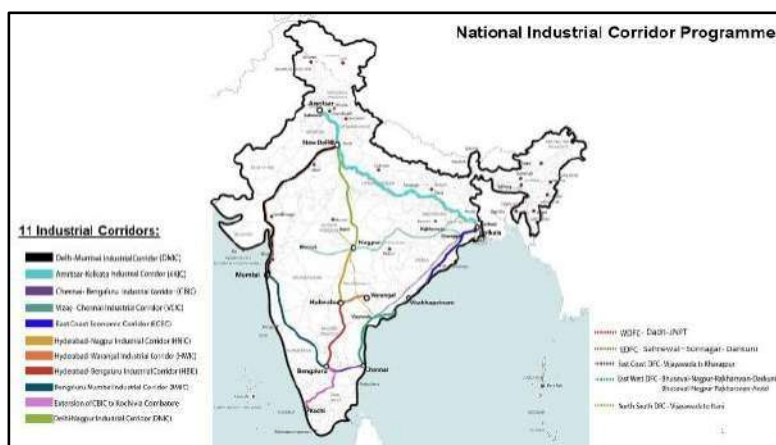
Features of Industrial Corridors:

- High-speed transportation network – rail and road
- Ports with state-of-the-art cargo handling equipment
- Modern airports
- Special economic regions/industrial areas
- Logistic parks/trans-shipment hubs
- Knowledge parks focused on catering to industrial needs
- Complementary infrastructure such as townships/real estate
- Other urban infrastructure along with enabling policy framework

Implementing Authority:

- The development of these eleven industrial corridor projects will be implemented through the National Industrial Corridor Development and Implementation Trust (NICDIT).

Benefits:

- These corridors are spread across India, with strategic focus on inclusive development to provide a boost to industrialization and planned urbanization.
- Smart cities are being developed along these corridors.
- These cities, with state-of-the-art infrastructure, will house the new workforce that is required to power manufacturing, in turn leading

Industrial Corridors in India:
1. Delhi Mumbai Industrial Corridor (DMIC)
2. Chennai Bengaluru Industrial Corridor (CBIC)
3. Extension of CBIC to Kochi via Coimbatore
4. Amritsar Kolkata Industrial Corridor (AKIC)
5. Hyderabad Nagpur Industrial Corridor (HNIC)
6. Hyderabad Warangal Industrial Corridor (HWIC)
7. Hyderabad Bengaluru Industrial Corridor (HBIC)
8. Bengaluru Mumbai Industrial Corridor (BMIC)
9. East Coast Economic Corridor (ECEC) with Vizag Chennai Industrial Corridor (VCIC) as Phase-1
10. Odisha Economic Corridor (OEC)
11. Delhi Nagpur Industrial Corridor (DNIC)

to planned urbanization.

- It will position India as a strong player in the Global Value Chain and enhance India's competitiveness in manufacturing by the creation of quality infrastructure.

Challenges:

- Issue of Land acquisition
- Protest by Farmers over compensation
- Delay in forest and environment clearances
- Cost enhancement due to time overrun

Remittances

Context

- India, the world's largest recipient of remittances, **received $87 billion in 2021** with the United States being the biggest source.

Further Details

- India is **followed by China, Mexico, the Philippines, and Egypt**.
- Remittances are projected to **grow three per cent in 2022 to $ 89.6** billion.
- Flows to India (the world's largest recipient of remittances) are expected to reach $ 87 billion, a gain of 4.6 per cent.
- Remittances to low- and middle-income countries are projected to have grown a strong 7.3 per cent to reach $589 billion in 2021.
- Remittance flows from migrants have greatly complemented government cash transfer programs to support families suffering economic hardships during the COVID-19 crisis.

About Remittances

- A remittance is money sent to another party, usually one in another country.
- The sender is typically a foreign worker and the recipient a relative back home.
- Remittances represent one of the largest sources of income for people in low-income and developing nations, often exceeding direct investment and international development assistance.

Role of Remittances

- Remittances **play an increasingly large role in the economies of small and developing countries**.
- They also play **an important role in disaster relief, often exceeding official development assistance (ODA).**
- They help raise the standard of living for people in low-income nations and help combat global poverty.
- Remittances are also used to help those living in less developed nations open bank accounts, a trend that helps promote economic development.

About World Bank

About	• Global partnership of **five institutions working for sustainable solutions**
Name of the Five Institutions	• **International Bank for Reconstruction and Development (IBRD):** provides loans, credits, and grants. • **International Development Association (IDA):** provides low- or no-interest loans to low-income countries. • International Finance Corporation (IFC): provides investment, advice, and asset management to companies and governments. • Multilateral Guarantee Agency (MIGA): insures lenders and investors against political risk such as war. • International Centre for the Settlement of Investment Disputes (ICSID): settles investment-disputes between investors and countries.
Initiation	• The Bretton Woods Conference held in 1944, created the International Bank for Reconstruction and Development (IBRD) along with the International Monetary Fund (IMF). • The IBRD later became the World Bank.
Members	189 Countries
Major Reports	• Ease of Doing Business. • Human Capital Index. • World Development Report.

E-Governance in Civil Aviation

Context

- Recently, the Ministry of Civil Aviation has launched the **e-Governance for Civil Aviation (e-GCA)** online platform through which the Civil Aviation will provide **298 services including pilot licensing and medical examination.**
- The services provided to various DGCA stakeholders such as Pilots, Aircraft Maintenance Engineers, Air Traffic Controllers, Air Operators, Airport Operators, Flying Training Organizations, Maintenance and Design organizations etc. are now available on the eGCA online.
- The applicants would now be able to apply for various services and upload their documents online.

- The applications would be processed by DGCA Officials and approvals and licenses would be issued online.

About E-GCA

- The project **has been aimed at automation of the processes and functions of DGCA**.
- It covers 99 services covering about 70% of the DGCA work being implemented in the initial phases.
- **198 services will be covered in** other phases.
- The e-**platform provides an end-to-end solution including** various software applications.
- It provides connectivity with all the regional offices.
- It **has a 'portal' for dissemination of information and for providing online** and speedy service delivery in a secure environment.

Benefits of It

- eliminating operational inefficiencies,
- minimizing personal interaction,
- improving regulatory reporting,
- enhancing transparency and increasing productivity
- The project will provide a strong base for IT infrastructure and service delivery framework.

Directorate General of Civil Aviation

- It is **an attached office of the Ministry of Civil Aviation**.
- It is the regulatory body in the field of Civil Aviation primarily dealing with safety issues.
- It is responsible for regulation of air transport services to/from/within India and for enforcement of civil air regulations, air safety and airworthiness standards.
- It also co-ordinates all regulatory functions with the International Civil Aviation Organization.

Strategic Oil Reserve

Context

- India will r**elease 5 million barrels of crude oil from its emergency stockpile in tandem with the US, China, Japan,** and other major economies to cool international oil prices.
- This is the first time ever that India, **which stores 5.33 million tonne or about 38 million barrels of crude oil in underground caverns at three** locations on the east and west coast, is releasing stocks for such purposes.
- the US stocks 727 million barrels, Japan holds 175 million barrels of crude and oil products as part of the Strategic Petroleum Reserve (SPR).

Need for it

- India is the **world's third-largest oil consumer and importing** nation and has been severely impacted by the relentless rise in international oil prices.
- Members of the Organization of the Petroleum Exporting Countries (OPEC) and its allies have rebuffed repeated requests to speed up their production increases.
- The US **had last week made an unusual request to some of the world's largest oil-consuming nations, including China, India and Japan**, to consider releasing crude stockpiles in a coordinated effort to lower global energy prices.

Strategic petroleum reserves (SPRs)

- These are underground oil storage infrastructure.
- The oil in the three facilities already built can help meet 10 days of crude requirement and the two planned ones can hold supply of about 12 more days. So, once completed, the country will have crude oil storage capacity to last for 82 days.
- Strategic Oil reserves are in Padur, Karnataka, Mangalore and Vishakhapatnam. New ones are being built at Chandikhol in Odisha and Padur.
- Government has signed deal with foreign companies to store the oil in these reserves.

Significance

- Provides cushion in times of high oil prices
- Reduces dependence on the foreign countries
- Non repetition of the balance of payment crisis as seen during 1991.

National Bank for Financing Infrastructure and Development (NaBFID)

Context

- The National Bank for Financing Infrastructure and Development (NaBFID) is likely to begin its **lending operations with about 190-200 big infrastructure** projects in the railways, roads and energy sector.

Details

- There are **193 projects above Rs 1,000 crore each which are there under the National Infrastructure Pipeline (NIP)**.
- The development finance institution will also look into other roles that it could play for the government.

About National Bank for Financing Infrastructure and Development

- In March this year, **the Parliament had passed a bill to set up NaBFID, a development financial institution (DFI).**
- **K V Kamath has been appointed by the government** to head the National Bank for Financing Infrastructure and Development (NaBFID).
- NaBFID has been set up to boost infrastructure financing in the country like development of bonds and derivatives markets needed for infrastructure financing.

Functions of NaBFID

- extending loans and advances for infrastructure projects,
- taking over or refinancing such existing loans,
- attracting investment from private sector investors and institutional investors for infrastructure projects,
- organizing and facilitating foreign participation in infrastructure projects,
- facilitating negotiations with various government authorities for dispute resolution in the field of infrastructure financing,
- providing consultancy services in infrastructure financing.

Source of Funds

- NBFID may borrow money from:
  - o   central government,
  - o   Reserve Bank of India (RBI),
  - o   scheduled commercial banks,
  - o   mutual funds,
  - o   multilateral institutions such as World Bank and Asian Development Bank.

Prior sanction for investigation and prosecution:

- No investigation can be initiated against employees of NBFID without the prior sanction of:
  - o   the central government in case of the chairperson or other directors,
  - o   the managing director in case of other employees.

Bharat Gaurav

Context

- The Railways **announced the 'Bharat Gaurav' scheme, under which theme-based tourist circuit trains, on the lines of the Ramayana Express**, can be run either by private or State-owned operators.

Details of the Scheme:

- Government **has earmarked about 3,033 coaches or about 150 trains**.
- these **will not be regular trains that will run as per a timetable** but will be more on the lines of the Ramayana Express being run by the IRCTC.
- Service providers, **who can be an individual, company, society, trust, joint venture or consortium will be free to decide themes/circuits like Guru Kripa** trains for covering important places of Sikh culture.
- They will **offer an all-inclusive package to tourists including** rail travel, hotel accommodation and sightseeing arrangement, visit to historical/heritage sites, tour guides etc. and have full flexibility to decide the package cost.
- The **service providers will also be able to design/furnish the interior of the coaches** based on the theme and put branding or advertising inside and outside of the train.
- Railway will charge a small fee.

Certificates of Origin (CoO)

Context

- The Centre has suspended till January 31 a mandatory obligation imposed on exporters from November 1 to **obtain online Certificates of Origin (CoO**) for every outbound consignment.

About Online Certificates of Origin

- It was **put in place in late 2019 for exports** to countries with whom India had a preferential trade pact.
- It was expanded to cover all merchandise exports from November.
- It was **initiated by the Directorate General of Foreign Trade (DGFT).**

Benefits of it

- This online facility provides 'ease of doing business to the exporting community
- It gives a verifiable authentication mechanism to the partner countries to confirm the genuineness of the issued CoOs through a QR code which adds credibility to the issued e-CoO.

Reasons for suspension

- Several exporters across States had reported difficulties in registering on the e-CoO platform on the Directorate General of Foreign Trade (DGFT) portal with the stipulated high-quality digital signature certificates and obtaining the certificates for their shipments.
- customs house agents had not been able to share data on exporters' behalf, as the DGFT had not shared the API (Application Programming Interface) for the new platform.

Indian Exports

- India's monthly **merchandise exports have crossed $30 billion for seven** months in a row
- It is largely on course to reach the **government's target of a record $400 billion in 2021-22**.

AGRICULTURE

World Fisheries Day 2021

Context

- World Fisheries Day was celebrated in Bhubaneswar, Odisha.
- Odisha is the fourth largest fish producing state in India contributing to 2.33 per cent of the state economy.

About

- The World Fisheries Day is celebrated on November 21 to recognize the contributions of millions of fisher folks, fish farmers, and people involved with the fishery trade across the globe.
- The theme of the day is: Mixture of the fishing industry, nature and environment, and a greater focus on biodiversity.
- The **first** World Fisheries Day was celebrated on November 21, **2015.**

Important stats

- Fishing in India is a major industry employing 14.5 million people.
- India ranks **second in aquaculture and third in fisheries production**.
- Fisheries contribute to **1.07% of the Total GDP of India**.
- **Andhra Pradesh State is the largest producer of fish in India** with Market share of 27.4% followed by West Bengal with 13.8%.
- Fisheries sector in India has shown an annual growth rate of 10.88% during the year from 2014-15 to 2018-19.

Five countries which produce the largest fish in the world:

China (58.8 million tons)

India (9.46 million tons)

Indonesia (6.10 million tons)

Peru (5.85 million tons)

US (5.36 million tons

Laboratory for Food Grain Samples

Context

- Food Corporation of India (FCI) under Department of Food and Public Distribution (DFPD) has developed **India's first state-of-art laboratory for in house testing of food grain samples in Gurugram.**

About

- Now food grains to be issued from FCI depots under various welfare schemes of the Government of India will be checked in-house for pesticide residues, Mycotoxin, Uric acid and fortification level of vitamins to ensure the food grain safety and nutritional security of the consumers.
- The laboratory has been set up under the able guidance of the Central Food Technological Research Institute, Mysuru in Karnataka.

FCI

- The Food Corporation of India (FCI) is a **statutory corporation** created and run by the Government of India.
- It is **under the jurisdiction of Ministry of Consumer Affairs, Food and Public Distribution,** Government formed by the enactment of Food Corporation Act, 1964 by the Parliament of India.
- It was set up in 1965 with its initial headquarters at Chennai. Later this was moved to New Delhi.

Kisan Rail Scheme

Context

- In a first, 2.5 tonnes of 'Vazhakulam' pineapples sent to Delhi by rail under Kisan rail scheme.

