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35 TH EDITION

QUAD SUMMIT 2021

SUEZ CANAL BLOCKADE

HUNGER IN INDIA

GM CROPS

A Monthly Periodical for aspirants of UPSC Examination

Sources
The Hindu | The Indian Express
Live mint | The Economic Times
PIB | PRS | ET
Government & World Reports
(NITI Aayog, Budget, WEF
Economic Survey etc.)
Hindu Business Line | NCERTs
All standard reference books

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Arise, awake and stop not till the goal is reached.

- Swami Vivekananda

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HUNAR HAAT		*GS-I CULTURE & HERITAGE*

Context
- Recently, the 28th Edition of the HunarHaat was organised at Kala Academy in Panaji, Goa.

About
- "HunarHaat" (Skill Haat) exhibition is a platform aimed at **promoting and supporting artisans from Minority communities** and providing them domestic as well as international market for display and sell their products.

Theme
- Vocal for Local

Organizer
- **Ministry of Minority Affairs underUSTTAD** (Upgrading the Skills & Training in Traditional Arts/Crafts for Development) scheme.
  - ✓ USTTAD aims to preserve heritage of traditional arts and crafts of minorities and build capacity of traditional crafts persons and artisans.

USTTAD Scheme

USTTAD (Upgrading the Skills and Training in Traditional Arts/ Crafts for Development) was formally launched on 14th May, 2015 at Varanasi (U.P.).

Aims at setting standards of traditional skills, design development, capacity building and updating the traditional skills of master craftsmen and artisans, documentation and preservation.

It also aims to engage the trained master craftsmen/ artisans in training of minority youths in various specific traditional arts/crafts.

/PIB_India   /pibindia   /pibindia   /pibindia.wordpress.com   /pibindia   pib.gov.in

Highlights of 28th Edition
- Craftsmen from various states brought indigenous magnificent handmade products to showcase, sale and display at the event.
- Products like Bidriware, Kalamkari, Madhubani Paintings, Udayagiri Wooden Cutlery, products made from cane-bamboo-jute, Tussar silk, Moonga Silk, Marble products, Leather products, Black Pottery, Handloom etc were showcased.

Significance of HunarHaats
Economic Empowerment
- "HunarHaat" have become **"Employment and Empowerment Exchange"** for master artisans and craftsmen.
- More than 5 lakh artisans, craftsmen and people associated with HunarHaats have been provided employment and employment opportunities in the last about 5 years.
- These beneficiaries include a large number of women artisans.
- HunarHaatshave infactproved to be a **"Mega Mission" of economic empowerment** of needy master artisans and craftsmen.

Promotion of Indigenous Legacy
- Traditional crafts have gradually lost their employability in the light of globalization & competitive market.
- HunarHaats are preserving and **promoting India's indigenous traditional legacy** of master artisans and craftsmen which was on the verge of extinction.

Business Generation
- "HunarHaat" generates business worth crores of rupees for indigenous handmade exquisite products of artisans and craftsmen.
- These artisans are receiving orders for their products not only from domestic markets but also from international markets.

Atmanirbhar Bharat
- 'HunarHaat' is playing key role in making 'Vocal for Local' campaign a mass movement.

Empowerment of the minorities

- Hunar Hubs is one of the projects under Pradhan Mantri Jan VikasKaryakram (PMJVK) a Centrally Sponsored Scheme.
- Under this scheme 870 Minority Concentration Blocks, 321 Minority Concentration Towns have been recognized and till now 8 Hunar Hubs have been sanctioned for the socio-economic development of the minority artisans.

Crafts mentioned in 28th Edition of HunarHaat
Bidriware

- Bidri "bidriware" originates from the township of Bidar in Bihar, which is the chief centre for the manufacture of the unique metalware.
- Bidriware was developed in the 14th century C.E. **during the rule of the Bahamani Sultans**.
- **Bidriware is manufactured from an alloy of copper and zinc (in the ratio 1:16) by casting. It is then inlaid with thin sheets of pure silver.**
- Themes are **inspired by Mughal motifs** presented in geometrical and flower patterns.
- Verses from the Quran in Arabic script are also included in the themes.
- This native art form has obtained **Geographical Indications (GI) registry.**

Madhubani/Mithila Painting
Origin

- Traditionally **created by the women** in the **Mithila region of Bihar.**

Characteristics

- Traditionally done on freshly plastered mud walls and floors of huts.
- But 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 are 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 characterized by its eye-catching geometrical patterns.

Styles & Theme

- Madhubani art has five distinctive styles: **Bharni, Kachni, Tantrik, Godna and Kohbar**.
- **Themes:Mainly religious**. Depicted 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** in Madhubani, **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.**

A GI tag is a sign used on products that have a specific geographical origin and possess origin-based qualities and reputation in the region. The GI tags are given as per the Geographical Indications of Goods (Registration and Protection) Act,1999. GI tags are issued by the Geographical Indication Registry under the **Department of Industry Promotion and Internal Trade, Ministry of Commerce and Industry.** The tag ensures that none other than those registered as authorised users are allowed to use the popular product name. Darjeeling tea was the first product that got a GI tag in India in 2004–05. Till now around 365 products have been added to the GI list. Recently Kashmir saffron and black rice of Manipur got the GI tag.

Kalamkari

Type	Hand-painted or block-printed cotton textile.
Origin	Produced in Isfahan, Iran, and in the Indian state of Andhra Pradesh.
Usage	Natural Dyes only. Extracts from roots, leaves, and mineral salts of iron, tin, copper, and alum.
Styles	Srikalahasti style and the Machilipatnam style
Depiction	Deities and scenes taken from the Hindu epics (e.g. Ramayana, Mahabharata and Purana).

Machilipatnam style

- In the Machilipatnam style of Kalamkari, **motifs are essentially printed with hand-carved traditional blocks** with intricate detailing painted by hands.

Srikalahasti style

- On the other hand, Srikalahasti style of painting draws inspiration from the Hindu mythology describing scenes from the epics and folklore.
- This style holds a strong religious connect because of its origin in the temples.
- *Gujarat and Andhra Pradesh are two prime states in India, where two different types of Kalamkari patterns are done.*

Fabric Flow Process

Udaygiri Wooden Cutlery

- Andhra Pradesh is famous for its Udayagiri Cutlery.
- The origin of the craft dates back to 14th century, during the rule of **Gajapathi Kings,** **a**nd later it was **patronized by the rulers of Vijayanagara Empire**.
- The **most commonly used wood is from Nardi**as it is very soft and easy to handle. It is GI tagged.

Tussar Silk

- Tussar silk isis produced from larvae of several species of silkworms belonging to the moth genus *Antheraea.*
- It is valued for its rich texture and natural, deep-gold colour, and varieties are produced in many countries, including China, India, Japan, and Sri Lanka.
- India is the **second-largest producer of tussar silk**, and the exclusive producer of Indian tussar (also known as tropical tussar), which is largely tended to by tribals.
- Much of it is produced in Bhagalpur (where it is called Bhagalpur silk), Bihar, and Malda district of West Bengal.

Muga silk

- Muga silk is a variety of wild silk geographically tagged to the state of Assam.
- The silk is known for its extreme durability and has a natural yellowish-golden tint.

- It was previously reserved for the use of royalty.
- Muga silk, like other Assam silks, is used in products like saris, mekhalas and chadors.

Black Pottery

- The black clay pottery of Nizamabad in Azamgarh district of Uttar Pradesh is unique type of clay pottery known for its dark shiny body with engraved silver patterns. It is GI tagged.
- Material used: Black clay; zinc, tin or lead amalgam.
- The craft originated from Kutch region of Gujarat state.

BAMIYAN BUDDHA / GS-I CULTURE & HERITAGE

Context

- Recently, the BamiyanBuddhas were brought back to life with the help of 3D projection in an event held in the Bamiyan Valley of Afghanistan.
- The event called **'A Night with Buddha'** was held on the 20th anniversary of annihilation of the 6th century Buddha statues in the valley.

> In March 2001, the Taliban began blowing up two monumental Buddha statues in Afghanistan's Bamiyan Valley. Once among the tallest statues in the world, the ancient BamiyanBuddhas were lost to the world forever.

About

- The Bamiyan Buddhas date back to the 5th century AD and were once the tallest standing Buddhas in the world.
- **Local Names:** Salsal and Shamama.
- Salsal and Shamama, rose to heights of 55 and 38 metres respectively, and were said to be male and female.
- Salsal means "light shines through the universe"; Shamama is "Queen Mother"
- In their Roman draperies and with two different mudras, the Bamiyan Buddhas were great examples of a **confluence of Gupta, Sassanian and Hellenistic artistic styles.**
- The statues were hewn **directly from the sandstone cliffs.**

The significance of Bamiyan

- Bamiyan is situated in the high mountains of the Hindu Kush in the central highlands of Afghanistan.
- The valley, which is set along the line of the Bamiyan River, was once **integral to the early days of the Silk Roads**, providing passage for not just merchants, but also culture, religion and language.
- When the Buddhist Kushan Empire spread, Bamiyan became **a major trade, cultural and religious centre.**
- As China, India and Rome sought passage through Bamiyan, the Kushans were able to develop **a syncretic culture.**
- **Buddhism spread rapidly** between the 1st to 5th centuries AD in Bamiyan.
- The two colossal Buddhas were only a part of

several other structures, such as stupas, smaller seated and standing Buddhas, and wall paintings in caves, spread in and around surrounding valleys.
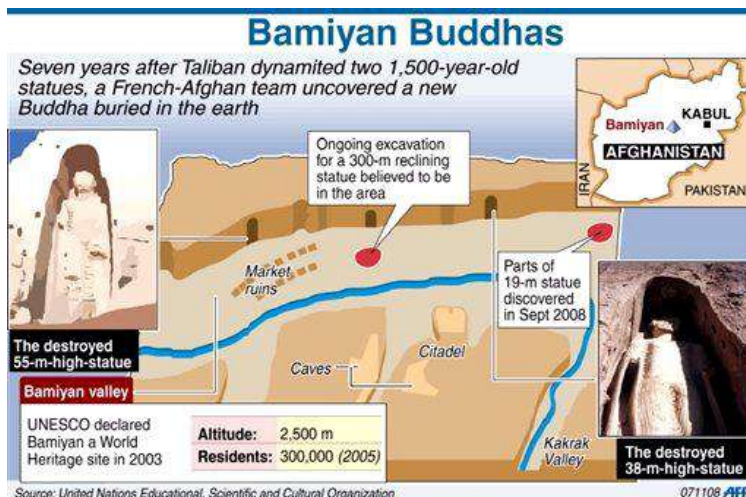
TOURISM SECTOR IN INDIA

GS-I CULTURE & HERITAGE

In News

- The 82nd webinar titled 'Stories of Madurai', of the Ministry of Tourism's **'DekhoapnaDesh'** webinar series was held on Mar 30.
- Also, recently, Minister of State for Tourism inaugurate the **'Chhatrasal Convention Centre at Khajuraho,** that is being developed under the SwadeshDarshan Scheme.
- Ministry of Tourism of the Central govt, in association with Madhya Pradesh Tourism and India Convention Promotion Bureau organized the 'MICE Roadshow – Meet in India', at Chhatrasal Convention Centre, Khajuraho.

About

DekhoApnaDesh

- The 'DekhoApnaDesh' webinar series is an effort to showcase India's rich diversity under **"Ek Bharat Shreshtha Bharat."**
- The DekhoApnaDesh Webinar Series is presented in technical partnership with Ministry **of Electronics and Information Technology's Department of National e Governance.**

SwadeshDarshan Scheme

- This is a **central sector scheme;** i.e. - 100% funded by Central Government of India.
- The **funding available for Corporate Social Responsibility (CSR) initiatives of Central Public Sector Undertakings** and Corporate Sector is also used in this scheme.
- The scheme aims to promote, develop and harness the potential of tourism in India.

MICE

- Meetings, incentives, conferences and exhibitions (MICE) is a type of tourism in which large groups, usually planned
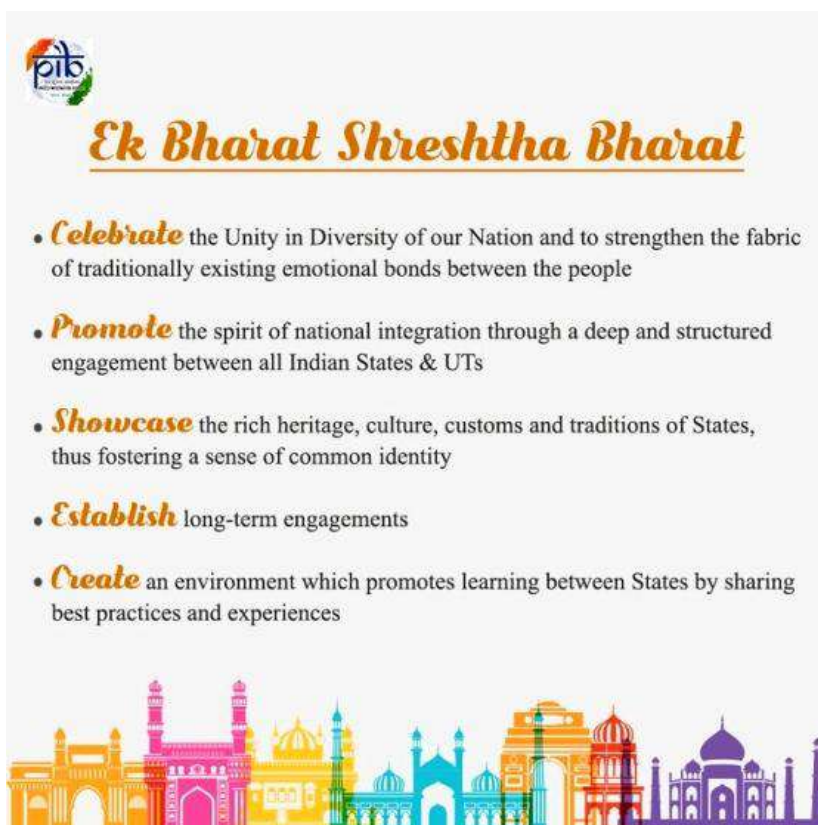
well in advance, are brought together. Recently there has been an industry trend towards using the term 'meetings industry' to avoid confusion from the acronym.