About

- Indian Railways is running the Kisan Rail train services, to transport perishables and agri-product, including milk, meat and fish.

Objective

- The primary objective of running Kisan Rail trains is to increase the income in farm sector by connecting production centers to markets and consumption centers.

Further details

- The first Kisan Rail train was flagged-off in.2020 **between Devlali (Maharashtra) and Danapur (Bihar).**
- 50 percent subsidy is given in freight (being borne by Ministry of Food Processing Industries under 'Operation Greens – TOP to Total' scheme) for transportation of fruits and vegetables;
- No minimum limit on quantity that can be booked, enabling even small and marginal farmers to reach bigger and distant markets.

Commodities covered

- Perishables including fruits, vegetables, meat, poultry, fishery and dairy products.
- Main crops/farm-produce transported via Kisan Rail train include oranges, onion, potato, banana, mango, tomato, pomegranate, custard apple, capsicum, chikoo, carrot, etc

Significance

- Kisan Rail is a step to enable farmers to utilize the vast railway network to gain access to distant, bigger and more lucrative markets. Access to such markets will enable farmers to sell their produce at a better price, which will go a long way in fulfilling Government's vision of 'doubling farmers' income.' Kisan Rail is a factor enabling improvement in terms of trade for farmers and the real returns received by farmers for their produce.

SCIENCE & TECHNOLOGY

M87*

Context

- In 2019, astronomers of the Event Horizon Telescope captured the first ever image of a supermassive black hole (M87*) which was located at the centre of a galaxy Messier 87 (M87).

About

- A black hole is a place in space **where gravity pulls so much that even light cannot get out.**
- The gravity is so strong because matter has been squeezed into a tiny space. This can happen when a star is dying.
- Because no light can get out, people can't see black holes. **They are invisible.**
- Space telescopes with special tools can help find black holes. The special tools can see how stars that are very close to black holes act differently than other stars.

TYPES OF BLACK HOLES:

- **Stellar-mass Black Holes:**
  Stellar-mass black holes are created when massive stars explode, leaving behind a black hole with the mass of just a few suns.

- **Supermassive Black Holes:**
  Supermassive black holes exist in the hearts of galaxies and usually contain the mass equivalent to millions and billions of suns.

- **Intermediate Black Holes:**
  Such bodies could form when stars collide in a chain reactions and usually contain the mass equivalent to hundreds and thousands of suns.
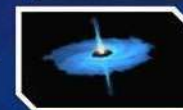
DART Mission

Context

- NASA is supposed to launch the agency's first planetary defense test mission named the Double Asteroid Redirection Test (DART).

About

- DART is a spacecraft designed to impact an asteroid as a test of technology.
- DART is a planetary defense-driven test of technologies **for preventing an impact of Earth by a hazardous asteroid.**
- DART will be the **first demonstration of the kinetic impactor technique** to change the motion of an asteroid in space.
- The binary near-Earth asteroid (65803) **Didymos is the target for the DART demonstration**.

- The DART spacecraft will achieve the kinetic impact deflection by deliberately crashing itself into the moonlet at **a speed of approximately 6.6 km/s,** with the aid of an onboard camera (named DRACO).
- The <u>collision will change the speed of the moonlet in its orbit</u>.

> Didymos is the twin-asteroid system Didymos is a binary near-Earth asteroid.

Hera
- Hera will arrive at the Didymos system in 2027 to measure the impact crater produced by the DART collision and study the change in the asteroid's orbital trajectory.

Tech NEEV/नींव @75

Context
- "Tech NEEV/ नींव @75" was launched as part of Azadi ka Amrit Mahotsav and interacted with successful start-ups including those from the tribal communities on the occasion of Janjatiya Gaurav Diwas.

About
- The Government of India will be setting up 30 Science Technology and Innovation (STI) Hubs in different parts of the country for Scheduled Tribes (STs) **by end of 2022 .**
- **Aim:** To promote scientific talent among tribal communities and for their overall socio-economic development.
- The 75 hour programme includes experience sharing of beneficiaries, community change leaders, societal changemakers conclave and round table discussions by various stakeholders apart from compilation of 75 impactful stories on India's progress towards Aatma Nirbhar Bharat.

Significance
- The STI Hubs for SCs/STs,will directly benefit 20,000 people through various interventions spreading across farm, non-farm and other allied livelihood sectors.
- It reverberates the importance of Science and Technology in transforming the life of the poorest of the poor and developing affordable technologies.

National Brain Research Centre (NBRC)

Context
- Union Minister for Science and Technology launched first of its kind, latest, world's most sophisticated MRI facility at the National Brain Research Centre (NBRC), Manesar in Haryana.

About
- It is India's premier institute dedicated to Neuroscience Research and Education.
- It is an **autonomous institute and a nodal center under the Department of Biotechnology**, Ministry of Science and Technology.
- With this facility, India embarks on new frontiers of human Neuroscience with a unique and powerful 3-T MRI platform of outstanding performance.
- This is being used to develop human cohort data for patients suffering from common brain and mental health disorders including Parkinson's Disease, Alziemer's Disease, anxiety and depression.

Virtual Science Lab for Children

Context
- Science and Technology Minister launched India's first Virtual Science Lab for Children under CSIR Jigyasa Programme, which will also connect students with scientists across the country.

Objective
- The main aim of the Virtual Lab is to **provide quality research exposure and innovative pedagogy** for school students based on an online interactive medium.
- The target audience for the Virtual Lab platform is students of Standard six to 12 who would like to explore science using different activities, experienced researchers, and faculties on the subjects of Science, Mathematics, Biology, and IT.

- Initially the content will be available in English, but has been planned to be made available in Hindi and other regional languages.
- This Virtual Lab will provide a virtual tour of CSIR laboratories and expose students to research infrastructure.

Significance

- The new facility will immensely benefit students from Kendriya Vidyalayas, Navodaya Vidyalayas, and Government Schools and will help in catching them young.
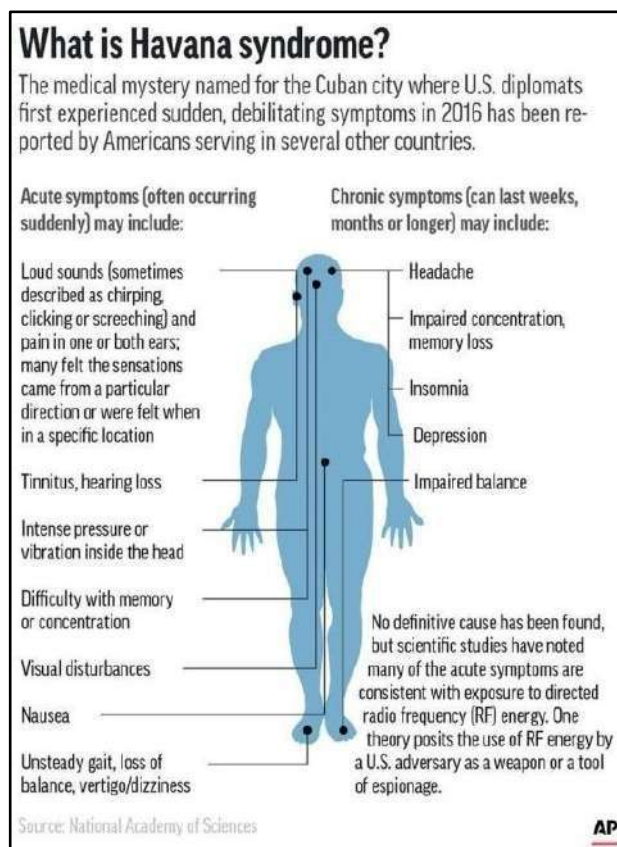
Havana Syndrome

Context

- Recently, the US Federal Bureau of Investigation (FBI) has said that dealing with the issue of Havana Syndrome is a top priority and that it will keep investigating the cause and how to protect staff.

What is Havana Syndrome?

- Havana Syndrome refers to a set of mental health symptoms that are said to be experienced by US intelligence and embassy officials in various countries.
- It typically involves **symptoms such as hearing certain sounds without any outside noise being present, nausea, vertigo and headaches, memory loss and issues with balance.**
- According to studies **microwave weapons "a main suspect"**
- Victims may have been subjected to high-powered microwaves that either damaged or interfered with the nervous system.
- It was said to have **built a pressure inside the brain that generated the feeling of a sound being heard.**

What is Havana syndrome?

The medical mystery named for the Cuban city where U.S. diplomats first experienced sudden, debilitating symptoms in 2016 has been reported by Americans serving in several other countries.

Acute symptoms (often occurring suddenly) may include:
- Loud sounds (sometimes described as chirping, clicking or screeching) and pain in one or both ears; many felt the sensations came from a particular direction or were felt when in a specific location
- Tinnitus, hearing loss
- Intense pressure or vibration inside the head
- Difficulty with memory or concentration
- Visual disturbances
- Nausea
- Unsteady gait, loss of balance, vertigo/dizziness

Chronic symptoms (can last weeks, months or longer) may include:
- Headache
- Impaired concentration, memory loss
- Insomnia
- Depression
- Impaired balance

No definitive cause has been found, but scientific studies have noted many of the acute symptoms are consistent with exposure to directed radio frequency (RF) energy. One theory posits the use of RF energy by a U.S. adversary as a weapon or a tool of espionage.

Source: National Academy of Sciences

AP

Starlink Internet Services

Context

- Ministry of Communications has said that Starlink Internet Services is not licensed to offer satellite-based internet services in India as being advertised to the public.

About

- Starlink is a satellite internet constellation operated by SpaceX providing satellite Internet access to most of the Earth.
- The constellation consists of over 1600 satellites in mid-2021, and will eventually consist of many thousands of mass-produced small satellites in low Earth orbit (LEO), which communicates with designated ground transceivers.

James Webb Space Telescope

Context

- NASA has once again changed the launch date of the $8 billion James Webb Space Telescope (JWST) from December 18 to December 22.

About

- The James Webb Space Telescope (JWST or "Webb") is a joint **NASA–ESA–CSA space telescope** that is planned to succeed the Hubble Space Telescope as NASA's flagship astrophysics mission.
- JWST will study various phases in the history of the universe, from the formation of solar systems to the evolution of our own Solar System.
- The **telescope must be kept very cold** in order to observe in the infrared without interference, so it will be deployed in space near the Sun–Earth **L2 Lagrange point**.
- Also a large sunshield made of silicon-coated and aluminium-coated Kapton will keep its mirror and instruments below 50 K (−223.2 °C).

Note

- A Lagrange point is a location in space where the combined gravitational forces of two large bodies, such as Earth and the sun or Earth and the moon, equal the centrifugal force felt by a much smaller third body.
- The interaction of the forces creates a point of equilibrium where a spacecraft may be "parked" without coming in the influence of gravitational field of any other body (example Earth or Sun).

To know more about Lagrange Points visit: https://www.iasgyan.in/blogs/types-of-orbits-explained

Anti-Bacterial Fabric

Context

- Union Minister for MSME Narayana Rane launched the unique anti-bacterial fabric developed by Kumarappa National Handmade Paper Institute, Jaipur, under Khadi and Village Industries Commission (KVIC).

About

- The fabric is treated with anti-bacterial agent extracted from cow dung which prevents bacterial growth in the fabric.
- This innovative fabric could be great use in hospitals and other medical facilities.

O-SMART

Context

- The Union Cabinet approved the continuation of the umbrella scheme "Ocean Services, Modelling, Application, Resources and Technology (O-SMART)" of Ministry of Earth Sciences, for implementation during the period from 2021-26 at an overall cost of Rs. 2177 crore.

About

- The scheme encompasses seven sub-schemes namely Ocean Technology, Ocean Modelling and Advisory Services (OMAS), Ocean Observation Network (OON), Ocean Non-Living Resources, Marine Living Resources and Ecology (MLRE), Coastal Research and Operation and Maintenance of Research Vessels.
- These sub-schemes are being implemented by autonomous/attached institutes of the Ministry, viz. National Institute of Ocean Technology (NIOT), Chennai; Indian National Center for Ocean Information Services (INCOIS), Hyderabad; National Centre for Polar and Ocean Research (NCPOR), Goa, Center for Marine Living Resources and Ecology (CMLRE), Kochi; and National Centre for Coastal Research (NCCR), Chennai as well as involving other national institutes.

Objectives of the Scheme

- The O-SMART scheme objectives are: providing forecast and services based on the continuous observation of our oceans, development of technologies and exploratory surveys for sustainable harnessing of our oceanic resources (both living and non-living) and promotion of front-ranking research in ocean sciences.

Swadesh Project

In News

- DBT-National Brain Research Centre (DBT-NBRC) have **recently developed project SWADESH, a** unique brain initiative focusing on certified neuroimaging, neurochemical, neuropsychological data and analytics that are made accessible to researchers for managing brain disorders.

About

- SWADESH is the first large-scale multimodal neuroimaging database designed specifically for Indian population with big-data architecture and analytics for various disease categories under one platform.
- To strengthen Alzheimer's disease (AD) research and help scientific community come up with promising treatments.
- SWADESH proposes a big-data architecture that manages and analyzes six modules, namely neurodegenerative [AD, mild cognitive impairment (MCI), and Parkinson's disease (PD)], neuropsychiatric (schizophrenia and bipolar disorder), neurodevelopmental (autism and epilepsy), COVID-19-related disorders, other disorders, and healthy subjects.

About DBT

- The Department of Biotechnology (DBT), under the Ministry of Science and Technology, promotes and improves biotechnology development in India through its development and implementation in agriculture, healthcare, animal sciences, the environment, and industry.

About NBRC

- National Brain Research Centre is the only institute in India dedicated to Neuroscience Research and Education. Scientists and students at NBRC come from diverse academic backgrounds, including biological, computational, mathematical, physical, engineering and medical sciences, and use multidisciplinary approaches to unravel secrets of the brain.