- **Aim:** to promote India as a MICE Destination (Meetings, Incentives, Conferences and Exhibitions**).**

Read about Khajuraho Temples in detail in previous edition: https://www.iasgyan.in/ias-gazette-magazine/the-ias-gazette-march-2021

Madurai and its attractions

- Located on the **banks of the river Vaigai,** Madurai is one of the oldest continuously inhabited cities in the world.
- This city was the **capital of the Pandyan kingdom - initially at Korkai**, around 600 BCE and later moved to **Koodal** (the present Madurai) during the reign of NedunjCheliyan I.
- Madurai is famous for its temples built by Pandyan and Madurai Nayak kings in the Dravidian style of architecture.
- It is also one of India's most outstanding Hindu pilgrimage centres.
- Madurai is also called **City of Junctions, City of Jasmine, Temple city, City that never sleeps and City of four junctions.**

Attractions
- ✓ Meenakshi Amman Temple
- ✓ ThirumalaiNayakkarMahal
- ✓ PazhamudhircholaiMurugan Temple
- ✓ Gandhi Museum
- ✓ Thirupparankundram
- ✓ Athisayam Theme Park
- ✓ SamanarMalai
- ✓ TheppakulamMariamman Temple

Achievements of Tourism Industry in India
Investment
- India was globally the third largest in terms of investment in travel and tourism in 2018, accounting for 5.9% of the total investment in the country.

Employment
- According to The **World Travel and Tourism Council (WTTC),** tourism generated 6.8% of India's GDP in 2019 and supported 39.80 million jobs which is 8 % of its total employment.
- In 2014, Tourism & Hospitality sustained a total of 36.7 million direct, indirect, and induced jobs in India, which is more than the jobs created in banking, automotive manufacturing, chemicals manufacturing, education, financial services, and mining sectors.

Medical tourism
- The total number of inward medical tourists doubled in last three years in India.

Global Rankings
- India's rank in the Travel & Tourism Competitiveness Index (TTCI), 2017 has also shown a 25 places jump from 2013.
- Rank of India in TTCI Report of 2017 was 40th as compared to 52nd in 2015 and 65th in 2013.

Challenges plaguing the Tourism Industry
Lack of proper infrastructure
- An entrenched framework of infrastructure which includes proper transportation facilities, health facilities, stable, and uninterrupted connectivity and other human resources are mandatory for stable tourism.

- India positioned 112nd in the ICT readiness component and **104th rank in the health and hygiene components of the WEF's Travel and Tourism Competitiveness Index, 2017.**
- This basically mirrors the poor quality infrastructure our nation has.

Human resources

- To maintain the growth of our Indian travel and tourism industry a large amount of skilled man force is required at different levels.
- In the past years, there was an exploding increase in manpower for other sectors like banking, engineering, and medicine. This gradually prompted abatement in the human resources available for the tourism sector.

Insufficient promotion and marketing

- Great promotion and enough marketing push are excessively indispensable for a nation's travel industry improvement.
- In India, the financial backing allotted to help and advance the travel industry is less contrasted with other tourist destinations.

Taxation

- High taxes on the entire industry including the airline facilities, hotels, and tour operators are highly expensive.
- This is the one main reason why India loses to other less expensive countries when it comes to tourism.

Security issues

- The increasing rate of sexual abuse of women, theft, credit card fraud, identity theft, food poisoning, terrorism, and public violence is affecting Indian tourism to a high extent.

B2B Pricing Wars

- The B2B travel industry in India is a highly cluttered market offering homogenous range of choices and highly customized services.
- Due to which most destination management companies in India are proposing and selling trips by pricing out competition.
- This has led to the advent of extremely low margins and a growing dependence on what is known as the "shopping culture."

Technology and Funding

- Well-funded big companies are thriving through the deployment of state-of-the-art technology and innovation.
- Lack of proper infrastructure, funding, and research data acts as a major disadvantage and tends to leave the smaller companies at the mercy of big-companies.
- At present, in India, well-funded companies such as MakeMyTrip and ClearTrip have done really well in cementing their positions in the travel industry.
- However, the inbound travel industry in India, is still not very large and is dominated by a few large B2B companies.
- Smaller travel companies led by innovation have not received the recognition that they deserve.

Perception of India

- Lack of cohesiveness across various state-led tourism campaigns has limited India as clichéd, and stereotypical spiritual destination. We can refer to this tourist section as the **Eat-Pray-Love crowd.**
- This is despite of the fact that as a travel destination, we have lots to offer such as ancient culture, historical heritage, spiritual experiences, beautiful landscape, natural diversity, adventure, wildlife and so on.

Eg- The mighty Himalayas are our asset.

Socio Political Agitations

- For example the temporary closure of Jammu andKashmir to tourists and socio-political and religious agitations in other northernstates of the country rendering them unattractive to tourists.

Tourism Policy

- Lack of an Integrated Tourism Promotion Programme has hindered the growth of tourism.
- Indifference of many states and union territories to tourism, which has not yet been accorded industry status by them, is another factor limiting its growth.

Suggestions

Association with Policy makers

- Experts in the fields of hotel management and tourism must be associated with all the decision-making bodies.

Coordination

- Better liaison should exist between State Tourism Department and ITDC.

Tourism Planning Board

- A state level Tourism Planning Board can be set up to do perspective planning to provide the required fillip to the tourism industry in India.

Subsidy

- Electricity and water to tourism & hospitality units should be charged at a subsidized rate and on actual consumption against fixed load.

Infrastructure Status

- Grant infrastructure status to all hotels to allow them to avail electricity, water and land at industrial rates as well as better infrastructure lending rates with access to larger amounts of funds as external commercial borrowings. It will also make them eligible to borrow from India Infrastructure Financing Company Limited (IIFCL).

National Tourism Policy

- A national tourism policy should be issued by the Ministry of Tourism, Government of India which covers common protocols for entry of a tourist into a state. This will act as a uniform guideline for all states to follow.

Targeted Marketing Campaign

- The states and union territories should have a targeted marketing campaign to communicate the safety measures taken by the Government at various tourist attractions and the private stakeholders to ensure the safety of the tourists when travelling to the destination.
- This will help to educate tourists and build their confidence to travel for tourism purposes.

Leave Travel Allowance

- The Government can provide tax rebate of upto rupees 1.5 lakhs for spending on Domestic holidays in the lines of the Leave Travel Allowance (LTA).

Tourism Fund

- Creation a separate Tourism fund under the aegis of Ministry of Tourism to support the Hospitality and Travel Industry in this time of crisis. The fund should be accessible to the Industry as a collateral free 10-year loan.

Combating Pandemic Crisis

- Stimulus package to stabilize and support the sector in the near term, including a workforce support fund to ensure that there are no job losses.

MSMEs as PSL

- Lending to MSMEs in the Hospitality sector may be treated as 'Priority Sector lending', which will enable increased access to bank finance.

Steps taken to promote Tourism in India

Swadesh Darshan& PRASHAD

- Central Financial Assistance to States/UTs under the schemes of **SwadeshDarshan**, **National Mission on Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive (PRASHAD**) and Assistance to Central Agencies for the development of tourism related infrastructure in the country.

e- visa Facility

- Extension of **e- visa facilit**y to citizens of 167 countries.

Incredible India 2.0 campaign

- Niche tourism products like Heritage Tourism, Adventure Tourism, Cruise Tourism, Rural Tourism, Wellness & Medical Tourism, MICE, Golf, etc. are being promoted through the Incredible India 2.0 Campaign.

Helpline

- Launch of **24x7 toll free multi-lingual tourist helpline** in 12 International languages including Hindi and English.

Global Tourism Mart for India

- Organisation of annual **Global Tourism Mart for India** in line with major international travel marts being held in countries across the world. It provides a platform for all stakeholders in tourism and hospitality industries to interact and transact business opportunities.

International Buddhist Conclave

- Organisation of biennial **International Buddhist Conclave.**It showcases the Buddhist Heritage in India and boost tourism to the Buddhist sites in the country and cultivate friendly ties with countries and communities interested in Buddhism.

Annual International Tourism Mart

- Organisation of Annual International Tourism Mart for promotion of tourism in North Eastern States.

"Know India" seminars

- Promotional activities in tourist generating markets overseas through the India Tourism Offices abroad with active participation in travel fairs and exhibitions; organizing Road Shows, "**Know India" seminars & workshops**.

Swachh Paryatan

- The Ministry of Tourism launched a mobile application called **SwachhParyatan** which will let citizens report any hygiene issues at various tourist destinations across the country.

Adarsh Smarak

- ASI has identified 100 monuments to be developed as Model Monuments. These monuments would be provided necessary tourist facilities including Wi-Fi, security, signage, encroachment free area, interpretation centres showing short films about the importance of monuments and signboards of Swachh Bharat Abhiyan.

SAATHI

- Ministry of Tourism developed an initiative called **SAATHI (System for Assessment, Awareness & Training for Hospitality Industry)** by partnering with the Quality Council of India (QCI) in October 2020.
- The initiative will effectively implement guidelines/SOPs issued with reference to COVID-19 for safe operations of hotels, restaurants, B&Bs and other units.

Audio Odigos

- Ministry of Tourism launched Audio Guide facility App called **Audio Odigos** for 12 sites in India (including iconic sites).

Adopt a Heritage Project

- Ministry of Tourism has launched the 'Adopt A Heritage' project.
- Heritage sites are being offered for adoption by the public sector, private sector and individuals to become 'Monument Mitras' for developing amenities and facilities at these sites under this programme.

'Special Tourism Zones'

- Creation of 'Special Tourism Zones' anchored on Special Purpose Vehicles (SPVs) in partnership with the States.
- Creation of Special Tourism Zones would lead to overall development of the areas and offer diverse tourism experiences which would help in creating livelihood and improve standards of local communities living in those areas.

Glass Top Coaches

- Ministry of Tourism as part of its Rail Tourism Policy is collaborating with Ministry of Railways for manufacturing of three glass to coaches to be deployed on scenic rail routes of the country.
- Two glass top coaches were launched in 2017 on the Vishakhapatnam – Araku Valley and Dadar to Madgaon route. The third glass top coach is being constructed for the Qazigund – Baramullah route in Jammu and Kashmir.

Conclusion

- Tourism sector is predicted to grow at an annual rate of 6.9% to $460 bn by 2028 which is 9.9% of GDP.
- Government of India is rightly working to achieve 2% share in world's international tourist arrivals by 2025.
- To achieve its goals India needs a colossal move from the conventional marketing techniques that are still being followed to a much modern approach.

- It is time to showcase the cultural diversity of the country and reinforce the principle of "Tourism for All".

SINGORGARH FORT

Context

- President Ram NathKovind, laid down the foundation stone for conservation works of the historic Singorgarh Fort at Madhya Pradesh's Damoh.

About the Fort

- Singorgarh Fort, is a hill-fort of **Garha Kingdom**, spread over the hills of a forested area.
- It is about **45 km from Jabalpur city**, on the way to Damoh town.
- It was a magnificent fort and a **residence of Rajgond rulers** of Central India.

History

- Before coming in hand of Gond rulers, Singorgarh fort was under Chandel rulers in 1308.
- It was **Gond ruler Sangram Shah** who conquered the Singorgarh fort in early period of 16th century.
- Sangram Shah was Father in Law of Rani Durgavati.
- It was year 1564 when Mughal army under Emperor Akbar, led by Asaf Khan (from Uttar Pradesh), with assistance of Rewa rulers, attacked the Gond Kingdom.
- Rani Durgavati decided to shift to Garha fort of Jabalpur and major war took place in this area.
- While marching towards Jabalpur, Mughal army first reached Singorgarh fort and attacked the fort which was badly damaged.

Gond Kingdom

- The first historically recorded Gond kingdoms came up in central India's hilly region in the 14th and 15th century AD.
- The first Gond king was **Jadurai,** who deposed the KalchuriRajputs, at whose court he had earlier worked, to grab the kingdom of GarhaMandla (modern Mandla and Jabalpur are in Madhya Pradesh).
- The most illustrious rulers in this dynasty were the iconic queen, Rani Durgavati, and Hirde Shah, the first Gond king to adopt Islam.

Chandel Rulers

- The Chandelas of Jejakabhukti ruled much of the Bundelkhand region (then called Jejakabhukti) between the 9th and the 13th centuries.
- The Chandelas initially ruled as feudatories of the Gurjara-Pratiharas of Kanyakubja (Kannauj).
- The 10th century Chandela ruler Yashovarman became practically independent, although he continued to acknowledge the Pratihara suzerainty.
- By the time of his successor Dhanga, the Chandelas had become a sovereign power.
- **Founder-** Nannuka (r. c. 831-845 CE) was the founder of the Chandela dynasty of India.Rahildev was the most famous ruler of Chandela dynasty.

- **Capital---**Khajuraho(spiritual capital), Mahoba (cultural capita), and Kalinjar(Army capital)
- Khajuraho Temples were built by Chandela kings, they have built around 120 temples in 500 years of their rule.
- They had constructed temples in Nagara-style of architecture.
- Temples built by Chandela kings are included by UNESCO in the world heritage site list in 1986.
- **Common languages-----**Sanskrit
- **Religion---**Hinduism, Jainism
- **Preceded by----**Gurjara-Pratihara
- **Succeeded by** Delhi Sultanate
- **Last Rulers-** Hammīravarman and Vira-Varman II

SATTRAS AND BHAKTI MOVEMENT / GS-I MEDIEVAL HISTORY

Context
- It is common to see politicians often going to different Sattras to seek blessings or extolling the virtues of Sankardeva.

Sattras
- Sattras are monastic institutions created as part of the 16th century Neo-Vaishnavite reformist movement started by Vaishnavite saint-reformer **SrimantaSankaradeva (1449-1596).**
- Neo-Vaishnavite Movement- was a part of Bhakti Movement.

Background- Bhakti Movement
- The Bhakti movement, was a cultural, social and religious revolution.
- Bhakti in Sanskrit, means "attachment, fondness, homage, faith, love, devotion, worship and is usually used to denote devotion to and love for a personal god.

Genesis
- Bhakti arose in South India in the 7th to 10th centuries in poems that the Alvars(Vaishnavite) and the Nayanars (Shaivites) composed in Tamil to the gods Vishnu and Shiva, respectively.
- In the 7th-8th century AD the social fabric of India was torn by all round degradation and cultural distortion and corruption permeated all section of the society, right from the ruling class to the priestly class.
- Various malpractices were committed in the name of religion, which vitiated the social structure included animal and human sacrifices, magical rites, spels, casteism etc.
- The poor and downtrodden people became victims of these ghastly practices.
- It was at this juncture, that Bhakti Movement began in the Tamil that had gradually spread to the rest of India.

Reasons behind rise of Bhakti Movement in a nutshell
- Evil practices in Hindu Society like
  ✓ Brahminical Dominance
  ✓ rigidity of caste system,
  ✓ irrelevant rituals and religious practices,
  ✓ blind faiths and social dogmas.
  ✓ polytheism,

- ✓ segregation,
- ✓ severe economic disparity due to casteism, untouchability etc
- **Influence of Sufism**
- **Rival religions like Islam:** The Islamic principles of one God, equality and fraternity of mankind and complete surrender to God appealed to the liberal Hindus.
- Emergence of Great Reformers: Hindu liberals like Rmanuja, ChaitanyaMahaprabhu, Kabir, etc emphasized aspects like equality irrespective of caste, creed, and colour, virtues of kindness of heart and mind, devotion to one God (monotheism), freedom from all kinds of ritualism and preaching in the language of the common people.

Features of the Bhakti Movement:

- Unity of God or one God though known by different names.
- Bhakti, intense love and devotion, the only way to salvation.
- Repetition of the True Name.
- Self-Surrender.
- Condemnation of rituals, ceremonies and blind faith.
- Rejection of idol worship by many saints
- Open- mindedness about deciding religious matters.
- Did not linked themselves with any particular religious creed
- Emphasized on fundamental unity of all religions.
- No distinction of different castes, higher or low
- Need of a guru for guidance advocated by some.
- Preaching through local or regional languages and travelling from place to place for spreading the religious message.

Bhakti Movement in Assam

- In 15th century AD SrimantaSankaraadeva appeared on the social scene of Assam.
- He initiated a fresh approach to the existing Vaishnava religion that gave rise to a set of new values and aided in social synthesis.
- The movement evolved new institutions of Satra and Namghar which began to serve as the instrument spreading the faith.
- As the saint travelled across Assam, spreading his teachings and propagating an egalitarian society, these Sattras/Thans were established as centres of religious, social and cultural reforms in the 16th century.

Sattras - Contemporary scenario

- Today, Sattras are spread across the state, promulgating Sankardeva's unique "worship through art" approach with music (borgeet), dance (xattriya) and theatre (bhauna).
- Each Sattra has a naamghar (worship hall) as its nucleus and is headed by an influential "Sattradhikar".
- Monks, known as bhakats, are inducted into Sattras at a young age. They may or may not be celibate, depending on the kind of Sattra they are inducted into.
- There are about 900 Sattras across Assam, but the main centres are Bordowa (Nagaon), Majuli and Barpeta.

Sankardeva's philosophy

- Sankardeva propagated a form of Bhakti called eka-sharana-naam-dhrama, and espoused a society based on equality and fraternity, free from caste differences, orthodox Brahmanical rituals and sacrifices.
- His teaching focused on prayer and chanting (naam) instead of idol worship.
- His dharma was based on the four components of deva (god), naam (prayers), bhakats (devotees), and guru (teacher).

Important Bhakti Movement Saints

To read about the contribution of Bhakti Saints in detail, **Visit:** https://www.iasgyan.in/blogs/a-complete-list-of-saints-and-teachers-of-bhakti-movement

Contribution of women in Bhakti Movement

- **AkkaMahadevi:** She was a poet of Kannada Language. She is known to have considered the god Shiva as her husband. Her mystical poems have notable contribution to Kannada literature.
- **MeeraBai:**MeeraBai a mystical poet and singer known for her songs of devotion to Lord Krishna. Mira is a symbol of a liberated woman who risked all to protect her independence, freedom, and love towards Krishna.
- **Andal:** A well-known South Indian poet and only female among 12 Alwars of TamilNadu.
- **LalDed:** The Muslim poetess from Kashmir Lalded&HabbaKhatun, represented the saint tradition of Bhakti and wrote Vakhs (maxims), which are peerless gems of spiritual experience.
- **JanaBai:**Janabai was influenced by teachings of Saint Namdev. Her poetry encompasses the discrimination faced by women &sudras. This awakens the sudras and women for their rights.

Impact of Bhakti Movement
Social impact:

- Rejection of the caste distinction. People belonging to all "so called classes" began to mix together on the basis of equality.
- It led to the upliftment of people in the lower rungs of the society in fundamental ways.
- They took their meals together from the common kitchen. The movement tried to loosen the bond of caste.
- A spirit of harmony among different sections of society and religion received impetus.
- The evil practice of 'Sati' received some set back.
- The status of women got improved.

Religious impact:

- The movement aroused awakening among the Hindus and Muslims regarding the futility of ritualism and superstitions.

- The feeling of appreciation of the difference between the thought and practices of the two religions emerged.
- The movement encouraged religious toleration.
- It gave birth to a new sect i.e. Sikhism.

Impetus to Vernacular Languages
- In place of Sanskrit, Arabic and Persian, the Bhakti saints preached through the medium of local languages which could be understood very easily.
- For instance Surdas used 'Brij' dialect. GoswamiTulsi Das composed his works in 'Awadhi'.

Moral influence
- The movement attempted to infuse a spirit of piety in the daily life of the people.
- It emphasized earning of wealth through hard work and honest means.
- It encouraged the value of social service to the poor and the needy.
- It developed a humanitarian attitude. It pointed out the virtues of contentment and self control.
- It drew attention to the evils of anger, greed and vanity.

Relevance of Bhakti Movement in today's world
- Bhakti movement, which dates back to the 6th century, reshaped the cultural, social and religious life of India, breaking barriers of caste and gender and it continues to do so when India and the world is grappling with issues like:
  - ✓ **Inter-communal Violence**: Figures at 723 for the year 2017 (NCRB Report).Communal violence rose by 28% from 2014 to 2017.
  - ✓ **Intolerance :**India ranks fourth highest in terms of social hostilities against religion (PEW Report)
  - ✓ **Inequality:** The top 10% of the Indian population holds 77% of the total national wealth- Oxfam Report.
  - ✓ **Casteism**
- Top 10% upper caste households own 60% wealth - World Inequality Database.
- According to a report by Human Rights Watch: Discriminatory and cruel, inhuman, and degrading treatment of over 165 million people in India has been justified on the basis of caste.
- Nine states accounted for 84% of all crimes against Dalits in India in 2019 though they accounted for only 54% of the country's SC population--National Crime Records Bureau.
  - ✓ **Status of women:**
- India's female labour force participation rate stands distressingly low at 23.4 per cent (2019) as per the World Bank (modelled ILO estimates)
- The crime rate registered per lakh women population is 62.4 per cent in 2019, up from the 58.8 per cent figure of 2018- **NCRB**
- India ranked 108th out of 149 countries on Gender Gap Index by World Economic Forum.

Final Thoughts
- It is clearly evident that the songs and the teachings of the Sufi and the Bhaki saints are relevant even today.
- It can actually act as a healing balm to the suppressed classes.
- It still encourages religious tolerance by promoting the idea of universal brotherhood.
- We as a society are at a juncture even in this 21st century where annihilation from the shackles of regressive and redundant social practices like oppression of women, casteism and religious prejudices from the root and cause can be achieved only if we follow the teachings of great people like that of the saints of Bhakti Movement.

WORLD HERITAGE SITES

GS-I CULTURE & HERITAGE

Context
- 'Dholavira: A Harappan City' has been submitted for nomination of World Heritage Site in 2019-2020.
- Nomination dossiers of 'Santiniketan, India' and 'Sacred Ensemble of Hoysalas' have also been submitted to UNESCO for the year 2021-22 cycle.

> At present, India has 38 World Heritage Properties.
> As of June 2020, a total of 1,121 World Heritage Sites (869 cultural, 213 natural, and 39 mixed properties) exist across 167 countries. With 55 selected areas, China and Italy are the countries with the most sites on the list.

World Heritage Site
- 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.
- The sites are judged to contain "cultural and natural heritage around the world considered being of outstanding value to humanity".

Genesis
- The idea of preserving sites that needed to be saved for the good of all humanity was born in the 1950s.
- At that time, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) took on the task of preserving Egypt's Abu Simbel temples, which were in danger of being destroyed by the construction of a dam.
- UNESCO launched a worldwide campaign that saved the temples by relocating them to higher ground.
- The seed-notion of creating a list of similarly important planetary treasures was planted at this time.

> The idea of recognizing both cultural conservation and nature conservation was first officially promulgated in a 1965 US conference that called for a **"World Heritage Trust"** to preserve "**the world's superb natural and scenic areas and historic sites for the present and the future of the entire world citizenry."** The International Union for Conservation of Nature promulgated similar proposals in 1968. These dual proposals were presented in 1972 to the United Nations Conference on the Human Environment in Stockholm and were combined into one text that was accepted by all parties. The Convention Concerning the Protection of the World Cultural and Natural Heritage was adopted by the General Conference of UNESCO on 16 November 16, 1972. The Convention came into force on 17 December 17, 1975.

Criteria to be selected as a World Heritage Site
- To be selected, a World Heritage Site must be a somehow unique landmark which is geographically and historically identifiable and has special cultural or physical significance.
- For example, World Heritage Sites might be ancient ruins or historical structures, buildings, cities, deserts, forests, islands, lakes, monuments, mountains, or wilderness areas.

Protection
- The World Heritage Sites list is maintained by the international World Heritage Program administered by the UNESCO World Heritage Committee, composed of 21 "states parties" that are elected by their General Assembly.

WORLD HERITAGE SITES IN INDIA (38)

CULTURAL SITES:

Under Protection of Archaeological Survey of India (22)

S.No.	Name of Site	State
1.	Agra Fort (1983)	Uttar Pradesh
2.	Ajanta Caves (1983)	Maharashtra
3.	Ellora Caves (1983)	Maharashtra
4.	TajMahal (1983)	Uttar Pradesh
5.	Group of Monuments at Mahabalipuram (1984)	Tamil Nadu
6.	Sun Temple, Konark (1984)	Odisha
7.	Churches and Convents of Goa (1986)	Goa
8.	FatehpurSikri (1986)	Uttar Pradesh
9.	Group of Monuments at Hampi (1986)	Karnataka
10.	Khajuraho, Group of Temples (1986)	Madhya Pradesh
11.	Elephanta Caves (1987)	Maharashtra
12.	Great Living Chola Temples at Thanjavur, Gangaikondacholapuram and Darasuram (1987 & 2004)	Tamil Nadu
13.	Group of Monuments at Pattadakal (1987)	Karnataka
14.	Buddhist Monuments at Sanchi (1989)	Madhya Pradesh
15.	Humayun's Tomb, Delhi (1993)	Delhi
16.	QutbMinar and its Monuments, Delhi (1993)	Delhi
17.	Rock Shelters of Bhimbetka (2003)	Madhya Pradesh
18.	Champaner-Pavagarh Archaeological Park (2004)	Gujarat
19.	Red Fort Complex, Delhi (2007)	Delhi
20.	Hill Forts of Rajasthan i. Kumbhalgarh, Jaisalmer and Ranthambhore, Amber and Gagron Forts) (2013) (Amber and Gagron Forts are under protection of Rajasthan State Archaeology and Museums)	Rajasthan
21.	Rani-ki-Vav (The Queen's Stepwell) at Patan (2014)	Gujarat
22.	Archaeological Site of Nalanda*Mahavihara*(Nalanda University) at Nalanda (2016)	Bihar

Under Protection of Ministry of Railways (2)

23.	Mountain Railways of India Darjeeling,(1999), Nilgiri (2005), Kalka-Shimla (2008)	West Bengal, Tamil Nadu, Himachal Pradesh
24.	ChhatrapatiShivaji Terminus (formerly Victoria Terminus) (2004)	Maharashtra

Under Protection of Bodhgaya Temple Management Committee (1)

25	Mahabodhi Temple Complex at Bodh Gaya, (2002)	Bihar

Under Protection of Rajasthan State Archaeology and Museums (1)

26.	The JantarMantar, Jaipur (2010)	Rajasthan

Under Protection of Chandigarh Administration (1)

| 27. | The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement (2016) | Chandigarh |

Under Protection of Ahmedabad Municipal Corporation (1)

| 28. | **Historic City of Ahmedabad (2017)** | **Gujarat** |

Under Protection of Bombay Municipal Corporation (1)

| 29. | Victorian and Art Deco Ensemble of Mumbai (2018) | Govt of Maharashtra |

Under Protection of Jaipur Municipal Corporation (1)

| 30. | **Jaipur City, Rajasthan (2019)** | **Govt of Rajasthan** |

NATURAL SITES: (7)

Under Protection of Ministry of Environment, Forest and Climate Changes

31.	**Kaziranga National Park (1985)**	**Assam**
32.	Keoladeo National Park (1985)	Rajasthan
33.	Manas Wildlife Sanctuary (1985)	Assam
34.	Sunderbans National Park (1987)	West Bengal
35.	Nanda Devi and Valley of Flowers National Parks (1988, 2005)	Uttarakhand
36.	Western Ghats (2012)	Karnataka, Kerala, Maharashtra, Tamil Nadu
37	Great Himalayan National Park (2014)	Himachal Pradesh

MIXED SITE: (1)

Under Protection of Ministry of Environment, Forest and Climate Changes

| 38. | Khangchendzonga National Park (2016) | Sikkim |

Significance

- Our heritage provides clues to our past and how our society has evolved.
- It helps us examine our history and traditions and enables us to understand and explain why we are the way we are.
- Heritage is a keystone of our culture that plays an important role in our politics, society, business and world view.
- It informs influences and inspires public debate and policy both directly and indirectly.
- Preserving our heritage is important because maintaining and enhancing our heritage provides a basis for local economic development and innovation in tourism, agriculture, entertainment, education and business generally.

Heritage Sites

Historical value: the historical character and content provide connection with the past and a sense of continuity;

Symbolic value: the symbolic meaning and power of certain places and objects adds to people's cultural identity;

Spiritual value: the place or object promotes insights in the meaning of religious, sacred and transcendental practices and experiences;

Aesthetic value: the aesthetic quality of the cultural object can inspire new artistic creativity;

Social value: the place facilitates connection with others and the shared social experience (e.g., "pride of place") can help promote local values and social cohesion.

TRADITIONAL TOY INDUSTRY

Context

- Prime Minister Narendra Modi has called upon Channapatna toymakers to explore the possibility of e-marketing their traditional wares across the country and the world.