Global Innovation Index and Innovation Cooperation Action Plan

Context

- India's Minister for Science & Technology who chaired the 9th BRICS Science & Technology Ministers meet, has called for working towards rightful place for BRICS (Brazil, Russia, India, China, and South Africa) in the Global Innovation Index.
- India is also preparing for the Innovation Cooperation Action Plan 2021-2024 with support from all BRICS countries

Global Innovation Index

- The Global Innovation Index is an annual ranking of countries by their capacity for, and success in, innovation.
- It is published by the **World Intellectual Property Organization, in partnership with Cornell University, INSEAD**, and other organisations and institutions.
- It is based on both subjective and objective data derived from several sources, including the International Telecommunication Union, the World Bank and the World Economic Forum.
- It was **started in 2007** by INSEAD and World Business, a British magazine.
- The index is computed by taking a simple average of the scores in two sub-indices, the Innovation Input Index and Innovation Output Index, which are composed of five and two pillars respectively.
- Each of these pillars describe an attribute of innovation, and comprise up to five indicators, and their score is calculated by the weighted average method.

Innovation Cooperation Action Plan

- All BRICS countries have agreed to the STI-led BRICS Innovation Cooperation Action Plan (2021-24) proposed by India during 12th Meeting of BRICS S&T Steering Committee.
- Indian had proposed the plan to facilitate sharing of experiences of each other's innovation ecosystem and networking of innovators and entrepreneurs.

Norovirus

Context

- Kerala health minister issued guidelines after norovirus, a highly contagious stomach bug that causes a range of symptoms, was confirmed in the state's Wayanad district.

About

- Norovirus is an animal-borne disease transmitted through contaminated water and food.
- Norovirus causes gastrointestinal illness, including inflammation of the lining of the stomach and intestines, severe vomiting and diarrhoea.
- Norovirus does not significantly affect healthy people but it can be serious in young children, the elderly and people with comorbidities.
- Norovirus is **easily transmitted through close contact** with people who have been infected, or by touching contaminated surfaces. It can also be spread by eating food that has been prepared or handled by someone with the stomach bug.
- The virus is spread through the excrement and vomit of an infected person.
- There **are currently no licensed vaccines for noroviruses.**

WISER Program

Context

- Women's Involvement in Science & Engineering Research (WISER) program was launched recently.

Key facts

- This is a first-of-its-kind programme, launched to promote women in the field of research and development by lateral entry.
- It was launched by Indo-German Science & Technology Centre (IGSTC) to encourage women researchers in R&D projects.
- This programme was launched in addition to the ongoing flagship 2+2 program of the IGSTC.

Who will run the program?

- This program of IGSTC is a joint initiative of Department of Science & Technology (DST), India and Federal Ministry of Education & Research (BMBF) of Germany.

Features of the programme

- This programme will support women scientists who are holding regular or long-term research positions in academia or research institutes or industry.
- Women can involvement in this program through lateral entry. There is no requirement of break-in-career or any age limit. This programme will enable easy participation.

Awards by the programme

- IGSTC will support the awardees with a maximum amount of Rs. 39 Lakh from the Indian side and € 48000 from German side. WISER program will offer 20 awards per year.

Significance

- Women in India face several challenges in moving up the academic and administrative ladder <u>due to systemic barriers and structural factors.</u> There is Gender disparity in scientific laboratories and institutions of higher education.
- UNESCO data from 2014-16 shows that **only around 30% of female students select STEM (Science, Technology, Engineering and Mathematics)**-related fields in higher education.
- Gender equality in science is in the larger interest of scientific progress and society.
- WISER programme will enable gender equality as well as participation of women in Science & Technology..

Some other Initiatives taken to Promote Women in Science

- Vigyan Jyoti Scheme
- GATI Scheme
- KIRAN Scheme
- Beti Bachao Beti Padhao (BBBP) Scheme

DEFENSE & SECURITY

Y 12704 (Visakhapatnam)

Context

- Y 12704 (Visakhapatnam), the lead ship of **Project 15B stealth guided missile destroyers** being built at Mazgaon Docks Limited (MDL), was delivered to the Indian Navy.

Project 15B

- The contract for four ships of Project 15B, as the Visakhapatnam class ships are known, was signed on 28 January 2011.
- This project is a **follow-on of the Kolkata class (Project 15A) destroyers** commissioned in the last decade.
- Designed by Directorate of Naval Design, Indian Navy's in-house design organisation; and built by M/s Mazagon Dock Shipbuilders Ltd, Mumbai.
- The four ships are christened after major cities from all four corners of the country viz. **Visakhapatnam, Mormugao, Imphal and Surat.**

About Y 12704 (Visakhapatnam)

- The 163 metres long warship has a full load displacement of 7400 tonnes and maximum speed of 30 knots.
- The overall indigenous content of the project is approx. 75%.
- Apart from myriad indigenous equipment in the 'Float' and 'Move' categories, the destroyer is also installed with major indigenous weapons which include: -
  - o Medium Range Surface-to-Air Missiles (BEL, Bangalore).
  - o BrahMos Surface-to-Surface Missiles (BrahMos Aerospace, New Delhi).
  - o Indigenous Torpedo Tube Launchers (Larsen & Toubro, Mumbai).
  - o Anti-Submarine Indigenous Rocket Launchers (Larsen & Toubro, Mumbai).
  - o 76mm Super Rapid Gun Mount (BHEL, Haridwar).
- The delivery of Visakhapatnam is an affirmation of the impetus being given by the Government of India and the Indian Navy towards 'Aatma Nirbhar Bharat' as part of 75 years of Indian Independence.

EX SHAKTI 2021

Context

- The 6th Edition of the biennial training exercise "EX SHAKTI 2021" conducted in France.

More about news

- India and France carry out three biennial training exercises namely, **Exercise GARUDA** with Indian Airforce, **Exercise VARUNA** with Indian Navy and **Exercise SHAKTI** with Indian Army.
- Exercise SHAKTI **focus on Counter Terrorism** operations in backdrop of semi-urban terrain under United Nations Mandate with an **aim to enhance military cooperation and inter-operability** between the two Armies.
- The last edition of Exercise SHAKTI was conducted at Rajasthan in which Counter Terrorism operations in semi-desert terrain were practised and validated.

Indo-Thai CORPAT

Context

- The 32nd edition of India-Thailand Coordinated Patrol (Indo-Thai CORPAT) between the Indian Navy and the Royal Thai Navy is being conducted.
- As part of Government of India's vision of SAGAR (Security And Growth for All in the Region), the Indian Navy has been proactively engaging with the countries in the Indian Ocean Region towards enhancing regional maritime security.

About Indo-Thai CORPAT

Aims

- R**einforcing maritime links between the two countries**
- Keeping this vital part of the Indian Ocean safe and secure for international trade.
- The two navies have been undertaking **CORPAT bi-annually since 2005** along their International Maritime Boundary Line (IMBL).

Significance

- CORPAT builds **up understanding and interoperability** between navies and facilitates institution of measures to **prevent and suppress unlawful activities** like Illegal Unreported Unregulated (IUU) fishing, drug trafficking, maritime terrorism, armed robbery and piracy.
- Helps to **enhance the operational synergy by exchange of information** for prevention of smuggling, illegal immigration and for conduct of search and rescue (SAR) operations at sea.
- It will contribute towards Indian Navy's efforts to consolidate inter-operability and forge strong bonds of friendship between India and Thailand.

SITMEX – 21

Context

- Indian Naval Ship (INS) Karmuk, participated in the 3rd edition of India, Singapore and Thailand Trilateral Maritime Exercise SITMEX – 21.
- SITMEX-21 fortified the long-standing bond of friendship and further enhance the cooperation between the participating navies towards augmenting the overall maritime security in the region.

About SITMEX

- SITMEX is being **conducted annually since 2019** with an aim **to enhance mutual inter-operability and imbibing best practices between Navies.**
- The exercise is being conducted as a **'non-contact, at sea only'** exercise in view of COVID-19 restrictions
- It highlighted growing synergy, coordination and cooperation in the maritime domain between the three friendly navies.

Indian Ocean Naval Symposium (IONS)

Context

- The 7th edition of Indian Ocean Naval Symposium (IONS) Conclave of Chiefs is being hosted by French Navy at Paris.

Significance

- It facilitates a **greater degree of maritime cooperation** and understanding between the IONS nations.

About IONS

- It was conceived by the Indian Navy in 2008.
- It act as a **forum** which **seeks to enhance maritime co-operation** among Navies of the littoral states of the Indian Ocean Region by providing an **open and inclusive platform for discussions** on regionally relevant maritime issues that would lead to common understanding on the way ahead.
- The inaugural edition of IONS was held in Feb 2008 at New Delhi, with Indian Navy as the Chair for two years.
- The **IONS Chair is presently held with France.**

The Sydney Dialogue

Context

- PM Modi addressed the annual summit of cyber and critical technologies.

What is Sydney Dialogue?

- It is an initiative of the **Australian Strategic Policy Institute**.
- It bring together political, business and government leaders to debate, generate new ideas and work towards common understandings of the opportunities and challenges posed by emerging and critical technologies.
- The Sydney Dialogue is an **annual summit of cyber and critical technologies to discuss the fallout of the digital domain on the law and order situation in the world.**

Key takeaway from PM address

- The international order should ensure cryptocurrencies do not end up in wrong hands.
- India's space sector open to private investment and that the agriculture sector is reaping the benefits of digital revolution.
- He highlighted the leaps in **India's digital revolution** that has redefined politics, economy and society. It is raising new questions on sovereignty, governance, ethics, law, rights and security.
- India's industry and services sectors, even agriculture, are undergoing massive digital transformation. India using digital technology for clean energy transition, conservation of resources and protection of biodiversity.

India, Maldives and Sri Lanka trilateral exercise 'Dosti'

Context

- The 15th edition of the **biennial trilateral coast guard exercise 'Dosti'** involving **India, the Maldives and Sri Lanka** conducted in the Maldives.
- 2021 marks **30 years** since these exercises were first launched.
- **Aim of tri-lateral exercise 'Dosti'** : to further **fortify the friendship, enhance mutual operational capability, and exercise interoperability and to build cooperation between the Coast Guards** of Maldives, India and Sri Lanka."
- Both the Maldives and Sri Lanka are of strategic importance to New Delhi and to its maritime security interests.

Background

- It was first launched in 1991, these exercises were bilateral, involving the Indian and the Maldives Coast Guards. In 2012, however, **Sri Lanka joined** these exercises for the first time and since then, it has been a trilateral exercise.
- These exercises help during joint operations and missions undertaken by countries and also help enhance interoperability.

Scope of the exercises

- Maritime accident
- ecological disaster like an oil spill

Security context

- In August this year, India, Sri Lanka and the Maldives agreed to work on the "**four pillars" of security cooperation**.
- These involved the areas of **marine security, human trafficking, counter-terrorism and cyber security.**

India - Indonesia Coordinated Patrol (CORPAT)

Context

- Indian Naval Ship (INS) Khanjar is undertaking coordinated patrol (CORPAT) with Indonesian Navy.
- The 37th edition of CORPAT, is being conducted as a **'non-contact, "at sea only" exercise** in view of COVID-19 pandemic.
- India and Indonesia have been carrying out Coordinated Patrols (CORPAT) along the International Maritime Boundary Line (IMBL) twice in a year since 2002.

Aim

- **Keeping Indian Ocean Region safe** and secure for commercial shipping, international trade and conduct of legitimate maritime activities.

Significance

- B**uild understanding and interoperability between navies**
- Facilitate institution of measures to prevent and suppress Illegal Unreported Unregulated (IUU) fishing, drug trafficking, maritime terrorism, armed robbery and piracy.
- As part of Government of India's **vision of SAGAR** (Security And Growth for All in the Region), Indian Navy has been **proactively engaging with the countries in the Indian Ocean Region.**
- India and Indonesia have traditionally enjoyed a close and friendly relationship covering a wide spectrum of activities and interactions, which have strengthened and institutionalised over the years.
- The 37th edition of IND-INDO CORPAT seeks **to bolster the maritime cooperation between the two navies and forge strong bonds of friendship across the Indo Pacific.**

Military Exercise 'Dakshin Shakti'

Context

- Indian Army chief General observed military exercise 'Dakshin Shakti'.

About 'Dakshin Shakti'

- The exercise began in the deserts of Jaisalmer.
- T-72, T-90 as well as **Vijayanta tanks** of the Army and the IAF's **Dhruv and Rudha helicopters**, and the **Jaguar** fighter aircraft participated in the joint exercise.

Aim:

- The drill aims **to establish the best coordination among the wings of the armed forces, space technology and artificial intelligence.**

GOCO Model

What is the issue?

- The Army's ambitious plan for modernisation of the Army Base Workshops (ABWs) and implementation of 'Government-owned, contractor-operated (GOCO)' model is "delayed" and the original timeline for implementing the system lapsed in December 2019, the Comptroller and Auditor General (CAG) said in its report.
- The implementation of GOCO model is fraught with **risks and operational challenges** as identified by the Headquarters Base Workshop Group.

What is GOCO (Government-Owned Company Operated) model?

- In this **model private industries will operate government-assets, sparing them of the need to invest in land, machinery or other support systems**.
- The GOCO model was meant to **modernise the workshops as well free up Army personnel from maintenance work.**
- GOCO partner **need not make** investment in land, machinery and other support system.
- The selected private industry partner will get enough independence in implementing the mission using their best practices.

AK-203

Context

- The Defence Acquisition Council (DAC) approved the long-pending deal for the manufacture of 6.71 lakh AK-203 assault rifles in India.
- India and Russia had signed an **Inter-Governmental Agreement (IGA)** in February 2019 following which a **Joint Venture, Indo-Russian Rifles Private Limited (IRRPL),** was set up at Korwa in Uttar Pradesh for manufacturing the rifles.
- With repeated delays in the deals for procurement of AK-203 assault rifles, India had signed a deal in August for 70,000 AK-103 assault tickets to be **procured off the shelf.**

GSAT-7C -Air Force satellite

- The DAC approved a proposal for the procurement of GSAT-7C communication satellite for the Indian Air Force (IAF) at a cost of ☐2,236 crore.
- Induction of GSAT-7C Satellite and ground hubs for Software Defined Radios (SDRs) will **enhance the ability of the armed forces to communicate beyond Line of Sight (LoS)** among one another in all circumstances in a secure mode.
- The project envisages **complete design, development and launching of satellite in India**.
- The Navy already has a dedicated communication satellite of its own, **Rukmini.**

Advanced Electronic Warfare (EW) System 'Shakti'

Context

- Prime Minister to formally handovered DRDO Designed and Developed Advanced Electronic Warfare Suite 'Shakti' to Indian Navy.