Channapatna Toys

- Channapatna toys are a particular form of wooden toys (and dolls) that are manufactured in the town of Channapatna in the Ramanagara district of **Karnataka.**
- This traditional craft is protected as a geographical indication (GI) tag.
- As a result of the popularity of these toys, Channapatna is known as **GombegalaOoru (toy-town) of Karnataka.**
- Traditionally, the work involved lacquering the wood of the *Wrightiatinctoria* tree, colloquially called Aalemara (ivory-wood).

India's traditional toy Industry

- India's toy-making enterprise dates back to the Indus Valley Civilization.
- Despite this the global and national market slice of locally-made toys is dismal.
- The size of the organised toy industry in India is estimated to be between Rs 3,500-4,500 crore, of which native toys constitute 12-13 per cent.
- Bulk of its toys is imported from China and Taiwan.

Import statistics for toys in India

- India imported toys worth Rs 10,000 crore in 2018-19.
- Almost 85% of the toys sold in India are imported, with China being the top source, followed by Sri Lanka, Malaysia, Germany, Hong Kong and the US.
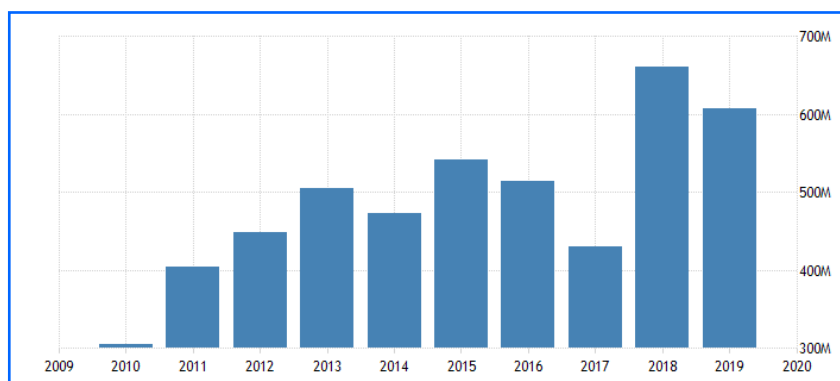
Export statistics for toys from India & major destinations

- The export value of toys, games and sports equipment from the country during the 2016 financial year, amounted to around 18.92 billion Indian rupees.
- The major countries acquiring a great share in exports are the UK, USA and the UAE.

Export value of toys, games and sports equipment from India between FY 2004 and FY 2016 (in billion Indian rupees)
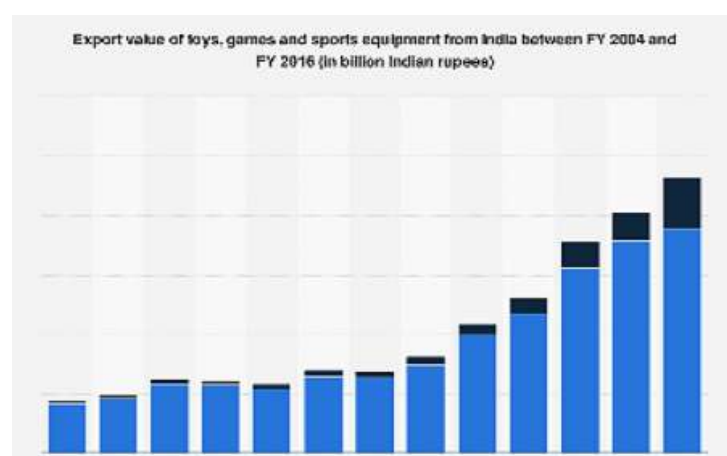
Issues

- **Unorganized Sector:** About 60% of India's 3,500 toy manufacturers operate in the unorganized sector, from small units with sometimes as few as five employees.
- **Lack of Capital:** They don't have the capital to suddenly increase production.
- **Dominance of China:** Indian market is dominated by Chinese toys which started flooding after liberalisation.
- **Closure of Factories**: Many toy factories closed down in the past 30 years; they couldn't compete with China-made toys, especially the electric ones.
- **Infrastructure:** India lacks equipment to make electric toys. For this we need to import machines from S Korea and Japan.

Prospects

- Indian Toy Industry has tremendous potential to raise its productivity, create employment and for all-round development of the economy.
- The industry which is labour intensive could effectively compete against China and generate lakhs of jobs supporting the MSME sector.
- The Indian toys market was worth US$ 1.75 Billion in 2019.
- Revenue in the Toys & Games segment amounts to US$38,168m in 2020.
- The market is expected to grow annually by 9.6% (CAGR 2020-2023).

The government has taken several steps in the direction – Examples:

- ✓ raising duties on imported toys,
- ✓ issuing quality control order that adheres to global safety standards, and
- ✓ coming up with a **National Action Plan for the industry.**

NAP aims to involve 14 central ministries on need basis and develop 13 toy clusters across the country, giving a major boost to the economies of the respective regions.

- ✓ The Centre is also planning a **National Toy Fair** as a part of the initiative to encourage domestic toy manufacturing.
- ✓ The country's first toy manufacturing cluster is coming up in **Koppal across 400 acres of SEZ land**, sanctioned by Karnataka government.
- ✓ Gujarat has written to global toy manufacturers across the US, Canada, Europe, Japan urging them to set up industry in the state assuring them best possible assistance.
- ✓ **Maharashtra which contributes 32.6% of the country's toy exports** has also proposed to set up clusters at Khalapur, Shahapur, Nashik, Malegaon, Solapur, among other places.
- ✓ The **West Bengal EXIM association** has sought land from the state government to set up a toy park in the state.
- ✓ A resource centre will be created for north-eastern and tribal toys.

Some Indigenous Toys of India

Toy Story of Punjab

Folk toys of Punjab are the products of the perfect amalgamation of artistry and social values. The earliest handmade toys of Punjab can be traced back to the Indus Valley Civilization, from 2500 to 1700 BC

- Folk toys are available in a variety of designs; all of them having the most desired appeal. They usually depict animals, birds, equestrian and wheeled vehicles, with variation in quality and purpose.
- Handwai is a localized version of what we today call the kitchen set.
- Chankana is a toy whose traces were found even in the era of Indus valley civilization. It is a lollipop-shaped whistle toy with ghunghroo onto it.
- Lattu is a spinning toy, designed to spin rapidly on the ground.
- Ghuggu is a traditional form of rattlebox.
- During the fairs of Punjab, you can find a beautiful collection of folk toys representing vibrancy and enormous culture of Punjab. A lot of foreign tourists as well as Indian tourists buy these toys as souvenirs. They are easily available across Punjab.

Toy Story of Rajasthan

- Udaipur is a big centre for wooden toys. The craftsmen use the local wood doodhia which is soft and can be finely chiselled and shaped. The toys are lacquered and polished with leaves of a flowering cactus to give them a better look and increase their life.
- Bassi in Chittorgarh district is another noted centre for wooden toys where the entire village is engaged in wood-carving and in making wooden products. Jaipur too is very well known for cloth dolls and toys which are generally dyed and stuffed with waste material.

Toy Story of Chhattisgarh

Durg
Kondegaon
Bastar
Dhantewada

The tribes of Chhattisgarh are excellent artisans, experts in crafting artistic Toys/ Items with clay, stone, bamboo and metals.

- They express their deep talent and through Gharwha art, Wood art, and other with peacock feathers.
- Due to availability of bamboo in the state the tribals have been traditionally making Toys/Crafts form bamboo and wood based products.

Toy Story of Uttar Pradesh

- Varanasi is known for lacquered toys and miniature utensils. The sets of birds, animals, orchestras, soldiers and dance ensembles are made in wood, gaily painted and packed in boxes.

- Mirzapur in Uttar Pradesh are famous for their wooden lacquer ware and wooden toys. Design are created with the natural veins of the wood

- Chitrakoot in Uttar Pradesh has a distinct place in the country in wood craft. A well mixture of traditional way and modernity done and craftsmen of the districts added new horizons

Toy Story of Andhra Pradesh: Kondapalli Toys

Etikoppakka
Kondapalli

The famous Kondapalli toys are made in Kondapalli of Krishna district near Vijayawada. Also Known as Bommala Koluvu

- The art is believed to be ancient with Mythological roots, originating from MuktaRishi who obtained the Knowledge from Lord Shiva.

- The style of these toys is a mix of Islamic and Rajasthani art, popular for their realistic expressions. The subject of the toys vary from Mythological scenes to Village life, Animals, Birds etc.

Toy Story of Tamilnadu

Thanjavur Dancing Dolls, traditionally known as Thanjavur Thalaiyatti Bommai, are a part of an eclectic heritage of beautiful handicrafts from Tanjore

- They are now listed in the Government of India's Geographical Indications Registry.
- Choppu Saman is a traditional role play toys for kids. All the utensils are either made up of fine wood with polished edges or clay and painted with harmless natural colors.

Toy Story of Maharashtra

Wooden Toys of Sawantwadi in Ratnagiri is famous and has followed traditional craft of Wooden toy making from centuries.

Sawantwadi

- Sawantwadi is popularly known for Ganjifa playing cards and wooden toys made from mango tree traditionally done by the Chitari or Chitrakar community.
- Bahatuktli is the miniature version of all household items put together

Toy Story of Madhya Pradesh

Rewa
Jhabua

Adivasi Gudia Hastashilpa (Dolls) From Jhabua
- Exhibits the dual phenomenon of the tribal way of life comprising of colorful ethnics and means of daily subsistence of Bhil and Bhilala tribes from Jhabua Dist. who make these toys

Betel Nut's Toys from Rewa
- Developed by Kunder family in Rewa City this toy is made from betel nuts(Suparis.) Earlier these families had the task of making wooden toys. Later on experimenting with the betel, these people started preparing the betel nut toys.

Tin-Toys
- Most of the toys are made using machinery of gears and pinions
- The tin toys in India were extremely famous a few decades back as India didn't have access to any more evolved toys then.

Toy Story of Kerala

Traditionally, coconut palm leaves are used in making a wide range of toys & are the most popular toys played and are made at homes itself

- Coir is used in making eco-friendly toys & Coconut shell products are used to make animal shaped toys
- Woodcraft is another famous craft item of Kerala
- Lacquer Ware, the craft combining metal and wood, is a favorite among the tourists. A wide variety of lacquer products are produced in Kerala especially in Ernakulam district
- Leather is used to make puppets for Tholpavakoothu (shadow puppetry)

Toy Story of Odisha

Subarnapur
Raghurajpur

In Odisha, wood has been used for carving statues, idols and toys for time immemorial. Woodworkers were an essential part any village's economy

- Raghurajpur Artisan Village is famous for Papermache Toys, Clay toys, wooden toys.
- Bargarh in Sambalpur district is famous for its artistic wooden toys. The animal figures are richly carved and, at times, even carry riders
- Subarnapur is known for making wooden toys. Generally wood from shamli, shavan and ghamandi are used in the making of these toys.

Toy Story of Telangana- Nirmal Toys

Nirmal

- The style of Nirmal toys is a beautiful assimilation of Indian and Mughal art – used Ajanta floral and combines with Mughal miniature
- The material used is soft wood & enamel colours. Panicki and white sander is the local available softwood, easy to shape and give perfect finish. The enamel colours give the toy the shine.
- The artisans are called *Naqqash*, they came from Rajasthan in 17th Century.

Toy Story of Andhra Pradesh: Etikoppakka Toys

Etikoppakka
Kondapalli

Popularly known as "**Etikoppakka Bommalu**" the Etikoppakka Toys got the Geographical Indications tag in 2017

- The wood used to make the toys is soft in nature and the art of toy making is also known as Turned wood Lacquer craft
- Today around 700 artisans are working on the Etikoppakka Toys
- Cannons, bullock carts, Lord Ganesha, Lord Balaji are very popular figurines

Toy Story of Karnataka- Channapatna Toys

Channapatna

Referred to as the Lacquerware toys, **Channapatna** has become a household name in Karnataka

- Received a Geographical Indication (GI) under the World Trade Organization (WTO)
- The toys have ensured that innovation and being eco-friendly become the hall mark of this locally known Gombegala Ooru (toy town)
- The Hereditary artists are known as *'Chitragars'*.
- The wood, primarily used was 'ivory-wood', though rose and Sandal wood were also used.

Toy Story of Bihar

Dolls & Toys are made with different materials such as clay, cloth and wood with each material having its own style and designated areas where the craft is practiced.

- Kanyaputri Dolls (Champaran): This art form comes from Champaran. In the month of Saavan (monsoon), sisters make dolls for their brothers and dip them in the pond and brother brings these dolls back
- Sikki Work: Sikki work is a craft whereby the craftsmen turn unnecessary riverside grass into beautiful decorative objects
- Bamboo Work: Bamboo work has been remained a culture of Bihar throughout the ages and time. Right from the pre-historic time forest dwelling tribes are experts in bamboo and cane work.

Toy Story of Jammu & Kashmir

Walnut wood carving is an ornamental and delicate craft process that is unique to Kashmir due to the concentration of walnut trees in this region

- There are five main styles of woodcarving: Undercut (Khokerdar), Open or Lattice work (Jalidahr), Deep carving (Vaboraveth), Semi carving (Padri) & Shallow carving (Sadikaam)
- Paper Machie is one of the unique crafts in the entire world. The product is protected under the Geographic Indication Act 1999 of Government of India.

Toy Story of Daman & Diu

Diu
Daman

Daman and Diu is famous for **Mat Weaving Craft and Tortoise shell toys and crafts.**

- The residents make use of traditional and folk motifs to make beautiful mats and toys
- The craftsmen make several decorative toys, household items using these shells
- The seashores on the coastline of Diu are home to a variety of tortoise and their shells are used by skilled craftsmen to create decorative toys and household items

Asharikandi Terracotta toys – Assam

- The traditional toys in Assam are made with clay, bamboo, pith, cloth and mud in the figures of brides and grooms, animals, birds and deities.
- But one of the most famous dolls found in the region is from Asharikandi.
- Located 2,500 km east of the ancient city of Harappa lies the village of Asharikandi in Assam's Dhubri district.
- It's influence of the prehistoric Indus Valley Civilisation site is evinced in the heritage craft of terracotta toys.

Natungram Dolls – West Bengal

- In Natungram, Burdwan, West Bengal the age-old tradition of doll making has been retained to an extent.
- Crafted from a piece of wood chiseled to the requisite length, the doll gets the face and its attire painted on it.
- The Gour-Nitai dolls are one of the distinct types of these dolls which came from the wave of Bhakti movement in Bengal in the 15 and 16th century.

Way ahead
Government's Support

- A report by India's **National Productivity Council** suggests that the country's toy-manufacturing will need more support from the government to upgrade its technologies and research and development facilities.
- The Centre's support in the form of export subsidies, single window clearance, fiscal incentives, technology upgradation will help domestic toy manufacturing to grow swiftly.

Incentives

- The government should look for reducing duties.

- It should incentivize manufacturing of Electric Toys.

Re-skilling

- It is important to re-skill 4-5 lakh artisans in the country to help them catch up with evolving demands of the toy industry.
- This is because the Toy Industry is rapidly moving towards technology with AI (artificial intelligence) and IoT (internet of things)-enabled toys making major inroads.
- With more engagement, skill diversification, and entrepreneurial enthusiasm, a revival of the Indian toy industry looks imminent.

Investments

- Companies such as Aequs, Funskool have already shown interest in coming up with manufacturing units in the country.
- Efforts should be made to strengthen indigenous brands such as puppets.

Technology

- The Union Ministry of Micro Small and Medium Enterprises (MSME) should provide technology upgrades to toy manufacturers.
- Toys made from recyclable materials should be promoted in a big way.

Self-Reliance

- The government is giving much needed emphasis on bringing in transformative changes in the domestic toy industry by promoting "Vocal for Local" and "Make in India" under the Atmanirbhar Bharat scheme.
- Youth should be encouraged to come up with innovative designs of toys.
- With parents turning more eco-friendly in their choices for their children and 'Vocal for Local' bid gaining steam in India, it is time that we work to revive the craftsmanship of indigenous and heritage toys of our country.

MONUMENT OF NATIONAL IMPORTANCE / *GS-I CULTURE & HERITAGE*

Context

- Centuries-old St. George's Orthodox Church is now set to be declared a Centrally protected monument of national importance by the Archaeological Survey of India (ASI).

Declaration

- The church is one of the rarest in Kerala, having traditional Kerala church architectural pattern with rare and beautiful mural paintings on the walls of the altar. It is believed that the church was **built in AD 950.**
- Considering the historic, art and architectural importance of the church, this office intends to protect the church as a Centrally protected monument of national importance.

Monument of National Importance

- A "Monument of National Importance" is designated by the Archaeological Survey of India and includes the following:
  - ✓ The remains of an ancient monument
  - ✓ The site of an ancient monument
  - ✓ The land on which there are fences or protective covering structures for preserving the monument
  - ✓ Land by means of which people can freely access the monument

What is an Ancient Monument?

- The Ancient Monuments and Archaeological Sites and Remains Act, 1958 defines Ancient Monument as any structure, erection or monument, or any tumulus or place of interment, or any cave, rock-sculpture, inscription or monolith which is of historical, archaeological or artistic interest and which has been in existence for not less than 100 years.

Note: Uttar Pradesh (745 monuments/sites), Karnataka (506) and Tamil Nadu (413) have the highest number of ASI-maintained sites.

> The Archaeological Survey of India attached to the Ministry of Culture is responsible for archaeological research and the conservation and preservation of cultural monuments in the country. It was founded in 1861 by Alexander Cunningham who also became its first Director-General.
> It is under the Ministry of Culture. It regulates Antiquities and Art Treasure Act, 1972.
>
> Under the provisions of the AMASR Act of 1958, the ASI administers more than 3650 ancient monuments, archaeological sites and remains of national importance. These can include everything from temples, mosques, churches, tombs, and cemeteries to palaces, forts, step-wells, and rock-cut caves. The Survey also maintains ancient mounds and other similar sites which represent the remains of ancient habitation.

The Importance of Preserving Historical Buildings

It is said that

"Memory is the treasure house of the mind wherein the monuments thereof are kept and preserved."

- Historical Buildings give glorified pictures of one country. They not only give us idea **about the socio-economic state of the country** but also give a vivid **idea about the religious and political status.**
- They are the **pictures of the rule, the culture, and the faith of changing times** which that particular area underwent with the ages.
- They **show light on our earlier generations, their way of living, their skills, their knowledge etc.**
- **Monuments are the grappling-irons that bind one generation to another.**
- One of the reasons to preserve historical buildings is the **character they bring to a neighborhood or a place**.
- Buildings and spaces with history have character. They bring a certain charm to a neighborhood that new buildings don't.
- Historical establishments **serve as reminders of the past**. And preserving our past gives us more understanding and hope for the future.

LINGARAJ TEMPLE AND KONARK TEMPLE	*GS-I CULTURE & HERITAGE*

Context

- Sun Temple at Konark is undergoing the conservation process under the ASI
- And Lingaraj Temple was decked up for the occasion of Maha Shiv Ratri.

Konark Sun Temple

- It is a **13th-century CE (year 1250) temple at Konark** about 35 kilometres northeast from Puri on the coastline of Odisha.
- The temple is attributed to king **Narasimhadeva I of the Eastern Ganga Dynasty.**
- Dedicated to the Hindu Sun God Surya, the temple complex has the appearance of a 100-foot high chariot with immense wheels and horses, all carved from stone.
- Also called the **Surya Devalaya**, it is a classic illustration of the Odisha style of Architecture or Kalinga Architecture.
- This temple was called the **"Black Pagoda" in European sailor accounts as early as 1676** because it looked a great tower which appeared black.

- Similarly, the Jagannath Temple in Puri was called the "White Pagoda".
- Both temples served as important landmarks for sailors in the Bay of Bengal.
- Declared a UNESCO world heritage site in 1984, it remains a major pilgrimage site for Hindus, who gather here every year for the ChandrabhagaMela around the month of February.

The stone temple was made from three types of stone.
- Chlorite was used for the door lintel and frames as well as some sculptures.
- Laterite was used for the core of the platform and staircases near the foundation.
- Khondalite was used for other parts of the temple.

Lingaraja Temple

- Lingaraja Temple is a Hindu temple **dedicated to Shiva** and is the largest temple in Odisha.
- The temple represents the quintessence of the **Kalinga architecture**.
- The temple was built by the kings from the **Somavamsi dynasty**, with **later additions from the Ganga rulers.**
- The temple is **built in the Deula style** that has four components namely,
  - ✓ vimana (structure containing the sanctum),
  - ✓ jagamohana (assembly hall),
  - ✓ natamandira (festival hall) and
  - ✓ bhoga-mandapa (hall of offerings), each increasing in the height to its predecessor.
- The temple complex has 50 other shrines and is enclosed by a large compound wall.
- Bhubaneswar is called **the EkamraKshetra a**s the deity of Lingaraja was originally under a mango tree (Ekamra) as noted in EkamraPurana, a 13th-century Sanskrit treatise.
- The temple has images of Vishnu, possibly because of the rising prominence of Jagannath sect emanating from the Ganga rulers who built the Jagannath Temple in Puri in the 12th century.
- The central deity of the temple, Lingaraja, is worshipped both as Shiva and Vishnu.
- The harmony between the two sects of **Hinduism, Shaivism, and Vaishnavism**, is seen in this temple where the deity is worshipped as **Harihara, a combined form of Vishnu and Shiva.**
- Lingaraja temple is maintained by the Temple Trust Board and the Archaeological Survey of India (ASI).

Other major Temples in Odisha
- Jagannath Temple Odisha – The Most Popular
- Maa Tara Tarini Temple – Shakti Peethas
- Brahmeswara Temple – Mythological Stories
- Gundicha Temple – Distinct Kalinga Architecture
- Mukteswara Temple – Elaborately Carved Structures
- Parsurameswara Temple – Stories Of Lord Parshuram
- Rajarani Temple – The Love Temple
- VaitalDeula – Explore Intricate Art
- Ram Mandir – A Magnificent Temple
- AnantaVasudeva Temple – With Fascinating Sculptures
- Cuttack Chandi Temple – The Grand Temple Of Cuttack
- ChausathiJogini Temple – Stories Of Legends
- MausiMaa Temple – Lord Jagannath's Family Temple

TOMAR DYNASTY

GS-I MEDIEVAL HISTORY

Context

- A government seminar conducted recently in Delhi highlighted the legacy of the long-forgotten Tomar king — Anangpal II.

Anangpal II

- Anangpal II, popularly known as AnangpalTomar, belonged to the Tomar dynasty that ruled parts of present-day Delhi and Haryana between the 8th and 12th centuries.
- Anangpal II was instrumental in populating Indraprastha and giving it its present name, Delhi.
- The region was in ruins when he ascended the throne in the 11th century; it was **he who built LalKot fort and Anang Tal Baoli.**
- **AnangpalTomar II was succeeded by his grandson Prithviraj Chauhan, who was defeated by the Ghurid forces in the Battle of Tarain** (present-day Haryana) after which the Delhi Sultanate was established in 1192.

Tomar Dynasty

- The Tomaradynasty ruled parts of present-day Delhi and Haryana in India during 8th-12th century.
- Their rule over this region is attested to by multiple inscriptions and coins.
- The dynasty was one of the 36 Rajput tribes.
- The capital of Tomars changed many times from being initially at Anangpur (near Faridabad) during the reign of Anangpal I (who founded the Tomar dynasty in the 8th century), to Dhillikapuri (Delhi) during the reign of Anangpal II.
- The history of the family spans the period between the reign of Anangapala, who founded the city of Delhi in the 11th century CE, and the incorporation of Delhi within the Chauhan (Chahamana) kingdom in 1164.
- So, basically they were displaced by the Chahamanas of Shakambhari in the 12th century.
- Although Delhi subsequently became decisively a part of the Chauhan kingdom; numismatic and late literary evidence indicates that Tomara kings such as Anangapala and Madanapala continued to rule as feudatories, presumably until the final conquest of Delhi by the Muslims in 1192–93.

JAAPI, GAMOSA AND XORAI

GS-I CULTURE & HERITAGE

Context

- As the polling date draws closer, decorative jaapis (field hats), hand-woven gamosas and bell-metal xorais are making frequent appearances in Assam.
- These are important symbols of Assamese identity and culture.

Jaapi

- The jaapi is a **conical hat made of bamboo and covered with dried tokou** (a palm tree found in rainforests of Upper Assam) leaves.
- In rural Assam farmers wear these to protect themselves from the harsh weather, both sun and rain, while working in the fields.
- The first possible recorded use of jaapi dates back to the Ahom-era buranjis, or chronicles. "Kings and ministers would wear them then.

Gamosa

- The Gamosa, which literally translates to a cloth to wipe one's body, is omnipresent in Assam, with wide-ranging uses.

- It can be used at home as a towel or in public functions to felicitate dignitaries or celebrities.
- Gamosa is a "**symbol of the Assamese nation" and its** use in that context can be traced back to 1916 and 1917, when the AsomChatraSanmillan (first student organisation) and AsomSahityaSabha (premier literary organisation) were founded.
- "Both were Assam's first non-political organisations, and it was from them that the initial strains of Assamese jatiyotabaad (nationalism) grew, and so did the use of the gamosa.
- However, it was only during the anti-foreigner Assam Agitation of the early 1980s, when Assamese nationalism reached its crescendo, that the gamosa assumed a new role.
- It developed alongside the Agitation. Gamosa became the National Flag.

Xorai

- Made of bell-metal, the xorai — essentially a tray with a stand at the bottom, with or without a cover — can be found in every Assamese household.
- It is primarily used as an offering tray during prayers, or to serve tamale-paan (betel-nut) to guests.
- Axorai is also presented along with the jaapi and gamosa while felicitating someone.
- The bulk of xorais in Assam are made in the state's bell metal hub Sarthebari in Bajali district.

Context

- Scientists from China discovered a space hurricane for the first time ever. Previously, it was believed, space hurricanes were a theoretical phenomenon.

What is Space Hurricane?

- A space hurricane is a form of environmental phenomenon **where instead of wind and rain, charged electrons and plasma make up the majority of the storm.**
- Until now, it was thought to be a theoretical event, but scientists in China were the first to observe and record this real space hurricane event. The hurricane was reported in space directly above the North Pole.
- Thus, space hurricane is a **huge, funnel-like, spiral geomagnetic storm** that occurs **above the polar Ionosphere** of Earth, during **extremely quiet conditions.**
- As space hurricanes are formed by plasma interacting with magnetic fields and draw energy down from the flow of the Solar wind.
- They **occur in the polar regions** of planets with magnetic fields.

Details

- As per their report, the hurricane over North Pole measured roughly 600 miles across and rained down charged electrons for as long as eight hours.
- The space hurricane spun counterclockwise at speeds up to 4,700 miles per hour.
- The hurricane was very much like a typical terrestrial hurricane in shape.
- It was shaped like a funnel with a quiet 'eye' at the centre surrounded by large amounts of plasma arms spinning counter-clockwise.

- The space hurricane rained down electrons into the Earth's upper atmosphere.
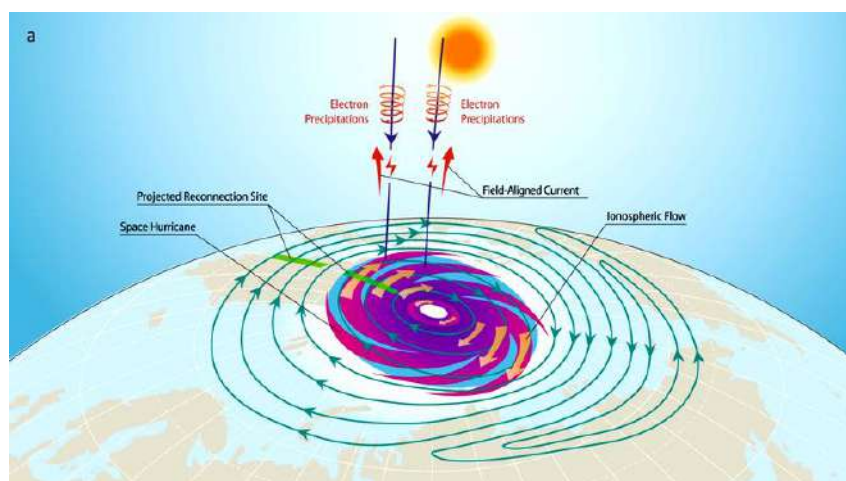
How Do Space Hurricanes Form?

- Space Hurricane result from a complex interaction between incoming solar winds containing plasma and the magnetic field of the Earth.
- The weather systems that cause space hurricanes can occur on any planets than have a magnetic and a large amount of solar plasma in their atmosphere.
- Space hurricanes have also been spotted over Mars, Saturn and Jupiter and these were too similar to terrestrial hurricanes.