About Advanced Electronic Warfare (EW) System 'Shakti'

- It has been designed and developed by Defence Electronics Research Laboratory (DLRL) Hyderabad a laboratory of Defence Research and Development Organisation (DRDO).
- It will provide an **electronic layer of defence against modern radars and anti-ship missiles** to ensure electronic dominance and survivability in the maritime battlefield.
- This system **will replace the earlier generation EW Systems** of the Indian Navy.
- The system has been integrated with the wideband Electronic Support Measures (ESM) and Electronic Counter Measure (ECM) for the defence of Indian Navy Ships against missile attacks.
- The ESM of the system **helps in finding accurate direction** and interception of modern radars. The system has a **built-in radar fingerprinting** and data recording replay feature for post-mission analysis.

Exercise Prasthan

Context

- An offshore security exercise, code-named 'Prasthan' was conducted in the Offshore Development Area (ODA) off Mumbai, under the aegis of Headquarters, Western Naval Command.

About 'Prasthan'

- Conducted **every six months**.
- This exercise is an **important element of ensuring offshore security** and aims **to integrate** the efforts of **all maritime stakeholders**, including the Indian Navy, Indian Air Force, Coast Guard, ONGC, the Port Trust, Customs, the state fisheries department and the Marine Police, in refining SOPs and response-actions to a variety of contingencies in the ODAs.
- Contingencies such as terrorist intrusion, bomb explosion, major fire, oil spill, man overboard, casualty evacuation, loss of control of vessel and mass evacuation were exercised.

Significance

- The exercise provides **all stake holders a realistic scenario to assess their readiness to respond** to and combat contingencies in the Western ODA, as also to operate together in a coordinated manner.

Operation Sankalp

Context

- INS Trikand deployed in the Persian Gulf and Gulf of Oman as part of Operation Sankalp.

About Operation Sankalp

- Operation Sankalp was started in June 2019 after there were explosions on board two oil tanker ships in the Gulf of Oman amid increased tensions between Iran and the U.S.

Significance

- The Indian Navy's Operation Sankalp has **provided safe passage to an average 16 Indian-flagged merchant vessels in the Gulf region everyday.**
- India is **dependent for about 85% of its demand for oil on imports. In 2019-2020, around 62% of** India's oil imports valued at approximately $66 billion came from the Gulf region.
- Due to the prevailing security situation in Persian Gulf, it is required to provide security to Indian-flagged merchant vessels transiting through the region by showing presence, escorting or providing close support to vessels as required.

About INS Trikand

- It is a **state-of-the-art guided missile stealth frigate.**
- It is part of the Western Fleet that operates under the Western Naval Command, based at Mumbai.

ENVIRONMENT & ECOLOGY

Coalition for Disaster Resilient Infrastructure

Context

- Infrastructure for Resilient Island States or IRIS, the new programme **to secure and strengthen critical infrastructure in small island states against disasters induced by climate change** is launched.
- IRIS is the **first major initiative by the Coalition for Disaster Resilient Infrastructure (CDRI) started by India in 2019.**

What is CDRI?

- The effort is to **climate-proof critical infrastructure in member countries**.
- Twenty-six countries, including the US, Germany, UK, Australia, Brazil, Bangladesh, Afghanistan, Nepal, Bhutan, Sri Lanka, and Japan are already part of the coalition.
- The coalition, will serve as a **'knowledge centre' for member countries** to share and learn best practices with respect to disaster-proofing of infra.
- It will work towards making **existing and upcoming infrastructure in member countries more robust and resilient against climate disasters** such as floods, heat, cyclones, forest fires, and rain.
- According to CDRI estimates, **every one dollar invested in making infrastructure more resilient in low- and middle-income countries can potentially save losses of over $4 when a disaster strikes**.

- **The aim of CDRI is to minimise the damage and disruptions**.

Has India taken such a global climate initiative before CDRI?

- CDRI is **India's second international climate initiative**; the first was the **International Solar Alliance** (ISA), launched at the 2015 Paris climate change conference.
- ISA's main objective is **to promote large scale harnessing and exploitation of solar energy**.
- Equatorial and tropical regions get very good sunlight for most of the year, which is sufficient to meet the energy demands of many countries in this belt.
- ISA is working towards boosting the use of solar power in the region, mainly by bringing down the cost of technology and finance, which can facilitate rapid, mass deployment of solar energy.
- It hopes to do so by aggregating the demand from a large number of countries, standardising equipment and grid, and promoting research and development.
- To take this idea forward, the **One Sun One World One Grid (OSOWOG)** proposes a **common grid** through more than 100 countries.
- The idea is **to stabilise energy supply**, **overcome local and natural fluctuations** in the availability of sunlight, and **to maintain reliable baseload capacities at all times.**
- ISA and CDRI are an attempt by India to **claim climate mission leadership at the global** level. Both have received wide support from developing as well as developed countries.
- The solar alliance will result in the **mitigation of greenhouse gas emissions through a largescale switch from fossil fuels to solar energy**, while also addressing issues of energy access and energy security.
- CDRI is aimed towards **achieving the adaptation goal.**
- Together, they form the bases of **India's vision for global climate action that also takes into account issues of equity, development, and the special needs of developing and least developed countries.**

What is IRIS?

- As OSOWOG is a specific work programme to realize the objectives of the ISA, IRIS seeks **to operationalise the CDRI initiative.**
- Small island states are the most vulnerable to the impacts of climate change.
- As sea levels rise, they face a threat of being wiped off the map. According to CDRI, several small island states have lost 9 per cent of their GDPs in single disasters during the last few years.
- Unsurprisingly, several small island states have joined the IRIS platform, and drawn up plans for implementation.
- The bulk of the work would involve **mobilising and directing financial resources towards building resilient infrastructure, retrofitting existing infrastructure, development of early warning systems, and development and sharing of best practices.**

State of Global Climate-2021'

Context

- State of Global Climate-2021'report released by the **World Meteorological Organisation**.

Key Findings

- It has stated that the last seven years have been the warmest on record and global sea-level rise accelerated since 2013, reaching a new high in 2021.
- The report has attributed the **record sea-level rise to warming up and acidification of ocean waters**.
- During COP-26, the WMO will launch the **Water and Climate Coalition** to coordinate water and climate action and the **Systematic Observations Financing Facility** to improve weather observations and forecasts which are vital to climate change adaptation.

Global Methane Pledge

Why in news?

- The Global Methane Pledge was launched at the ongoing UN COP26 climate conference in Glasgow.
- So far, over 90 countries have signed this pledge, which is an **effort led jointly by the United States and the European Union.**

About Methane

- Methane is the second-most abundant greenhouse gas in the atmosphere, after carbon dioxide, and, therefore, pledges related to cutting down its emissions are significant.

What is the Global Methane Pledge?

- The pledge was first announced in September by **the US and EU**.
- It is essentially an **agreement to reduce global methane emissions**.
- One of the central aims of this agreement is **to cut down methane emissions by up to 30 per cent from 2020 levels by the year 2030.**
- According to the latest Intergovernmental Panel on Climate Change report, methane accounts for **about half of the 1.0 degrees Celsius net rise in global average temperature since the pre-industrial era.**

Methane Push
More than 100 countries have signed up to the Global Methane Pledge
■ Signatory
Source: Global Methane Pledge
Bloomberg

- Rapidly reducing methane emissions is complementary to action on carbon dioxide and other greenhouse gases, and is regarded as the single most effective strategy to reduce global warming in the near term and keep the goal of limiting warming to 1.5 degrees Celsius within reach

Why there is need to control methane?

- According to the UN, **25 per cent of the warming** that the world is experiencing today is **because of methane**, a greenhouse gas, which is also a component of natural gas.
- Because **it is a greenhouse gas, its presence in the atmosphere increases Earth's temperature.**
- There are various sources of methane including **human and natural sources**.
- **Human sources** of methane include landfills, oil and natural gas systems, agricultural activities, coal mining, wastewater treatment, and certain industrial processes.
- The oil and gas sectors are among the largest contributors to human sources of methane.

Why is dealing with methane important for climate change?

- Methane has a much shorter atmospheric lifetime (12 years as compared to centuries for CO2), but it is a much **more potent greenhouse gas** simply because it absorbs more energy while it is in the atmosphere.
- Methane is a **powerful pollutant** and has a **global warming potential that is 80 times greater than carbon dioxide**, about 20 years after it has been released into the atmosphere.
- Significantly, the average methane leak rate of 2.3 per cent "erodes much of the climate advantage gas has over coal".

Why hasn't India signed the pledge?

- **India is the third largest emitter of methane**, primarily because of the size of its rural economy and by virtue of having the **largest cattle population**.
- India has stated earlier that it **plans to deploy technology and capture methane that can be used as a source of energy.**
- India's approximately 20% anthropogenic methane emissions come from agriculture (manure management), coal mines, municipal solid waste, and natural gas and oil systems.
- To tap into this "potential," the Ministry of New and Renewable Energy (MNRE) claims to have invested heavily in a **national strategy to increase biogas production** and **reduce methane emissions**.
- The biogas strategy includes many policy initiatives, capacity-building, and public-private partnerships.

Olive Ridley Sea Turtles

Context

- The Odisha government imposed a seven-month-long prohibition on fishing activities within 20 km of the coast at the river mouths of **Dhamara, Devi and Rusikulya**, marking the beginning of the mass nesting season of the endangered olive ridley sea turtles.

Objective of this annual measure

- Ensuring the safety of marine animals during their mating and breeding season.
- The ban was clamped in accordance with sections 2, 7 and 4 of Orissa Marine Fishing Regulation Act (OMFRA), 1982 and provisions of Wildlife Protection Act, 1972.
- The prohibition is clamped every year as turtles perish in larger numbers either by getting entangled in fishing nets or hit by fishing trawlers' propellers,"
- It involves a **multi-layered patrolling exercise, comprising forest personnel, fisheries personnel, marine police, besides the Coast Guard.**
- To **ensure effective patrolling**, 61 on-shore camps and five off-shore camps have been set up in the state's four wildlife divisions - Bhadrak, Rajnagar, Puri and Berhampur,".

OLIVE RIDLEY SEA TURTLE

Interesting Facts

Scientific Name
Lepidochelys olivacea

Type: Reptile
Diet: Omnivore (Predominantly carnivorous)
Life Span: Between 30 to 50 years

Weight
Females: **39 kg** (85 lbs)
Males: **39 kg** (85 lbs)

Size relative to a 6-ft (2-m) man
2-ft
62 to 70 cm

Protection Status

Endangered

It is the most abundant turtle species in the world with an estimated **800,000** females nesting annually

They are primarily **pelagic**, spending much of their life in the open ocean

Pelagic zone

Threats
Collection of turtle eggs
Killing turtles
Incidental captures in fishing gear
Environmental contamination

Taxonomy
Kingdom: Animalia
Phylum: Chordata
Class: Reptilia
Order: Testudines
*Family:* Cheloniidae
Genus: Lepidochelys
Species: olivacea

Leptospirosis

Context

- More than 1,000 leptospirosis cases are reported from Kerala every year, with 10% of the affected persons dying of it. The cases are showing an upward trend since 2015.
- Humans catch the disease when they **come into contact with the urine of infected animals or a urine-polluted environment.**
- Farmers or those working in contaminated surface water are more prone to the disease, and wounds and injuries are factors that increase the risk.
- Leptospirosis is a **zoonotic disease of public health importance** causing huge morbidity and mortality in Asian countries.

Leptospirosis

- It is a **bacterial disease** that affects humans and animals.
- It is caused by bacteria of the genus Leptospira.
- In humans, it can cause a wide range of symptoms, some of which may be mistaken for other diseases.
- Some infected persons, however, may have no symptoms at all.
- Without treatment, Leptospirosis can lead to **kidney damage, meningitis** (inflammation of the membrane around the brain and spinal cord), liver failure, respiratory distress, and even death.
- A **single dose of doxycycline 200 mg tablet is effective as a preventive medicine against leptospirosis**, a bacterial infection, if given to the flood-affected within a week of the natural calamity.

Leptospirosis: How you may get infected
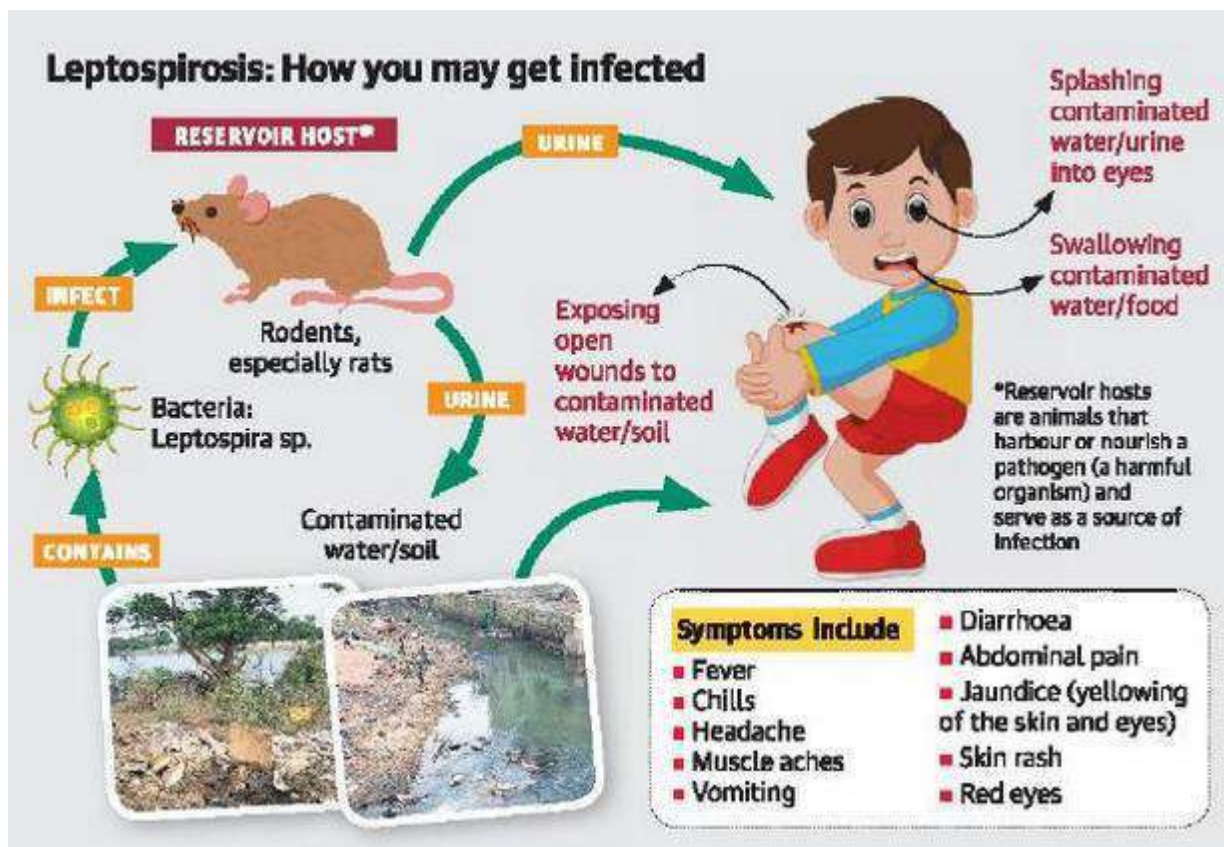
LEOPARD

Why in news?

- The **leopard** population of North India is at highest risk among four animal populations identified as being the **most vulnerable to extinction in the next 50 years** if observed roadkill levels persist.

More about news

- The leopard (Panthera pardus) faces an **83% increased risk of extinction in North India** due to roadkill, according to a new international study that quantifies the threat posed by roads to the survival of animal populations around the world.
- Other populations found highly vulnerable include the **lion-tailed macaque (Macaca silenus) and sloth bear (Melursus ursinus) in South India.**
- For the North Indian leopard population, the study site covered Uttarakhand's Rajaji National Park and Haridwar Conservation area.
- If at least 20% of the population has been killed by roadkill, the risk of local extinction can increase by 10%.

VULNERABLE TO EXTINCTION DUE TO ROADKILL

Species, location	Population road-killed	Probability of extinction	Time to extinction
Leopard, North India (*Panthera pardus*)	19.4%	83%	33 years
Maned wolf, Brazil	36.4%	34%	30 years
Little spotted cat, Brazil	20-37%	0-75%	0-36 years
Brown hyena, Southern Africa	6-43%	3-100%	0-21 years

OTHER SPECIES VULNERABLE TO ROADKILL
Lion-tailed macaque (South India), sloth bear (South India), Amur tiger, Goa antelope (Tibet), wild yak (Tibet), Iberian lynx, African lion

Significance of this study

- Results of this study have **implications for mammalian conservation and road mitigation worldwide**.
- It bring attention to the need of **thoughtful future road development and road mitigation**.

About Indian Leopard:

PANTHERA PARDUS FUSCA

INDIAN LEOPARD
Highly adaptable big cat can live close to humans

POPULATION
around 7,910 (2014 census in surveyed areas); thought to be around 12,000-14,000 across India.

WEIGHT
50-77 kg (males); 29-34 kg (females)

GEOGRAPHIC RANGE
Indian subcontinent (all states), Nepal, Pakistan, Bangladesh, Bhutan, Myanmar, China

HABITAT
Forest, shrubland, savanna, grassland, rocky areas, mountains, desert

EAT
- True carnivores that are excellent ambush predators
- Feed on anything they can overpower, from mid-size ungulates, to domestic livestock, dogs, birds, and rodents

ACTIVITY
- Mostly solitary, nocturnal creatures, also seen at dusk and dawn in forests. Entirely nocturnal close to human presence
- Territorial.
- Leopard densities can reach 5 animals per 100 sq km in densely populated human landscapes like western India

BLACK PANTHER
- Dark morphs or black leopards, often called black panthers, are the same species, but with recessive melanistic genes
- Spots are hidden under the dark coat

Coats have black rosettes
Each coat pattern is unique and makes individuals identifiable
Large head, powerful jaws
Have an easily recognisable sawing/rasping call

CUBS
- Females usually give birth to two cubs after a gestation period of 90-105 days
- Only the female cares for the cubs, who remain with the mother for about 1.5-2 years

AGILE CAT
- Excellent at climbing trees
- Can run down a tree head-first
- Can carry large prey up a tree to protect it from other carnivores including tigers and wild dogs

THREATS
- A TRAFFIC study reports that between 2001-2010 at least 2 leopards were killed each week for the illegal wildlife trade in India
- Population has declined by 75-90% in the last two centuries
- Poisoning and retaliatory killing
- Poaching for pelts and body parts.
- Become roadkill when roads and highways run through forests
- Conflict with livestock herders
- Hunting

PROTECTION STATUS:
VULNERABLE on the IUCN Red List

Green Grid Initiative

Why in news?
- **India-UK 'green grids' initiative** can boost transition to clean energy
- India had first proposed connecting solar energy supply across borders at the International Solar Alliance in 2018.

More about news
- India and UK launched a '**green grids' initiative**—the One Sun One World One Grid (OSOWOG) project—on the sidelines of the COP26 summit.
- The project aims to **connect energy grids across borders to facilitate a faster transition to the use of renewable energy.**

What is the One Sun One World One Grid project?
- India had **first proposed connecting solar energy supply** across borders at the International Solar Alliance in 2018 to allow parts of the world with **excess renewable power to send power to other countries.**
- If the world has to move to a clean and green future, these interconnected transnational grids are going to be critical solutions.
- The proposal is aimed at **addressing the issue of reliability of supply from solar power plants, which do not generate electricity after the sun has set**.
- A transnational grid would **allow countries to source solar power from regions where it is daytime to meet their green energy needs** even when their own installed solar capacity is not generating energy.
- OSOWOG is also **aimed at addressing the issue of high cost of energy storage**.
- OSOWOG initiative is a **possible solution for driving down the need for storage, which in effect will reduce the costs of the energy transition.**

What are the challenges to the OSOWOG project?
- The transmission of power across vast distances would require large capital investment to set up long transmission lines.
- The first step of OSWOG would be **solar power transfer between neighbouring countries.**
- **India, Bhutan, Bangladesh, Myanmar and Nepal** already share transmission capacity for energy transfer across borders which can be expanded further and utilised for the transfer of solar power between these countries.
- The International Solar Alliance has commissioned a study the feasibility of the OSOWOG project.
- The study will make an assessment on a country-by-country basis, examining projected power demand and supply as well as the renewable energy resource potential.

Methane Emissions

Why in news?

- The **U.S. and the EU have pledged** to **cut methane emissions by 30**% compared with the 2020 levels

India has stayed away from both the methane pledge and the forest conservation declaration at Glasgow

- At the UN Climate Change Conference (the 26th Conference of Parties-COP26) in Glasgow, the United States and the European Union have jointly pledged to cut emissions of the greenhouse gas methane by 2030.
- At least 90 countries have signed the **Global Methane Pledge**, with **India and China abstaining** so far.
- Separately, 133 countries have signed a **Glasgow Leaders' Declaration on Forests and Land Use — a declaration initiated by the United Kingdom to "halt deforestation" and land degradation by 2030**. China, too, is a signatory to this but **India has stayed out**.

Why is methane potent as a greenhouse gas?

- Methane accounts for **about a fifth of global greenhouse gas (GHG) emissions** and is about **25 times as potent** as carbon dioxide in trapping heat in the atmosphere.
- In the last two centuries, **methane concentrations in the atmosphere have more than doubled**, mainly due to human-related activities.
- M**ethane is short-lived**, compared with carbon dioxide.
- Methane is emitted from a variety of anthropogenic (human-influenced) and natural sources.
- The **human sources** include landfills, oil and natural gas systems, agricultural activities as well as livestock rearing, coal mining, stationary and mobile combustion, wastewater treatment, and certain industrial processes.
- Sources of methane can be harnessed for energy and in principle reduce dependence on energy sources that emit high carbon dioxide.
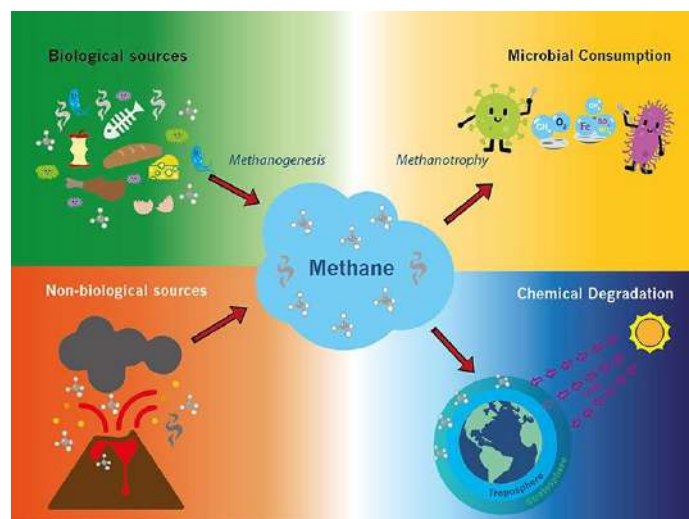
What does the Glasgow Declaration on forest and land use entail?

- The Glasgow Declaration was signed by 133 countries, which represent 90% of the globe's forested land.
- The declaration is also backed by a $19-billion commitment, though whether this translates into legally binding flows remains to be seen.
- The Glasgow Declaration is a **successor to a failed 2014 New York Declaration for Forests** that promised to reduce emissions from deforestation by 15%-20% by 2020 and end it by 2030.
- However, deforestation has only increased, and is responsible for about 20% of the total carbon emissions.
- One of the goals of the pledge, to halt deforestation, is to **ensure that natural forests aren't cleared out for commercial plantations.**
- It also **aims to halt industrial logging** and seeks to **strengthen the rights of indigenous tribes and communities to forestland.**

Why hasn't India signed up?

- There is no official reason accorded but reports suggest that Indian officials are unhappy with the wording that suggests **meeting the obligations under the pledge** could also **mean restrictions in international trade**.
- India is also mulling changes to its forest conservation laws that seek to encourage commercial tree plantation as well as infrastructure development in forestland. India's long-term target is to have a third of its area under forest and tree cover, but it is so far 22%.
- It also proposes to create a carbon sink, via forests and plantations, to absorb 2.5-3 billion tonnes of carbon dioxide.

Climate Change Performance Index 2021

Context

- The 17th edition of the **Climate Change Performance Index 2021, compiled by Germanwatch**, the New Climate Institute, and the Climate Action Network, was released.

Climate Change Performance Index 2021

- The index, which monitors climate mitigation progress of 57 countries and the European Union, places Sweden on top, while countries such as Morocco and the UK are also ranked high.

- **The first three ranks of the overall rankings were kept empty** because no country had performed well enough in all index categories to achieve an overall very high rating.
- The **bottom-ranked country, the United States, therefore, was placed at 61**.
- In the overall rankings, **India is at number 10** with a score of 63.98. It is a high performer except in the renewable energy category, in which it is ranked "medium".
- The report says that India is benefiting from its relatively low per-capita emissions.
- In terms of greenhouse gas emissions, Sweden, Egypt, Chile and the UK are in the top 7. **India is ranked 12.**
- Scandinavian countries such as Sweden achieved the best results because of their "outstanding" effort on renewable energy.
- Iran and Russia are ranked the lowest in this category. Overall, Australia, South Korea and Russia are among the lowest performing countries along with Kazakhstan and Saudi Arabia.
- China is ranked 33 overall and has an overall rating of "low".

CLIMATE CHANGE PERFORMANCE INDEX			GREENHOUSE GAS EMISSIONS		
Rank	Country	Score	Rank	Country	Score
4.	Sweden	74.42	4.	Sweden	33.15
5.	UK	69.66	5.	Egypt	33.00
6.	Denmark	69.42	6.	Chile	32.16
7.	Morocco	67.59	7.	UK	31.77
8.	Norway	65.45	8.	Malta	29.66
9.	Chile	64.05	9.	Morocco	29.35
10.	India	63.98	10.	Norway	29.01
11.	Finland	62.63	11.	Switzerland	28.53
12.	Malta	62.21	12.	India	28.39
13.	Latvia	61.88	13.	Denmark	28.26
14.	Switzerland	60.85	14.	Croatia	26.32
15.	Lithuania	58.03	15.	France	25.42
16.	EU	57.29	16.	Luxembourg	24.99
17.	Portugal	56.80	17.	Romania	24.74
18.	Croatia	56.69	18.	Germany	24.41
19.	Germany	56.39	19.	Finland	24.38
20.	Ukraine	55.48	20.	Ukraine	24.24

No rankings allotted from 1 to 3 because "no country performed well enough in all categories to achieve an overall very high rating, or did enough to lower their gas emissions"

Kaiser-i-Hind

Context

- Kaiser-i-Hind (Teinopalpus imperialis) literally means Emperor of India declared as the State butterfly of Arunachal Pradesh.

About Kaiser-i-Hind

- Kaiser-i-Hind (Teinopalpus imperialis) literally means Emperor of India.
- This butterfly with a 90-120 mm wingspan is found in **six States along the Eastern Himalayas** at elevations from 6,000-10,000 feet in well-wooded terrain.
- The butterfly also flutters in **Nepal, Bhutan, Myanmar, Laos, Vietnam and southern China**.
- Kaiser-i-Hind is protected under **Schedule II of Wildlife (Protection) Act, 1972**, it is hunted for supply to butterfly collectors.
- It is confined to very few pockets of Arunachal Pradesh and could become extinct if not conserved.
- An International Union for Conservation of Nature red-listed species, the Kaiser-i-Hind usually flies at tree-top level and descends to sit on low vegetation when there is strong morning sunlight.