Similarities to Land Hurricanes

- ✓ It had a stable centre point like a hurricane eye
- ✓ It had strong shears around the edges
- ✓ All flowing patterns were similar to the lower-atmosphere storms
- ✓ The storm looks like a cross between a hurricane and the Aurora Borealis, or simply like a gigantic blast of green energy.

Impact

- Space hurricanes are **not dangerous to humans** as they are many kilometers above the surface of the Earth.
- But Space hurricanes can **impact existing weather conditions, damage any satellites** that cross their paths and can also **disrupt GPS and radio communication systems.**
- They can **disrupt radio systems, and radars**, and could also increase the drag on any nearby satellites as well as **changing the orbits of Space debris ("space junk")** of all sizes at low altitudes, which are an increasing hazard for spacecraft in Low Earth orbit.

MOUNT ETNA AND VOLCANOES — *GS-I   GEOGRAPHY*

Context

- Mount Etna, in recent days has been spewing spectacular spurts of lava lighting up the Sicilian sky each night.

About

- Mount Etna is an active **strato-volcano** on the east coast of Sicily, Italy.
- It lies above the convergent plate margin between the African Plate and the Eurasian Plate.
- It is the highest active volcano in Europe outside the Caucasus.
- It is also the largest of the three active volcanoes in Italy.

Volcanoes in Italy

- Italy is a volcanically active country, containing the only active volcanoes in mainland Europe.
- The volcanism of Italy is due chiefly to its presence, in the boundary between the Eurasian Plate and the African Plate.

Three of Italy's volcanoes have erupted in the last hundred years:

1. Mount Etna, on Sicily (continuous activity)
2. Stromboli, one of the Aeolian Islands (continuous activity). Stromboli explosively erupted on 28 August 2019.
3. Mount Vesuvius, near Naples (last erupted in 1944); **the only active volcano in mainland Europe.**

Types of Volcanoes

Volcano Type	Characteristics	Examples	Simplified Diagram
Flood or Plateau Basalt	Very liquid lava; flows very widespread, emitted from fractures	Columbia River Plateau	1 mile
Shield Volcano	Liquid lava emitted from a central vent; large; sometimes has a collapse caldera	Larch Mountain, Mount Sylvania, Highland Butte, Hawaiian volcanoes	
Cinder Cone	Explosive liquid lava; small; emitted from a central vent; if continued long enough, may build up a shield volcano	Mount Tabor, Mount Zion, Chamberlain Hill, Pilot Butte, Lava Butte, Craters of the Moon	
Composite or Stratovolcano	More viscous lavas, much explosive (pyroclastic) debris; large, emitted from a central vent	Mount Baker, Mount Rainier, Mount St. Helens, Mount Hood, Mount Shasta	
Volcanic Dome	Very viscous lava; relatively small; can be explosive; commonly occurs adjacent to craters of composite volcanoes	Novarupta, Mount St. Helens Lava Dome, Mount Lassen, Shastina, Mono Craters	
Caldera	Very large composite volcano collapsed after an explosive period; frequently associated with plug domes	Crater Lake, Newberry, Kilauea, Long Valley, Medicine Lake, Yellowstone	

(Increasing Violence / Increasing Viscosity)

Europe's Highest Volcano

Rank	Volcano Name	Height (Meters)	Location
1	Mount Etna	3,329	Sicily, Italy
2	Beerenberg	2,277	Jan Mayen, Norway
3	Öræfajökull	2,110	Iceland
4	Baroarbunga	2,005	Iceland
5	Mount Vesuvius	1,281	Aeolian Islands, Italy
6	Stromboli	924	Aeolian Islands, Italy
7	Soufriere Hills	915	Montserrat (United Kingdom)

MOUNT SINABUNG

GS-I GEOGRAPHY

Context

- Indonesia's Mount Sinabung unleashed an avalanche of searing gas clouds down its slopes in another volcanic eruption.

Mount Sinabaug

- Mount Sinabung is a **stratovolcano in the Karo plateau** of Karo Regency, North Sumatra, Indonesia.
- It is 40 kilometres from the **Lake Toba supervolcano.**
- This 2460 meter high andesitic-to-dacitic volcano comes from the Sunda Arc, which is created by the subduction of the **Indo-Australian Plate under the Eurasian Plate.**
- The Andaman Islands are on the North-Northwest bound of the arc while the Banda Arc is on the East.
- Sinabung has a total of four volcanic craters, one of them being active currently.
- The active volcano erupted after a 400-year-long hiatus in August 2010
- And has been continuously active since September 2013.

Pacific Ring of Fire

- Mount Sinabung**s its in a region known as the Pacific Ring of fire,** which forms a chain of volcanic and seismic hotspots.
- The Ring of Fire runs along the basin of the Pacific Ocean, covering the west coasts of North and South America and South East Asia.
- The majority of the world's earthquakes and volcanic eruptions occur in these parts of the world.
- The Ring of Fire is a horseshoe-shaped belt about 40,000 km (25,000 mi) long and up to about 500 km wide.

Origin

- The Ring of Fire is a **direct result of plate tectonics**: specifically the movement, collision and destruction of lithospheric plates under and around the Pacific Ocean.
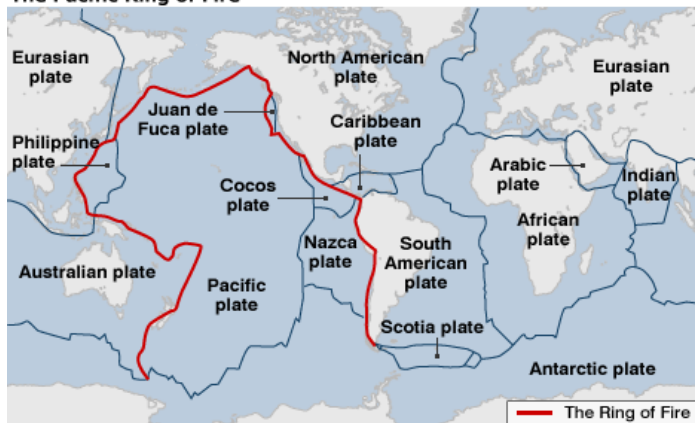
Further details

- The Ring of Fire is not a single geological structure.
- Volcanic eruptions and earthquakes in each part of the Ring of Fire occur independently of eruptions and earthquakes in the other parts of the Ring.
- The Ring of Fire contains approximately 850–1,000 volcanoes that have been active during the last 11,700 years (about two-thirds of the world's total).
- The world's highest active volcano is Ojos del Salado (22,615 ft), which is in the Andes Mountains section of the Ring of Fire.
- It forms part of the border between Argentina and Chile and it last erupted in AD 750.
- About 90% of the Earth's earthquakes occur along the Ring of Fire.

RICE   GS-I   GEOGRAPHY

Context
- The first consignment of red rice, sourced from Assam, was shipped from India to the US.

Red Rice
- Red rice is a variety of rice that is colored red by its **anthocyanin content.**
- Iron-rich 'red rice' is grown in the **Brahmaputra valley of Assam,without the use of any chemical fertilizer.**
- The rice variety is referred as **'Bao-dhaan'**, which is an integral part of Assamese food.
- Compared to polished rice, it has the **highest nutritional value**[quantify]of rices eaten with the germ intact.

Major Varieties of Red Rice
- Rakthashali, a rare rice variety
- Thai Red Cargo rice, a non-glutinous long grain rice variety
- Bhutanese red rice, a medium-grain rice grown in the Kingdom of Bhutan
- Camargue red rice, a relatively new variety of rice cultivated in the wetlands of the Camargue region of southern France
- Matta rice grown in Palakkad District of Kerala.
- Ulikan or mini-angan, heirloom red rice from Ifugao and Kalinga, Philippines
- Arroz da terra, an heirloom red rice cultivated in Northeastern Brazil

Significance
- The increased exports of the iron rich "red rice", would enhance incomes of farming families of the Brahmaputra flood plains.

Climatic Conditions for Rice Cultivation
Rainfall
Rice cultivation is possible only in areas with good rainfall, as the crop requires standing water for growth. A monthly rainfall of **100-200 mm is a must** and about **125 cm is during vegetative season.** And there should be no water at ripening stage.
Temperature
Rice being a tropical and sub-tropical plant, requires a fairly high temperature, **ranging from 20° to 40°C.** The optimum temperature **of 30°C during day time and 20°C during night time is** considered favorable for its growth and development.
Sunlight
Sunlight is a must for all plant lives, a source of energy. During the ripening period of last 35 to 45 days, the yield is most benefited by sunlight. **Bright sunshine with low temperature during ripening period of the crop helps** in the development of carbohydrates in the grains. The effect of solar radiation is more profound where water, temperature and nitrogenous nutrients are not limiting factors.
Soil
Rice grows on a variety of soils like silts, loams and gravels. However, **clayey loam is well suited to the raising of this crop**.

Rice Production in India

- India produced a record 117.94 million tonnes of rice in 2019/20.
- The rice production has registered an appreciable increase from 20.58 million tonnes in 1950-51 to 117.94 million tonnes of rice in 2019/20, which is nearly 6 times.

Indian Production of Rice

Production(000 Tonnes]

Sr No.	State	2017-18 Production	Share(%)
1	West Bengal	14,970.00	13.26
2	Punjab	13,380.00	11.86
3	Uttar Pradesh	13,270.00	11.75
4	Andhra Pradesh	8,180.00	7.24
5	Bihar	7,910.00	7.01
6	Tamil Nadu	7,280.00	6.45
7	Orissa	6,530.00	5.78
8	Telangana	6,250.00	5.54
9	Assam	5,160.00	4.57
10	Chattisgarh	4,730.00	4.19
Page Total		**87,660.00**	

Top Rice growing countries in the world

- India is the second largest producer of rice in the world.

Rank	Country	Tonnes
1	China	206,507,400
2	India	157,200,000
3	Indonesia	70,846,465
4	Bangladesh	52,325,620
5	Vietnam	44,974,206
6	Thailand	32,620,160
7	Myanmar	26,423,300
8	Philippines	18,967,826
9	Brazil	12,175,602
10	Japan	10,549,000

Total area of cultivation for rice across India
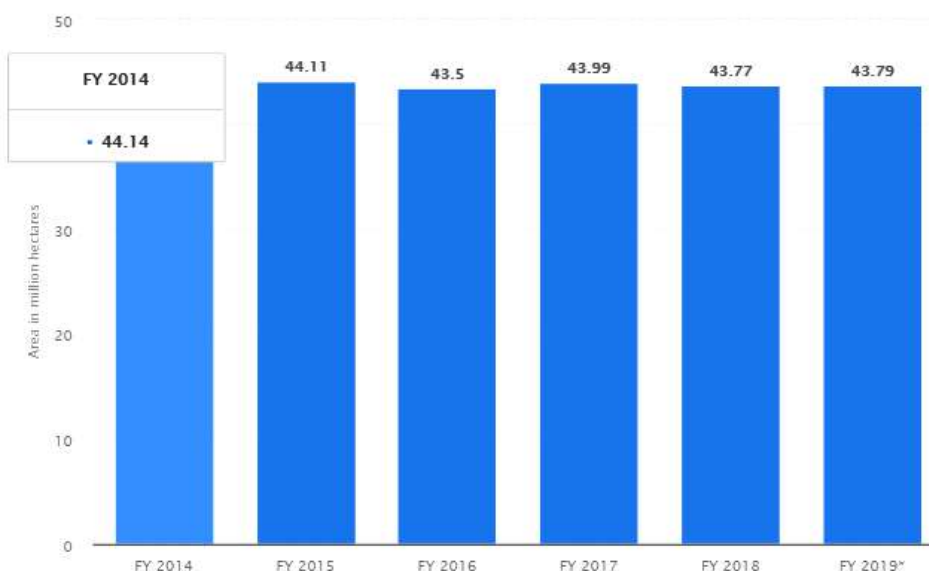
Exports

Value of rice exported from India
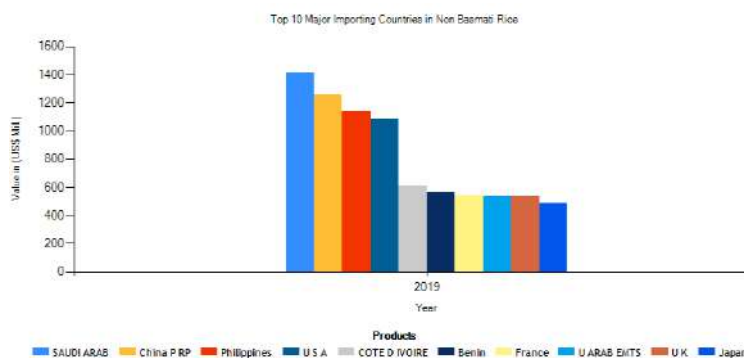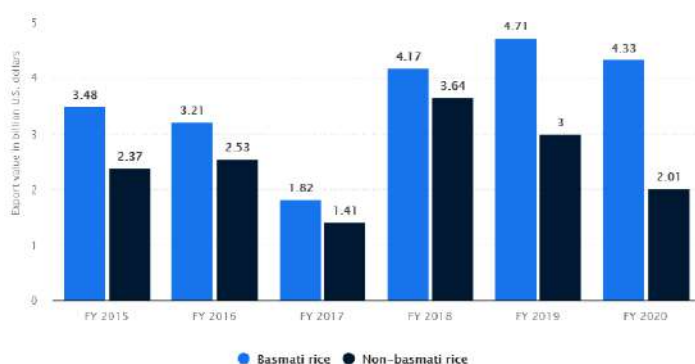
Note: Saudi Arabia was also the leading importer of Indian rice in terms of export value of over 72 billion Indian rupees in financial year 2020. India was the leading exporter of the fragrant basmati rice to global markets that year.

Initiative to boost rice export

- **APEDA:** APEDA has been promoting rice exports through collaborations with various stakeholders in the value chains
- **REPF:** The government had set up the Rice Export Promotion Forum (REPF), under the aegis of the APEDA. REPF has representations from the rice industry, exporters, officials from APEDA, the ministry of commerce and directors of agriculture from major rice-producing states including West Bengal, Uttar Pradesh, Punjab, Haryana, Telangana, Andhra Pradesh, Assam, Chhattisgarh and Odisha.
- REPF will monitor, identify and anticipate developments pertaining to production and exports and recommend necessary policy measures.
- It will be in touch with rice producers, exporters and other relevant stakeholders and hear their problems, and facilitate, support and provide solutions to them.