Bats

Story so far

- Bats and humans have cohabited since time immemorial.

Critical roles played by bats

- Throughout the night, these bats devour insects in farms, fields, forests, grasslands and around our homes, including **agricultural pests and disease-causing mosquitoes.**
- Some bats sip nectar, pollinate flowers, eat fruits, and spread the seeds of many important tree species including wild varieties of bananas, guava, cashew, mango, figs, mahua and other fruits.
- **Bat droppings (guano)** mined from caves are widely used as a **fertilizer for agricultural crops** as they have **high concentrations of nitrogen and phosphorous.**

Role in disease spread

- With scientific evidence mounting that the **SARS-CoV2 virus that causes COVID-19 originated in bats**, there are growing fears of further disease transmission from bats.
- Bats are known or suspected to be the **natural reservoirs for many novel and recently emerged pathogenic viruses** such as **Nipah, Hendra, Marburg, Ebola and the coronaviruses** that cause severe acute respiratory syndrome.
- Despite being reservoirs for viruses, bats never fall sick. Bats have evolved mechanisms to avoid such damage by suppressing their immune systems, which helps them combat infections and control virus propagation.

- **Transmission of pathogens** from their natural host or reservoirs to novel hosts such as humans — is **unusual and rare events, and tends to occur when there is increased contact between humans and wild hosts.**

Some precautions

- Avoid handling or eating bats, and not eating fallen fruits gnawed by bats or fruits likely to be contaminated by bat fluids. This would greatly reduce the risk of spillover.
- In the longer term, work towards restricting and reversing land-use change practices that are bringing us in greater contact with, and increasingly stressing out, animals that may harbour 'emerging infections'.

Restore the balance

- There is need to regain balance with nature and animals through a combination of habitat restoration and co-existence with wildlife such as bats.
- Integrated approaches such as **One Health,** where **human health is linked to that of the environment and animals** can result in the best possible outcomes.
- A world with fewer bats around us will be one that suffers greater crop losses to agricultural pests.

Delhi Air Pollution

Context
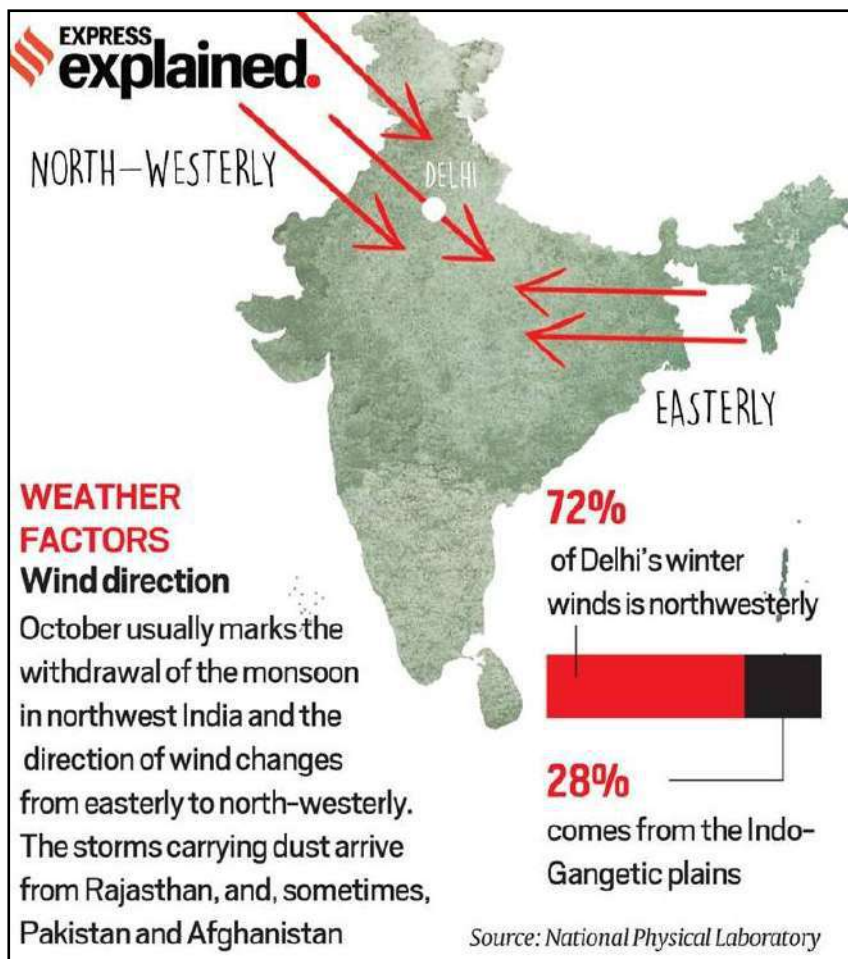
- Delhi witnesses spike in air pollution.

General factors that play role in pollution spikes are

- **Extremely low temperatures** and low mixing height, with moderate to dense fog in the morning.
- **Low temperature and moisture in the air traps pollutants close to the surface**.

What conditions lead to smog in late October and early November?

- Monsoon withdraws, and **wind direction changes** to north-westerly that bring **emissions from stubble fires** in Punjab and Haryana.
- These winds are **colder and dryer** as compared to the south-easterly winds blowing earlier, leading to a drop in temperature by the end of October. The winds also bring pollutants from stubble burning towards Delhi.
- **Firecracker burning** on Diwali, celebrated during late October or early November, **combined with stubble emissions lead to a smog.**
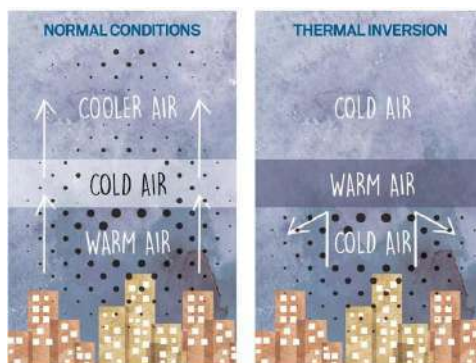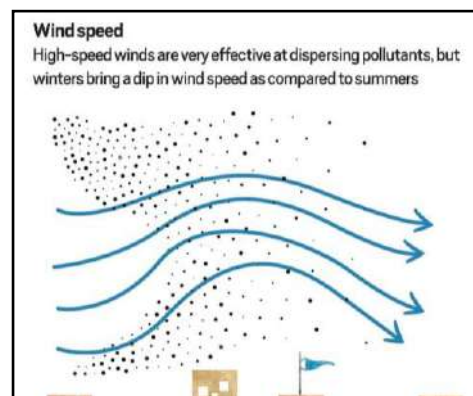
EXPRESS
explained.

NORTH-WESTERLY DELHI

EASTERLY

WEATHER FACTORS
Wind direction
October usually marks the withdrawal of the monsoon in northwest India and the direction of wind changes from easterly to north-westerly. The storms carrying dust arrive from Rajasthan, and, sometimes, Pakistan and Afghanistan

72%
of Delhi's winter winds is northwesterly

28%
comes from the Indo-Gangetic plains

Source: National Physical Laboratory

Why it spikes in the end of December?

- Stubble burning has completely stopped by this time of the year.
- Pollution spikes largely because **temperatures dip to 1-3 degrees Celsius**.
- Colder air slows down dispersal of pollutants and brings down the mixing height, trapping pollutants close to the ground.
- Delhi also sees fog spells at this time, as the moisture also traps pollutants in the air.

What is the role of temperature?

- **Low temperatures** not only make the air heavier and slows down pollutants, but it also **brings down the mixing height** -- an invisible layer of the atmosphere within which pollutants mix.
- The closer this layer drops to the surface, the lesser the space for pollutants to mix freely.

Wind speed
High-speed winds are very effective at dispersing pollutants, but winters bring a dip in wind speed as compared to summers

NORMAL CONDITIONS

COOLER AIR
COLD AIR
WARM AIR

THERMAL INVERSION
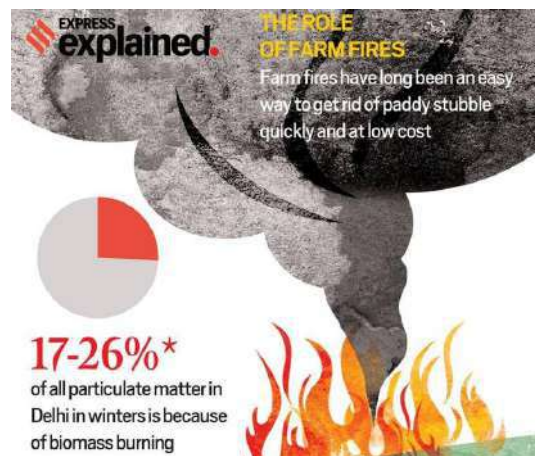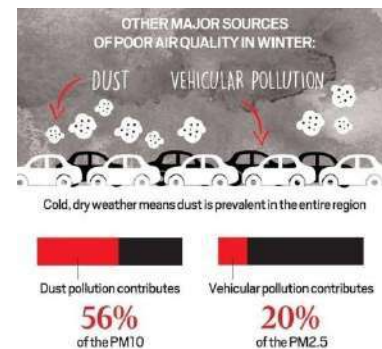
COLD AIR
WARM AIR
COLD AIR

Dip in temperature
When the temperature dips, it lowers the inversion height, which is the layer beyond which pollutants cannot disperse into the upper layer of the atmosphere. The concentration of pollutants in the air increases when this happens

How does fog causes spike in pollution?

- Moisture in the air **traps pollutants** and makes them heavier, not allowing them to disperse easily.
- This can lead to a constant haze in the air that dissipates only when there is adequate sunlight leading to warmer air.

How far can stubble emissions travel?

- Satellite data shows stubble emissions can travel all the way across the Indo-Gangetic plains. However, they start dispersing after a few hundred kilometres, and generally lose their potency after crossing Delhi-NCR.
- The longer the distance they travel, the lesser their impact.

OTHER MAJOR SOURCES OF POOR AIR QUALITY IN WINTER:
DUST   VEHICULAR POLLUTION
Cold, dry weather means dust is prevalent in the entire region

Dust pollution contributes **56%** of the PM10

Vehicular pollution contributes **20%** of the PM2.5

EXPRESS explained.

THE ROLE OF FARM FIRES
Farm fires have long been an easy way to get rid of paddy stubble quickly and at low cost

17-26%* of all particulate matter in Delhi in winters is because of biomass burning

Actions taken to mitigate Air pollution:

'YUDDH, PRADUSHAN KE VIRUDDH'

GOVT READIES ITS WINTER ACTION PLAN

BATTLING FARM FIRES
- To sprinkle fermented solution on 800 hectares of land to turn stubble into manure
- Aimed at preventing farmers from burning farm stubble

ANTI-DUST DRIVE
- Mechanical sweeping, repairing of potholes and setting up of anti-smog guns to be executed and intensively monitored

OTHER KEY MEASURES
- Specific programmes for 13 pollution hotspots
- Green Delhi app to be launched
- Tree transplantation policy
- to be enforced
- Creation of war rooms for monitoring all the measures
- Electric vehicle policy to be enforced

The average PM2.5 in 2014 was 154, and PM2.5 in 2018-19 was 115. It is because of the efforts of all the people of Delhi that the pollution levels have come down by 25%. This year, the pollution may prove to be a health hazard for us due to Covid-19
-CHIEF MINISTER ARVIND KEJRIWAL

WHAT WE ARE FIGHTING AGAINST

Average PM2.5 in 2014   **154**
Average PM2.5 in 2018-19   **115**

STEPS TAKEN TO REDUCE POLLUTION SO FAR

- 24x7 electricity supply to eliminate use of generator sets
- Central govt constructed eastern and western peripheral highways to reduce traffic in Delhi
- Delhi govt banned use of dirty fuel in industries and shifted them to PNG
- Delhi govt imposed heavy fines on construction sites violating dust control norms
- Plantation drives carried out
- Graded Action Plan implemented

WINTER IS COMING
- Delhi's pollution levels normally tend to spike in the second half of October, with a peak generally recorded in November
- Delhi recorded seven 'severe' days in November 2019, five in 2018 and seven in 2017, CPCB data shows
- A spike in pollution is also recorded around Diwali. This year, the festival will be celebrated on November 14
- Meanwhile, stubble burning starts affecting Delhi from mid-October with its impact continuing till November-end
- SAFAR data shows stubble burning contributed as high as 44% to Delhi's PM2.5 concentration last year

Swachh Survekshan Awards 2021

Context

- Indore cleanest city for 5th time in a row in Centre's annual cleanliness survey.

Other key findings

- **Varanasi** has been the adjudged the **'cleanest Ganga town'.**
- The second and third positions in the 'cleanest city' category of the 'Swachh Survekshan Awards, 2021' were secured by **Surat and Vijayawada,** respectively.
- **Chhattisgarh** has been adjudged **India's cleanest State.**

About Swachh Survekshan Awards, 2021'

- Swachh Survekshan is an **annual survey of cleanliness, hygiene and sanitation in** cities and towns across India.
- It was **launched as part of the Swachh Bharat Abhiyan**, which aimed **to make India clean and free of open** defecation by 2nd October 2019.
- The first survey was undertaken in 2016 and covered 73 cities; by 2020 the survey had grown to cover 4242 cities and was said to be the largest cleanliness survey in the world.
- In a bid to scale up the coverage of the ranking exercise and encourage towns and cities to actively implement mission initiatives in a timely and innovative manner, **Ministry of Housing and Urban Affairs (MoHUA)** is now in the process of conducting the sixth edition of the survey to rank all cities under Swachh Bharat Mission-Urban (SBM-U) with **Quality Council of India (QCI) as its implementation partner**.
- The objective of the survey is **to encourage large scale citizen participation, ensure sustainability of initiatives taken towards garbage free and open defecation free cities, provide credible outcomes** which would be validated by **third party certification**, **institutionalize existing systems through online processes and create awareness amongst all sections of society** about the importance of working together towards making towns and cities more habitable and sustainable.

River Cities Alliance

Context

- Union Minister for Jal Shakti launched the River Cities Alliance.

About River Cities Alliance

- It is a **dedicated platform for river citie**s in India to ideate, discuss and exchange information for sustainable management of urban rivers, here today.
- It is formed by the successful partnership of the two Ministries i.e., Ministry of Jal Shakti and Ministry of Housing and Urban Affairs.
- It focus on three broad themes- **Networking, Capacity Building and Technical Support.**
- The **Secretariat** of the Alliance will be set up at **National Institute for Urban Affairs (NIUA), with NMCG's support.**
- **Participating cities** in the River Cities Alliance are Dehradun, Haridwar, Rishikesh, Srinagar, Begusarai, Bhagalpur, Munger, Patna, Berhampore, Hooghly-Chinsurah, Howrah, Jangipur, Maheshtala, Rajmahal, Sahibganj, Ayodhya, Bijnor, Farrukhabad, Kanpur, Mathura-Vrindavan, Mirzapur, Prayagraj, Varanasi, Aurangabad, Chennai, Bhubaneswar, Hyderabad, Pune, Udaipur and Vijayawada.
- The **National Mission for Clean Ganga** (NMCG) and **National Institute for Urban Affairs** (NIUA) have collaborated together to launch the River Cities Alliance (RCA).
- It will enable cities to learn from each other's successes and failures as well as connect people with the rivers
- It will give an opportunity to municipal administrators and their teams to take path breaking initiatives and learn and inspire each other.
- **Objective of RCA**: To provide the member cities with a **platform to discuss and exchange information on aspects that are vital for sustainable management of urban rivers** such as minimizing their water footprint, reducing impacts on river and water bodies, capitalizing on natural, intangible, architectural heritage and associated services and develop self-sufficient, self-sustainable water resources through recycle, reuse strategy.
- It will **work towards adopting and localizing national policies and instruments with key river-related directions**, prepare their **Urban River Management Plans** and develop city-specific sectoral strategies that are required for sustainable urban river management.
- The Alliance gives opportunities to these cities **to strengthen governance** aspects for river cities and **improves their liveability to attract external economic investments**, access state of the art knowledge and frameworks as well as an opportunity to serve as the site for unique demonstration projects which will be implemented by NIUA and NMCG.

Kyhytysuka Sachicarum

Context

- An international team of researchers has discovered **a new marine reptile**.
- The specimen, a metre-long skull, has been named **Kyhytysuka sachicarum.**
- Kyhytysuka means 'one that cuts with something sharp' in an indigenous language from the region in central Colombia where the fossil was found.


Nuclear Energy and Climate Change

Is nuclear power a zero-emissions energy source?

- No. **Nuclear energy is also responsible for greenhouse gas emissions**.
- **Uranium extraction, transport and processing** produces emissions. The long and complex construction process of nuclear power plants also releases CO2, as does the demolition of decommissioned sites. Nuclear waste transport and storage.
- At COP26, environmental initiative **Scientists for Future (S4F)** presented a paper on nuclear energy and the climate. Which stated that **"Taking into account the current overall energy system, nuclear energy is by no means CO2 neutral,"**

How much CO2 does nuclear power produce?

- A report released in 2014 by the UN's Intergovernmental Panel on Climate Change (IPCC), , estimated a range of 3.7 to 110 grams of CO2 equivalent per kilowatt-hour (kWh).
- Netherlands-based World Information Service on Energy (WISE) calculated that **nuclear plants produce 117 grams of CO2 emissions per kilowatt-hour.**
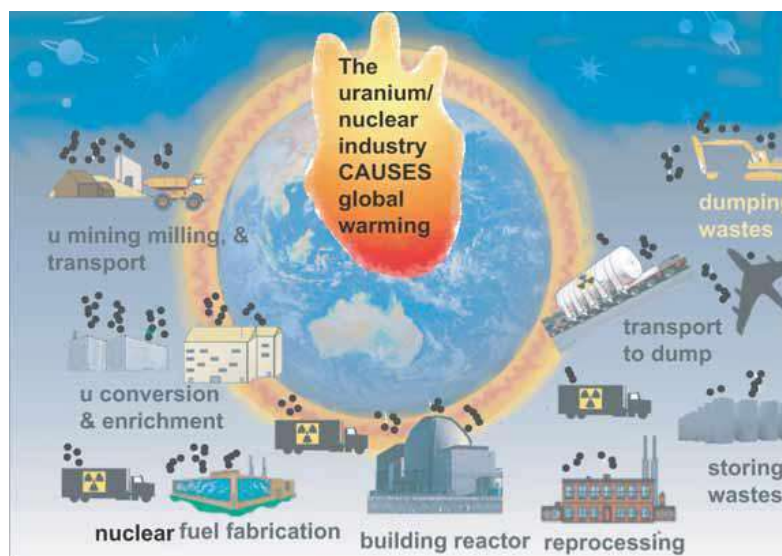
How climate-friendly is nuclear compared to other energies?

- If the **entire life cycle of a nuclear plant is included in the calculation, nuclear energy certainly comes out ahead of fossil fuels like coal or natural gas**.

Can we rely on nuclear energy to help stop global warming?

- Nuclear power plant construction times are too long and the costs too high to have a noticeable effect on climate change. It takes **too long for nuclear energy to become available**.
- Nuclear power plants are about **four times as expensive as wind or solar, and take five times as long to build**.
- Combination of **excessive costs, environmental consequences and lack of public support are all arguments against nuclear power.**
- Nuclear energy **itself has been affected by climate change**. During the hot summers, several nuclear power plants have already had to be **temporarily shut down or taken off the grid**.
- Power plants depend on nearby water sources to cool their reactors, and with many rivers drying up, those sources of water are no longer guaranteed.

India's Coal Usage

Context

- On the final day of the UN Climate Change Conference, India's promised to **"phase down" rather than "phase out"** the use of coal.
- This caused many to raise questions about India's commitment to tackling climate change.

Why must dependence on coal be reduced?

- Carbon emissions are considered the **main culprit in global warming,** countries have been committing themselves to turning carbon neutral by various dates.
- One key way to achieve carbon neutrality, wherein countries compensate for their carbon emissions by capturing an equal amount of carbon from the atmosphere, is to reduce dependence on coal.
- **Coal is the most polluting among fossil fuels**, and hence, its use in particular has come under scrutiny.

- **India, the U.S. and China** are three of the **largest fossil fuel emitters** in the world though India and China are far more dependent on coal than the U.S.
- India refutes allegations on 'weakening' Glasgow climate pact

Why is it difficult?

- Coal is used to meet over **70% of India's electricity needs.** Most of this coal comes from domestic mines.
- In FY 2020-21, India produced 716 million tonnes of coal, compared with 431 million tonnes a decade ago. Since FY 2018-19, domestic production has stagnated and has been unable to meet the rising domestic demand, leading to a rise in imports.
- Most of the country's coal production is limited to **Chhattisgarh, Odisha, Jharkhand and Madhya Pradesh** with a total production of over 550 million tonnes, contributing to over 75% of the country's total coal production.
- India **promised to increase non-fossil fuel energy capacity to 500 GW by 2030**, meet 50% energy needs from renewable sources and reduce carbon emissions by 1 billion tonnes in a decade.
- India now meets about 12% of its electricity needs from renewable sources, and increasing it to 50% by 2030 will be difficult.

Is it fair to ask India to phase out coal?

- India has fought attempts by developed countries to impose a cap on its emissions. It has argued that adopting stringent steps to reduce carbon emissions can drag down growth and affect efforts to reduce poverty.
- It should also be noted that per capita carbon emissions of countries such as India and China are still lower than those of many developed countries.
- According to **World Bank** data of 2018, **India produces 1.8 metric tonnes of carbon emissions per capita against 15.2 metric tonnes produced by the U.S.** High-income countries in general emit over 50 times as much carbon as low-income countries and over six times as much carbon as lower middle-income countries.
- India's commitment to **phase down coal** and become carbon neutral may actually be a rather generous commitment than what developed countries have committed themselves to.

What lies ahead?

- It is **highly unlikely that developing countries like India and China will reduce their coal consumption** or even stop it from rising further.
- Coal, is the **cheapest and most reliable way** to meet their rising energy needs. Further, the pledges made by countries at COP26 to reach net zero emissions or to **phase down coal are not legally binding.**
- Some leaders have proposed a **carbon tax** as an alternative to ensure that the price of coal reflects the cost of the damage it causes to the environment.
- This may turn out to be a more effective approach towards reining in carbon emissions. **Coal on average** is priced at $2, while experts believe that it **should be priced in the range of $30 to $70 to reflect its true cost**.
- But such high carbon taxes can cause a drastic fall in coal output and severely affect living standards unless alternative sources of energy step in to fill the gap.
- India also faces its own **set of structural problems** in the power sector that will make the transition towards clean energy harder.
- The pricing of power, is influenced by populist politics which may hinder private investment in renewable energy.

MCQs

1. Consider the following statements with reference to 'Corpse Flower' seen in the news recently:

1. It is native to the rainforests of Sumatra in Indonesia.
2. It was listed as a Vulnerable plant in 2018 by the International Union for Conservation of Nature (IUCN).

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

2. Consider the following statements regarding Government of National Capital Territory (GNCT) of Delhi (Amendment) Act, 2021:

1. It gives discretionary powers to the Lieutenant Governor even in matters where the Legislative Assembly of Delhi is empowered to make laws.
2. It gives the Lieutenant Governor the right to give opinion before implementation of the council of minister's decision.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

3. Consider the following statements Purchasing Managers' Index (PMI):

1. If the PMI of the previous month is higher than the PMI of the current month, it represents expansion.
2. It covers only manufacturing.

Which of the statements given above is/are correct?
Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

4. Consider the following statements regarding Central Bureau of Investigation (CBI):

1. CBI comes under the administrative control of the Ministry of Home Affairs.
2. Establishment of the CBI was recommended by the Santhanam Committee.
3. Tenure of Director of CBI is 3 years.

Which of the above statements is / are correct?

a) 1 and 3 only   b) 3 only

c) 1 ,2 and 3 d) 2 only

5. Consider the following statements:

1. Viruses are non-cellular organisms.
2. Viruses contain genetic material that could be either RNA or DNA.
3. Bacteria are single-cell living organism that cannot survive without host.
4. Antigens is a substance which the body recognizes as alien and induces an immune response.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 2, 3 and 4 only

c) All of the above   d) 1, 2 and 4 only

6. Consider the following statements regarding One Stop Centre Scheme:

1. It is a centrally sponsored scheme under the Ministry of Women and Child Development.
2. The Scheme will be funded through Nirbhaya Fund.
3. It covers women affected by violence both in private and public spaces.

Which of the above statements is / are correct?

a) 1 and 3 only   b) 3 only

c) 1 and 2 only   d) 1, 2 and 3

7. Consider the following statements regarding Kharif Strategy 2021:

1. Seeds will be distributed at a subsidised cost with nominal price burden on farmers.
2. It focuses on edible as well as non-edible oil.
3. It aims to increase area as well as productivity of the crop.

Which of the above statements is / are correct?

a) 1 and 3 only   b) 3 only

c) 1 and 2 only   d) 2 only

8. Consider the following statements regarding Insolvency and Bankruptcy Code (IBC):

1. It covers all individuals, companies, Limited Liability Partnerships (LLPs) and partnership firms.
2. Companies have to complete the entire insolvency exercise within 180 days under IBC.

Which of the above statements is / are incorrect?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

9. Consider the following statements regarding Kyasanur Forest Disease:

1. The disease is caused by a bacteria.
2. It is endemic to south-western part of India.
3. Human to Human transmission has been found.

Which of the above statements is / are correct?

a) 3 only   b) 1 and 3 only

c) 2 only   d) 2 and 3 only

10. Consider the following statements regarding Plasma:

1. This form of matter is manifested only at absolute zero.
2. It forms only a micro part of our universe.

Which of the above statements is / are correct?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

11. Consider the following statements regarding KanchiKailasanathar Temple:

1. It is dedicated to the Lord Vishnu.

2. It was built by Narasimhavarman II, ruler of the Pallava Dynasty.
3. The temple is located on the banks of the Vegavathi River.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) All of the above

12. Consider the following statements regarding Legislative Council:

1. It has a tenure of 5 years.
2. One-twelfth of the members are elected by graduates.
3. Its Chairman enjoys the status of Cabinet Ministers in the state.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 1 and 2 only
c) 2 only   d) 3 only

13. Consider the following statements regarding Election Commission of India:

1. Election Commissioners are appointed by the President of India.
2. They receive the same perks and pay as Supreme Court Judges.
3. Constitution prescribes procedure for appointment of commissioners.

Which of the above statements is / are correct?

a) 1 and 2only   b) 2 and 3 only
c) 1 and 3 only   d) All of the above

14. Consider the following statements regarding Jivan Vayu:

1. It has been developed by IISc Bangalore.
2. It can run without electricity.
3. This will be helpful in curbing air pollution.

Which of the above statements is correct?

a) 1 and 3 only   b) 2 only
c) 1 and 2 only   d) 1, 2 and 3

15. "Consider the following statements regarding Jal Shakti Abhiyan – 2:

1. It aims to create a database of all water bodies in the country by geo tagging them.
2. It covers rural areas only.
3. The Ministry of Jal Shakti, is the nodal ministry for its implementation.

Which of the above statements is / are correct?"

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) All of the above

16. "Consider the following statements regarding Tulu Language:

1. It is spoken mainly in the areas of Karnataka and Kerala.
2. It is recognized as an official language in the 8th schedule of the constitution.

Which of the above statements is / are correct?

a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

17. Consider the following statements regarding PENCIL Portal:

1. It aims at achieving the target of child labour free society.
2. It was launched by the Ministry of Women and Child Development.