Rice and Water Crisis: The link

Depleting Ground Water

- India's food policy has remained focused on wheat and rice since the 1960s, when the Green Revolution changed the farming landscape.
- This cultivation of paddy takes a huge toll on groundwater recharge, for the crop is a water guzzler.
- More than 2800litres of water goes into producing one kilo of rice.
- And the ramifications of the over-reliance on paddy intersect with the water crisis that India is currently grappling with.
- India's top rice and wheat producers Punjab, Haryana in the North West (which contribute almost 15 percent of India's entire rice production), and western Uttar Pradesh in the Gangetic plain, are among the world's top water-risk zones for agricultural production -- NABARD and ICRIER report.

Virtual Export of Water

- In 2014-15, India exported 37.2 lakh tonnes of basmati.
- To export this rice, the country used around 10 trillion litres of water.
- To put it another way, India virtually exported 10 trillion litres of water.
- At least one-fifth of this would have been surface/groundwater.
- In these times of global climate change, water is the one commodity where we don't want a trade surplus (i.e, exports higher than imports).
- According to the Water Footprint Network (WFN) database, India had the lowest virtual imports of water in the world.

- On the other hand India is effectively the third largest exporter of groundwater i.e 12% of the global total-- WaterAid India Report.
- India is exporting large amounts of virtual water despite being an extremely water-scarce country. Should it be doing this is the question.

Way Ahead

Shifting Rice Production Zones

- Shifting the major chunk of rice production to India's central and eastern states like Chhattisgarh and Jharkhand, while encouraging wheat cultivation through sustainable irrigation in the rice-growing regions of Punjab and Haryana, could help India prevent an impending water crisis by 2030. - National Bank for Agriculture & Rural Development and Indian Council for Research on International Economic Relations Report.

Crop Diversification

- A strategic change in procurement policy could tackle inefficient cropping practices that use up excessive groundwater, the NABARD and ICRIER report suggested.
- Farmers in the north-western region can shift to more water-efficient crops like maize or pulses, provided their market risk was covered through a state-assured procurement policy akin to the current ones like MSP for rice and wheat.

Improving Farming Methods

- Paddy yields in irrigated regions of Tamil Nadu, Punjab and Haryana range from five to six tonnes/ha, whereas in the high-rainfall areas of eastern UP, Bihar, West Bengal and Orissa, the yields are about 1.8 tonnes/ha.
- The main reasons for the poor yields are improper irrigation management and waterlogging.
- This is because besides being wasteful, excessive use of water results in lower yields and adverse environmental effects such as soil salinity and waterlogging.
- Optimizing irrigation water use should be the aim because as of now **"Get water and overuse it seems to be the rule."**
- A large amount of water is **lost in seepage and deep percolation.**
- 40 per cent of the water can be saved if farmers adopt proper techniques.
- Studies in eastern India show effective **soil compaction and puddling can reduce percolation losses by 20 per cent** and also reduce the risk of crop failure during droughts.
- Farmers widely believe that water should be stored on paddy fields to prevent weed growth.
- But studies in West Bengal and Orissa show that standing water of more than 10 cm height leads to heavy leaching of soil nutrients and percolation losses.
- **Proper crop-rotation** can also reduce water consumption and result in higher yields.
- **Better coordination between farmers, scientists and extension officials** is needed to popularise water-saving techniques.

Shift to DBT

- The Government provides free electricity and water to farmers for agriculture. This policy needs a major shift.
- A shift to direct benefit transfer to farmers' bank accounts, instead of price-based subsidies on water and power which have resulted in over exploitation of groundwater, could nudge farmers towards effective cropping patterns and sustainable irrigation practices. - **NABARD and ICRIER Report.**

APEDA

Agricultural and Processed Food Products Export Development Authority (APEDA) is an Apex-Export Trade Promotion Active government body set up by the Ministry of Commerce and Industry.

APEDA is mandated with the responsibility of export promotion and development of certain scheduled products.

Note: To read about detailed functions of APEDA and Scheduled Products under it:
Visit http://apeda.gov.in/apedawebsite/about_apeda/about_apeda.htm

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| PASSES IN HIMACHAL PRADESH | GS-I   GEOGRAPHY |

Context

- For the first time ever, the Border Roads Organisation (BRO) has started work on reopening the crucial Baralacha Pass in Himachal Pradesh much before schedule to restore connectivity to Leh in Ladakh.

About Baralachala Pass

- Bara-lacha la is a high mountain pass in Zanskar range, connecting Lahaul district in Himachal Pradesh to Leh district in Ladakh, situated along the Leh–Manali Highway.
- The pass acts as a water-divide between the Bhagariver and the Yunam river.
  - ✓ The Bhaga river, a tributary of the Chenab river, originates from Surya taal lake, which is situated a few of kilometers from the pass towards Manali.
  - ✓ The other major tributary of the Chenab River, the Chandra also originates from glacier in this region.
  - ✓ The native name of Chenab, "Chandrabhaga", represents the union of Chandra and Bhaga rivers downstream.

Passes and Jots in Himachal Pradesh

Name of the Pass/ Jot	Location/ District	Altitude (in me...
Bara Lacha Pass	Pangi – Range, Lahaul – Bharmour	4890
Tempo La	Lahaul – Spiti	4930
Chobia Pass	Lahaul – Bharmaur	4934
Mulari Jot	Lahaul	4960
Kugti Pass	Lahaul – Bharmour	4961
Shipting	Bharmour – Lahaul	4980
Taintu La Jot	Kullu – Kangra	5000
Sara Umga Pass	Kullu – Spiti	5010
Shakarof	Lahaul – Spiti	5022
Asha Gali / Shah Pass	Kangra – Lahaul - Spiti	5030
Nalgaon Pass	Kinnaur – Gharwal	5030
Kamilaga Pass	Kinnaur – Gharwal	5151
Duggi Jot	Bharmour – Lahaul	5060
Shing Dkon Pass	Lahaul – Zanskar	5182
Makori Jot	Kangra hpgeneralstudies.blogspot.in 5190	
Charang Pass	Kinnaur – Gharwal	5266
Lamkhaga Pass	Kinnaur – Gharwal	5284
Pin Parbati	Kullu – Spiti	5319
Borsa Pass	Kinnaur – Gharwal	5360
Laluni Jot	Lahaul – Spiti	5440
Parangla Pass	Zanskar Range	5548

Name of the Pass/ Jot	Location/ District	Altitude (in meters)
Tori Jot	Kangra – Chamba	4360
Sach Pass	Chamba – Pangi	4395
Rangcha Gali Pass	Lahaul – Spiti	4400
Shipki Pass	Kinnaur – Tibet	4500
Shi Jot	Kullu	4530
Rangchi Galu	Kullu hpgeneralstudies.blogspot.in 4540	
Kunzam La	Lahaul – Spiti	4551
Thamshar Pass	Kangra – Bara Banghal	4572
Shinka Pass	Kinnaur – Gharwal	4575
Burua Pass (Buran Ghati)	Kinnaur – Gharwal	4578
Bhim Ghasutri Jot	Kangra – Chamba	4580
Rupin Ghati	Kinnaur – Gharwal	4625
Talang Pass	Kangra – Chamba	4640
Kathikukri	Kullu – Kangra	4640
Gairu Jot	Kangra	4660
Chobu Pass	Bharmour – Lahaul – Spiti	4700
Darati Pass	Chamba – Pangi	4720
Kalicho	Lahaul - Bharmour	4729
Khidala Galu	Chamba	4750
Nikora Pass	Kangra – Bharmour	4750
Animal Pass	Kullu	4880
Manali Pass	Manali – Kangra	4880

Name of the Pass/ Jot	Location/ District	Altitude (in meters)
Basodan	Chamba - Bhattiyat	2400
Dulchi	Mandi - Kullu	2788
Bhubu	Jogdinder Nagar – Kullu	2895
Padri	Chamba-Jammu	3050
Jalori	Inner & Outer Seraj in Kullu	3125
Chauri	Chamba – Kangra	3150
Rashol Jot	Kullu	3230
Pajanund Galu	Mandi – Kullu	3280
Khauli Galu	Kullu	3440
Jalsu Ka Jot	Kangra – Chamba	3450
Chandrakhani Galu	Kullu	3600
Tainti Galu	Kullu hpgeneralstudies.blogspot.in 3600	
Baleni Jot	Kangra – Chamba	3730
Gharhu Jot	Kullu	3730
Sari Galu	Kullu – Kangra	3740
Waru Pass	Kangra – Chamba	3870
Rohtang Pass	Kullu – Lahaul	3978
Shibaling Pass	Kinnaur	3980
Bherianga Pass	Kullu – Kangra	4140
Hamta Jot Pass	Pir Panjal – Kullu – Spiti	4270
Singoor Pass	Kangra – Bharmour	4310
Indrahar Pass	Kangra – Bharmour	4320

MULLAPERIYAR DAM
GS-I GEOGRAPHY

Context
- The Supreme Court granted the liberty to serve on the Standing Counsel for the State of Kerala notice, in a plea filed seeking termination oof lease deed between the States of Kerala and Tamil Nadu in relation to Mullaperiyar dam.

Details
- Mullaperiyaru Dam is a masonry gravity dam on the Periyar River in Kerala.
- It is located 881 m above mean sea level, on the Cardamom Hills of the Western Ghats in Thekkady, Idukki.
- It was constructed between 1887 and 1895 by John Pennycuick and also reached in an agreement to divert water eastwards to the Madras Presidency area (present-day Tamil Nadu).
  - ✓ According to a 999-year lease agreement made during the British rule the operational rights were handedover to Tamil Nadu.
- The Periyar National Park in Thekkady is located around the dam's reservoir.
- The dam is built at the **confluence of Mullayar and Periyar rivers.**
- The dam is located in Kerala on the river Periyar, but is operated and maintained by the neighbouring state of Tamil Nadu.
- The catchment area of the Mullaperiyar itself lies entirely in Kerala and thus it is not an inter-State river.
- However, by the principle of estoppel it is considered otherwise.
  - ✓ Estoppel is that rule which prohibits a person from contradicting what was earlier said by him in a court of law.

Periyar River
- Periyaris the longest river in Kerala.
- It is one of the few perennial rivers in the region and provides drinking water for several major towns.
- The Periyar is of utmost significance to the economy of Kerala. It generates a significant proportion of Kerala's electrical power via the Idukki Dam and flows along a region of industrial and commercial activity.
- The river also provides water for irrigation and domestic use throughout its course besides supporting a rich fishery.
- Due to these reasons, the river has been named the "**Lifeline of Kerala**.
- Kochi city, lies in the vicinity of the river mouth .
- Twenty five percent of Kerala's industries are along the banks of river Periyar.
- **Major Tributaries:**
  - ✓ Muthirapuzha River
  - ✓ Mullayar River
  - ✓ Cheruthoni River
  - ✓ Perinjankutti River
  - ✓ Edamala River
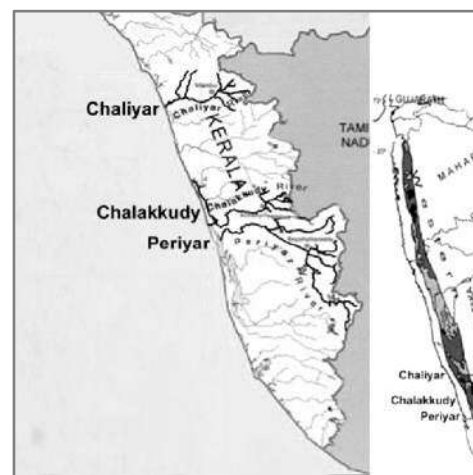
Mullayar River
- Mullayar River is a tributary of the Periyar River.
- It originates at Kottamalaipeak in the Periyar Tiger Reserve.
- The Mullayar flows west through the reserve and joins the Periyar at Mullakud just at the beginning of the Periyar lake formed by the Mullaperiyar dam.

SUEZ CANAL BLOCKADE   *GS-I   GEOGRAPHY*

Context

- Recently, the Suez Canal in Egypt got blocked by a large cargo ship called the MV Ever Given.
- Traffic has resumed in Suez Canal after a stranded container ship blocking it for nearly a week was finally freed by salvage crews.
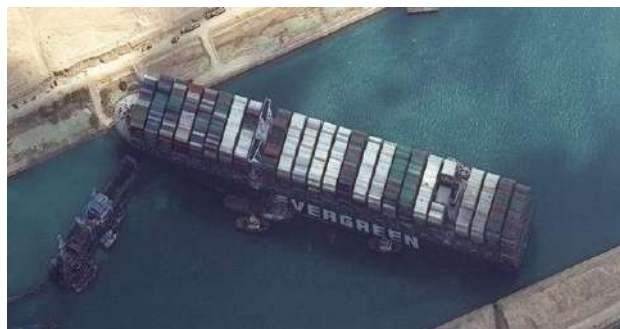
About Suez Canal

- 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.
- It reduces the journey distance from the Arabian Sea to London by approximately 8,900 kilometers or 8 days.

A Brief History of the Canal

- In 1858, the Universal Suez Ship Canal Company was tasked to construct and operate the canal for 99 years.
- The French and British held most of the shares in the canal company. It was decided that after 99 years rights would be handed to the Egyptian government.
- Despite facing multiple problems ranging from financial difficulties and attempts by the British and Turks to halt construction, the canal was opened for international navigation in 1869.

International Status

- In 1888 the major maritime powers at the time (except Great Britain) signed the Convention of Constantinople, which declared that the canal should be open to ships of all nations in times of both peace and war.
- In addition, the convention forbade acts of hostility in the waters of the canal and the construction of fortifications on its banks. Great Britain signed the convention only after 1904.
- The British powers that controlled the canal through the first two world wars withdrew forces there in 1956 after years of negotiations with Egypt, effectively relinquishing authority to the Egyptian government.

Course of the Canal

- 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.
- The Suez Canal is an open cut, without locks, and, though extensive straight lengths occur, there are eight major bends.
- ✓ A lock is a device used for raising and lowering boats, ships and other watercraft between stretches of water of different levels on river and canal waterways. Locks are used to allow a canal to cross land that is not level.
- To the west of the canal is the low-lying delta of the Nile River and to the east is the higher, rugged, and arid Sinai Peninsula.

Significance of the Suez Canal

World Trade

- About 12% of world trade passes through the canal each year, everything from crude oil to grains to instant coffee.
- Without Suez, a supertanker carrying Mideast crude oil to Europe would have to travel an extra 6,000 miles around Africa's Cape of Good Hope. Because it has no locks, it can even handle aircraft carriers.