Which of the above statements is / are correct?

a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

18. Consider the following statements regarding Pyrostrialaljii:

1. It has been discovered in Lakshadweep Island.
2. It has been named after Lal Ji Singh, an official of the Botanical Survey of India.
3. The colour of the flowers varies from white to brown.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) All of the above

19. Consider the following statements regarding 47th G7 Summit 2021:

1. This year's summit was hosted by the UK.
2. Australia is a member country.
3. India participated in the summit as a guest country.

Which of the above statements is / are correct?"

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) All of the above

20. Consider the following statements about the Sea snot:

1. These are heterogeneous masses of vegetation, soil and organic matter, in different stages of decay.
2. Rising water level and low temperatures promotes sea snot growth.
3. It can cause an outbreak of water-borne diseases.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) 3 only

21. Which of the following protected areas is/are located in Assam?

1. Laokhowa Wildlife Sanctuary
2. Hoollongapar Gibbon Sanctuary
3. Barnadi Wildlife Sanctuary

Choose the correct answer using the code given below:

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) All of the above

22. Consider the following statements about SUMAN initiative launched by government of India

1. It aims to achieve target of zero death due to hunger and malnutrition

2. It is an initiative by the Ministry of Women and Child Development.

Which of the above statements is/are correct?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

23. **Consider the following statements about the NISHTHA programme:**

1. It is launched by the Ministry of Railway.
2. It aims to improve ethical behaviour and reduce corruption among employees.

Which of the above statements is/are correct?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

24. **Which of the following statements is/are correct about the Partnership to Advance Clean Energy Research (PACE-R)?**

1. It is a joint effort by India and Japan.
2. It aims to accelerate low carbon growth by supporting research and deployment of clean energy technologies.
3. The Ministry of Science and Technology is the nodal agency in India to review progress, highlight major accomplishments, and prioritize new areas for cooperation for this initiative.

Select the correct answer using the code given below:

a) 1 and 2 only   b) 2 only

c) 2 and 3 only   d) 1, 2 and 3

25. **Consider the following statements with respect to Jal Jeevan Mission:**

1. It aims to provide tap water to every household by 2024.
2. Currently, No state of India has 100% tap water connection to rural areas.

Which of the above statements is/are correct?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

26. **Consider the following statements about Pulicat lake:**

1. It is located between Godavari and Krishna Delta.
2. The Buckingham Canal, a navigation channel, is part of the lagoon.
3. Pulicat Lagoon is considered to be the second largest brackish water body in India

Which of the above statements is/are correct?

a) 1 and 2 only   b) 2 and 3 only

c) 1 and 3 only   d) 1, 2 and 3

27. **Consider the following statements about Central Zoo Authority:**

1. It is a statutory body constituted under Central Zoo Authority act, 1991.
2. The main objective of the authority is to complement the national effort in conservation of wildlife.

3. Every zoo in the country is required to obtain recognition from the Authority for its operation.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 and 3 only

c) 1 and 3 only   d) 1, 2 and 3

28. **Arrange the following into chronological order of their inception:**

1. The Missile Technology Control Regime (MTCR)
2. Wassenaar Arrangement
3. Australia Group
4. Nuclear Supplier Group

Select the correct answer using code given below

a) 4-3-1-2   b) 4-1-3-2

c) 1-3-2-4   d) 1-2-3-4

29. **Consider the following statements regarding Consumer Protection (E-commerce) Rules, 2020:**

1. All E-commerce flash sales are banned.
2. The Chief Compliance Officer will ensure coordination with law enforcement agencies.
3. It contains special provisions for domestic manufacturers and suppliers.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 3 only

c) 2 and 3 only   d) 1, 2 and 3

30. **Consider the following statements regarding Monoclonal Antibodies:**

1. They form naturally in a person after 15 days of vaccination.
2. They have the ability to bind to specific parts of the spike protein

Which of the above statements is / are correct?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

31. **Consider the following statements regarding Biotech-KISAN:**

1. It is a programme of the Ministry of Agriculture.
2. It aims to connect science laboratories with the farmers to find out innovative solutions.
3. It focuses on women empowerment.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 2 and 3 only

c) 3 only   d) 1, 2 and 3

32. **Consider the following statements regarding Integrated Power Development Scheme (IPDS):**

1. It is a scheme of the Ministry of New and Renewable Energy.
2. It aims at strengthening sub-transmission and distribution networks in the rural areas.
3. All Discoms are eligible for financial assistance.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 2 and 3 only

c) 3 only   d) 1, 2 and 3

33.   Consider the following statements regarding Ram Prasad Bismil:

1.   He wrote the poem 'MeraJanm'.
2.   He was one of the chief founders of the Hindustan Republican Association (HRA).
3.   He was involved in the Mainpuri Conspiracy of 1918.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) 1, 2 and 3

34.   Consider the following statements regarding All India Survey on Higher Education 2019-20:

1.   It is released by NITI Aayog
2.   Gross Enrolment Ratio in Higher Education in 2019-20 is only 20 percent.
3.   Gender Parity Index in higher education has shown improvement.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) 1, 2 and 3

35.   Consider the following statements about Meta-Materials recently seen in the news:

1.   It is an artificially created material with unique internal microstructure.
2.   It allows electricity to flow through it with almost zero resistance.
3.   If used commercially in electricity transmission it can reduce the electricity loss significantly.

Which of the above statements is/are correct?

a) 1 only   b) 1 and 2 only
c) 2 and 3 only   d) 1, 2 and 3

36.   Which of the following bodies are established under Companies Act-2013?

1.   National Financial Reporting Agency
2.   National Anti-Profiteering agency
3.   Serious Fraud Investigation Agency
4.   National Company Law Tribunal (NCLT)

Select the correct answer using code given below:

a) 1 and 2 only   b) 2, 3 and 4 only
c) 1, 3 and 4 Only d) 1, 2, 3 and 4

37.   Which of the following statements is/are correct about the National Investment and Infrastructure Fund (NIIF)?

1.   It is India's first infrastructure specific investment fund.
2.   It invests in commercially viable both Greenfield as well as Brownfield projects.
3.   They are registered as Alternative Investment Fund with SEBI.

Select the correct answer using code given below:

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) 1, 2 and 3

38.   With reference to Indian economy, consider the following statements:

1.   The rate of growth of Real Gross Domestic Product has steadily increased in the last decade.
2.   The Gross Domestic Product at market prices (in rupees) has steadily increased in the last decade.

Which of the following statements given above is/are correct?

a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

39.   With reference to Indian economy, consider the following :

1.   Bank rate
2.   Open market operations
3.   Public debt
4.   Public revenue

Which of the above is/are component/components of Monetary Policy?

a) 1 only   b) 2, 3 and 4
c) 1 and 2   d) 1, 3 and 4

40.   Consider the following statements with regard to UN Economic and Social Council (ECOSOC):

1.   It is one of the six principal organs of the UN.
2.   It consists of all the members of the UN general assembly.
3.   It aims to promote higher standards of living, full employment, economic and social progress.

Which of the above statements is/are correct?

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) 1, 2 and 3

41.   With regard to Sample Registration Survey, consider the following statements:

1.   It is the largest demographic sample survey.
2.   It is undertaken by the National Sample Survey Organisation.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

42.   There has been a persistent deficit budget year after year. Which of the following actions can be taken by the government to reduce the deficit?

1.   Reducing revenue expenditure.
2.   Introducing new welfare schemes
3.   Rationalizing subsidies
4.   Expanding industries.

Select the correct answer using the code given below.

a) 1 and 3 only   b) 2 and 3 only
c) 1 only   d) 1, 2, 3 and 4

43.   With reference to the Fourteenth Finance Commission, which of the following statements is/are correct?

1. It has increased the share of States in the central divisible pool from 32 percent to 42 percent.
2. It has made recommendations concerning sector-specific grants.

Select the correct answer using the code given below:
a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

44.   Consider the following statements about the Permanent Court of Arbitration (PCA):
1. It was the first permanent intergovernmental organization to provide a forum for the resolution of international disputes through arbitration and other peaceful means.
2. Being one of the six principal organs of the United Nations, it is sometimes called the World Court.

Which of the above statements is/are correct?
a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

45.   Consider the following statements with reference to the "Yadadri technique":
1. It is a technique of growing plants in a soil-free base.
2. Telangana has adopted this technique to improve green cover in the State
3. It is modified from the Japanese Miyawaki technique to suit our native conditions and species.

Which of the above statements is/are correct?
a) 1 and 3 only   b) 2 and 3 only
c) 1 and 3 only   d) 1, 2 and 3

46.   With reference to the "SpikeLR", consider the following statements:
1. It is an Indian training aircraft.
2. It is indigenously designed and developed by the Defence Research and Development Organisation (DRDO) and Hindustan Aeronautics Limited (HAL).

Which of the above-mentioned statements are correct?
a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

47.   Consider the following statements:
1. The Accelerated Irrigation Benefits Programme was launched during 1996-97 to provide loan assistance to poor farmers.
2. The command Area Development Programme was launched in 1974-75 for the development of water-use efficiency.

Which of the statements given above is/are correct?
a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

48.   Consider the following statements with reference to the zardozi
1. Lucknow zardozi is accorded with Geographical Indication (GI) tag.

2. This art involves fabrication of geometric patterns on wood.
3. Zardosi embroidery has been in existence in India from the time of the Rig Veda. There are numerous instances mentioning the use of zari embroidery as ornamentation on the attire of gods.

Select the correct answer using the given below code:
a) 1 and 2 only b) 2 only
c) 1 and 3 only d) 1, 2 and 3

49.   Consider the following statements about the Mongolian Kanjur:
1. The Government of India is reprinting and publishing these rare manuscripts under the National Mission for Manuscripts.
2. It is a Buddhist canonical text.

Which of the above-mentioned statements are correct?
a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

50.   Consider the following statements about Vitamin D:
1. It is a group of fat-soluble secosteroids which is responsible for increasing intestinal absorption of calcium, magnesium, and phosphate etc.
2. It can be synthesized in the human body.

Which of the above-mentioned statements are correct?
a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

51.   With reference to 'National Skills Qualification Framework (NSQF)',
1. Under NSQF, a learner can acquire the certification for competency only through formal learning.
2. An outcome expected from the implementation of NSQF is the mobility between vocational and general education.

Select the correct answer using the code given below:
a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

52.   Consider the following in respect of 'National Career Service':
1. National Career Service is an initiative of the Department of Personnel and Training, Government of India.
2. National Career Service has been launched in a Mission Mode to improve the employment opportunities to uneducated youth of the country.

Which of the above statements is/are correct?
a) 1 only   b) 2 only
c) Both 1 & 2 d) Neither 1 nor 2

53.   Which of the following has/have occurred in India after its liberalization of economic policies in 1991?
1. Share of agriculture in GDP increased enormously.
2. Share of India's exports in world trade increased.

3. FDI inflows increased.
4. India's foreign exchange reserves increased enormously.

Select the correct answer using the codes given below :

a) 1 and 4 only   b) 2, 3 and 4 only

c) 2 and 3 only   d) 1, 2, 3 and 4

54. Consider the following statements about the United Nations Convention on the Law of the Sea (UNCLOS):

1. It was established on the eve of the Rio earth summit.
2. The UN has no direct operational role in the implementation of the Convention.
3. UNCLOS as law of the sea is non-binding on its members.

Which of the above statements are incorrect?

a) 1 and 2 only   b) 2 only

c) 1 and 3 only   d) 1, 2 and 3

55. Consider the following statements about the 'Rewa Solar Project':

1. It is the first solar project in the country to break the grid parity barrier.
2. It is the first project to get funding from Clean Technology Fund (CTF) in India.
3. It is the first project in India to be supplying power to an inter-state open access customer.
4. It is developed through public-private partnership (PPP).

Which of the above statements is/are correct?

a) 1, 2 and 4 only b) 2 and 3 only

c) 1, 3 and 4 only d) 1, 2, 3 and 4

56. Which of the following parameters have helped India to improve its ranking in the recently launched World Bank's Ease of Doing Business report 2020?

1. Trading across Borders
2. Enforcing contracts
3. Protecting minority investors
4. Starting a Business
5. Getting electricity

Select the correct answer using code given below:

a) 1, 2, 3 and 5 only   b) 3, 4 and 5 only

c) 1 and 4 only   d) 1, 2, 3, 4 and 5

57. Consider the following statements:

1. The Standard Mark of Bureau of Indian Standards (BIS) is mandatory for automotive tyres and tubes.
2. AGMARK is a quality Certification Mark issued by the Food and Agriculture Organisation (FAO).

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) Both 1 & 2 d) Neither 1 nor 2

58. What is the purpose of setting up of Small and Finance Banks (SFBs) in India?

1. To supply credit to small business units.

2. To supply credit to small and marginal farmers
3. To encourage young entrepreneurs to set up business particularly in rural areas.

Select the correct answer using the code given below:

a) 1 and 2 only   b) 2 and 3 only

c) 1 and 3 only   d) 1, 2 and 3

59. Consider the following statements regarding Election Commission of India:

1. Election Commissioners are appointed by the President of India.
2. They receive the same perks and pay as Supreme Court Judges.
3. Constitution prescribes procedure for appointment of commissioners.

Which of the above statements is / are correct?

a) 1 and 2only   b) 2 and 3 only

c) 1 and 3 only   d) All of the above

60. Consider the following statements regarding Protection of Children from Sexual Offences (POCSO) Act:

1. It is gender neutral.
2. It provides for the establishment of Special Courts for trial of offences under the Act.
3. Media has been barred from disclosing the identity of the child.

Which of the above statements is / are correct?

a) 1 and 2 only   b) 2 and 3 only

c) 1 and 3 only   d) All of the above

ANSWERS

1. a	16. a	31. b	46. d
2. c	17. a	32. c	47. b
3. d	18. b	33. d	48. c
4. d	19. c	34. b	49. c
5. d	20. d	35. a	50. c
6. d	21. d	36. c	51. b
7. b	22. d	37. d	52. d
8. d	23. c	38. b	53. b
9. c	24. c	39. c	54. c
10. d	25. b	40. c	55. d
11. b	26. b	41. a	56. c
12. b	27. a	42. a	57. a
13. a	28. b	43. a	58. a
14. b	29. b	44. a	59. a
15. c	30. b	45. b	60. d