Geopolitical

- The Suez Canal is considered to be the shortest link between the east and the west due to its unique geographic location. The unique geographical position of the Suez Canal makes it of special importance to the world and to Egypt as well.
- This importance is getting augmented with the evolution of maritime transport and world trade. Maritime transport is the cheapest means of transport, whereas more than 80 % of the world trade volume is transported via waterways (seaborne trade).

Other Advantages of the Suez Canal

- ✓ It is the longest canal in the world without locks.
- ✓ The accidents are almost nil compared to other waterways.
- ✓ Navigation goes day and night.
- ✓ The Canal is liable to be widened and deepened when required, to cope with the development in ship sizes and tonnages.
- With the adoption of the Vessel Traffic Management System (VTMS) (a system depending upon the most up-to-date radar network), vessels can be monitored and followed on every spot of the Canal and intervention in emergency cases can be taken.

Importance of the Suez Canal to India

- There are many reasons why India considers the Suez Canal to be of great importance. The following are some of the major important roles that this waterway plays in India's economy:

Reduced distance to Europe

- The construction of the Suez Canal reduced the distance between India and Europe significantly.
- Without the Suez Canal, Indian ships would have to go around the Cape of Good Hope - Southern tip of Africa and all the way up the west coast of Africa - a much longer and expensive route.
- The distance between Mumbai and London is roughly 7,200 nautical miles using the Suez Canal and 12,300 nautical miles taking the longer route around the Cape of Good Hope.
- The reduced distance has led to faster transportation of Indian products saving an estimated 15 days of journey time on average.

Increased Trade flows for India

- Prior to the construction of the Suez Canal, India had to transport its goods to Europe using the Cape of Good Hope.
- This was a much longer route and was a major hindrance to the trade between Europe and India. However, with the Suez Canal, trade flows increased greatly especially on oil imports by Europe and Asia.
- India is the top importer of crude and products via the Suez Canal, higher than China, South Korea or Singapore.
- And more than two-thirds of India's crude comes from the Gulf region. India imports around 500,000 barrels per day of crude products via the Suez Canal.

- In 2016, 3.9 million billion dollars of oil (crude oil and refined products) transited the Suez Canal in both directions.

Security Improvement

- For India, one of the major benefits of using the Suez Canal in transporting goods is because it is a secure route. The canal experiences less piracy activities as compared to the other routes like:
- **Strait of Malacca**- between Indonesia, Malaysia and Singapore linking the Indian Ocean to the South China Sea and Pacific Ocean. Piracy and armed robbery incidents occur at the straits of Malacca. There were 9 incidents in the straits in 2017. For Asia as a whole, 101 piracy and armed robbery incidents against ships occurred in 2017 over the 85 in 2016.
- **Bab el-Mandeb:** 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 strait is located between Yemen, Djibouti, and Eritrea, and it connects the Red Sea with the Gulf of Aden and the Arabian Sea. On 31 May 2017, a Marshall Islands-flagged oil tanker was approached and fired upon by three men in a skiff in the southern Bab-el-Mandeb (BAM) Strait.
- The canal has more security and personnel as compared to the other trade routes.

Impact on Global Supply Chains due to the recent blockade

- The cargo ship blocking the Suez Canal is holding up traffic that carries nearly $10 billion worth of goods every day.
- About 10% of all global trade flows through the 193-kilometer-long canal, which allows tankers and container ships to avoid a long trip around the southern tip of Africa.

Raw Materials: The blockage delayed a range of parts and raw materials for European products such as cotton from India for clothes, petroleum from the Middle East for plastics, and auto parts from China.

Oil and Natural Gas: About 1.9 million barrels of oil a day go through the canal. That's about 7% of all seaborne oil. Tankers using the Suez carry 8% to 10% of the world's liquefied natural gas. The closure affected shipments of oil and natural gas from the Mideast to Europe.

Gasoline: 1.4 million barrels of gasoline and other refined products flow from the Middle East and Asia north through the canal to Europe on an average day. The blockade had a major impact on the supply chains.

> **Two main canals serve the key trade lanes that connect the East with the West**
> **Suez Canal and**
> **Panama Canal**
> Opened in August 1914 the Panama Canal connects the Atlantic Ocean (via the Caribbean Sea) to the Pacific Ocean and serves more than 144 of the world's trade routes. This 48 miles (77km) stretch of waterway enables vessels to avoid the lengthy Cape Horn route around the southernmost tip of South America, where strong winds, strong currents, large waves, and Icebergs make these some of the most treacherous waters in the world to navigate. The Panama Canal, which takes between 6 to 8 hours for ships to transit provides a reduced route from the Far East to the US East Coast of around 3,000 miles (4828km).

Conclusion

- According to the Suez Canal Authority, which maintains and operates the waterway, the Suez Canal has closed five times since it opened for navigation in 1869.
- The current closure was expensive for global trade — the shipping industry and insurance companies — and it is estimated that the loss per hour is almost $400 million.
- This aspect points to the fragility of global trade. The worldwide logistics management chain has acquired a high degree of efficiency.
- But even while ensuring timely delivery to the customer, an unforeseen accident such as the Suez closure can lead to dire economic consequences.
- The Suez along, with the Panama, are the two most critical canals in the global maritime domain along with the Volga-Don and the Grand Canal (China).
- Each canal has its own navigational challenges and protocols.

- Given the scale of the consequences — both fiscal and supply-chain disruption — the need to objectively review existing procedures and protocols specific to the Suez merits the highest priority.

TULIP GARDEN **GS-I   GEOGRAPHY**

Context
- Prime Minister Narendra Modi asked everyone to visit Tulip Garden.

The Garden
- Indira Gandhi Memorial Tulip garden, previously Model Floriculture Center, is in Srinagar, Jammu and Kashmir.
- It is the largest tulip garden in Asia spread over an area of about 30 ha (74 acres).
- **Location:** It is situated on the foothills of **Zabarwan Range** with an overview of Dal Lake.
- The garden was opened in 2007 with the aim to boost floriculture and tourism in Kashmir Valley.

Zabarwan Range
- The Zabarwan Range is a short sub-mountain range between PirPanjal and Great Himalayan Range in the central part of the Kashmir Valley.
- **Location:** It lies between Sind Valley and Lidder Valley on the north and south, and between the Zanskar Range and Jhelum Valley on the east and west, respectively.
- The north end of the range lies in Ganderbal, while the south end lies in Pampore.
- **Temple:** The Shankaracharya Temple is built on the edge of the central part of the Zabarwan Range.
- **Peak:** The highest peak of this range is Mahadev Peak at 13,013 feet.
- On the northern slopes of the central part of the range there are three Mughal gardens built by Emperor Shah Jahan. These include -
  - ✓ ChashmaShahi,
  - ✓ NishatBagh and
  - ✓ Shalimar Garden alongside the PariMahal
- **Wildlife:** The **Dachigam National Park,** is the main feature of the range.
- The Dachigam National Park holds the last viable population of Kashmir stag (Hangul) and the largest population of black bear in Asia.
- The range is also home to musk deer, leopard, Himalayan brown bear, leopard cat, jungle cat, red fox, jackal, Himalayan wolf, serow, Himalayan yellow-throated marten, long-tailed marmot, Indian porcupine, Himalayan mouse-hare, langur and Himalayan weasel.
- **Climate:** Sub-Mediterranean type, with two spells of dryness from April to June and September to November.
- **Geology:** The Zabarwan Range has crystalline rocks such as granite, schists and phyllites with embedded limestone, which form the core of its parent range.

CLIMATE DATA SERVICES PORTAL **GS-I   GEOGRAPHY**

Context
- India Meteorological Department celebrated World Meteorological Day: AzadiKaAmritMahotsav on 23rd March, 2021.
- On this occasion, Climate Data Services Portal of IMD was also inaugurated.

Climate Data Service Portal
- The Climate Data Service Portal serves as an integrated platform to render weather and climate services of India Meteorological Department, Ministry of Earth Sciences.

- **Aim:** It basically aims to provide weather andclimate services to the users.
- **Mandate:** It complements fully automated climate data management process from real-time data acquisition to expeditious data dissemination.
- This central hub, functions as a repository to acquire and disseminate the climate data of the Indian sub-continent region.
- It also has a free download facility for gridded temperature and rainfall data of India, climatological tables --- extremes and normal, information on monsoon rainfall and cyclone frequencies.
- The IMD also released standard operation procedures for monitoring, forecasting and warning services of severe weather events.

Components

- The major components of the portal are listed below:
  - ✓ Real-Time monitoring of weather observations recorded by IMD Observatories.
  - ✓ Encapsulated IMD Metadata Portal, other reports and dashboards
  - ✓ Online access to meteorological data through Data Supply Portal.
  - ✓ Free download facility for Gridded Temperature and Rainfall Data of India.
  - ✓ Climatological Tables, Extremes and Normal.
  - ✓ Information on Monsoon Rainfall and Cyclone frequencies.
  - ✓ Data analytics and info graphics.

IMD

The India Meteorological Department (IMD) is an agency of the Ministry of Earth Sciences of the Government of India. It is the principal agency responsible for meteorological observations, weather forecasting and seismology. IMD is headquartered in Delhi and operates hundreds of observation stations across India and Antarctica. Regional offices are at Chennai, Mumbai, Kolkata, Nagpur, Guwahati and New Delhi.

IMD is also one of the six Regional Specialised Meteorological Centres of the World Meteorological Organisation. It has the responsibility for forecasting, naming and distribution of warnings for tropical cyclones in the Northern Indian Ocean region, including the Malacca Straits, the Bay of Bengal, the Arabian Sea and the Persian Gulf.

World Meteorological Day

World Meteorological Day takes place every year on 23 March and commemorates the coming into force on 23 March 1950 of the Convention establishing the World Meteorological Organization. It showcases the essential contribution of National Meteorological and Hydrological Services to the safety and wellbeing of society and is celebrated with activities around the world.

2021 Theme: The Ocean, Our Climate and Weather

KEN BETWA LINK PROJECT   *GS-I   GEOGRAPHY*

Context:

- A memorandum of agreement was signed between Union Minister of Jal Shakti and the chief ministers of Madhya Pradesh and Uttar Pradesh to implement the Ken-Betwa Link Project (KBLP).

What is the Ken Betwa Link Project?

- The Ken-Betwa Link Project is the
- first project under the **National Perspective Plan for interlinking of rivers**. Under this project, water from the Ken river will be **transferred to the Betwa river.** Both these rivers are **tributaries of river Yamuna**.
- The Ken-Betwa Link Project has two phases. Under Phase-I, one of the components **Daudhan dam complex** and its appurtenances like **Low Level Tunnel, High Level Tunnel, Ken-Betwa link canal and Power houses** will be completed.

- While in the Phase-II, three components — **Lower Orr dam, Bina complex project and Kotha barrage** — will be constructed.

TWO STATES, TWO RIVERS AND A LINK

What is the estimated cost of the KBLP?

- According to the Comprehensive Detailed Project Report, the **cost of Ken-Betwa Link Project** is estimated at Rs 35,111.24 crore at 2017-18 prices.

Which region will get the benefits of the KBLP?

- The Ken-Betwa Link Project lies in Bundelkhand, a **drought-prone region**, which spreads across 13 districts of Uttar Pradesh and Madhya Pradesh.
- According to the Jal Shakti Ministry, the project will be of **immense benefit to the water-starved region of Bundelkhand**.
- It will pave the way for more interlinking of river projects to **ensure that scarcity of water does not become an inhibitor** for development in the country.
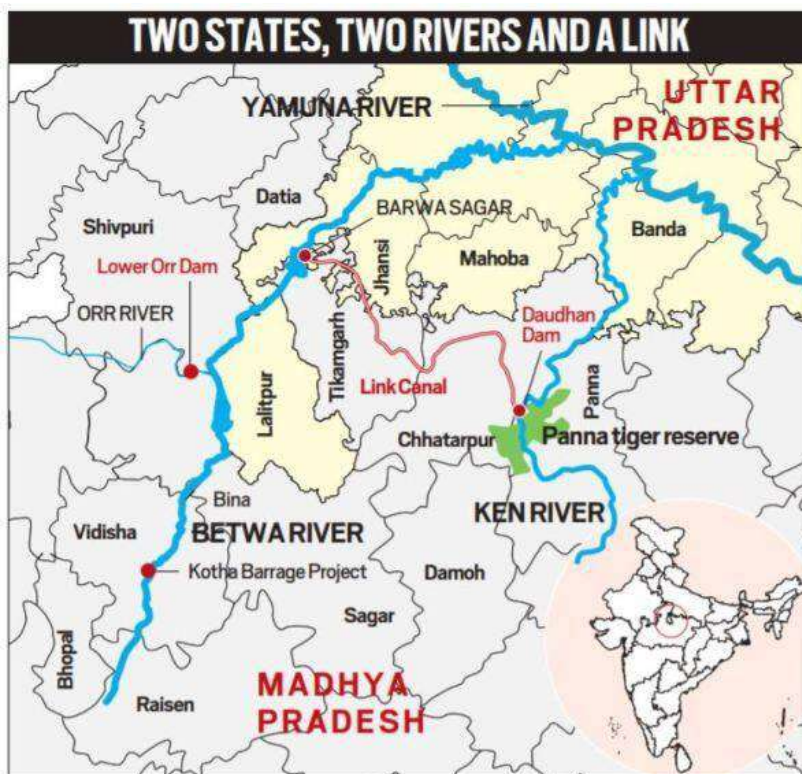
Will the project affect the Panna tiger reserve?

- Out of the **6,017 ha of forest area** coming under submergence of **Daudhan dam of Ken Betwa Link Project**, 4,206 ha of area lies within the core tiger habitat of Panna Tiger Reserve.

About Interlinking of Water

- Since the 1980s, the interlinking project has been managed by India's National Water Development Agency (NWDA) under the Ministry of Water Resources.

Components of the Project

- Northern Himalayan Rivers interlink component.
- A southern peninsular component.
- An intra-State rivers linking component.

STATUS OF PROJECTS

Pros of interlinking of water

- Interlinking of rivers will help areas having shortage of water areas to have water throughout the year.
- This will cut farmers dependence on monsoon rains by bringing millions of hectares of cultivatable land under irrigation.
- Crop productivity would increase and so would revenues for the State.
- The river linking project will ease the water shortages in western and southern India while mitigating the impacts of recurrent floods in eastern India.
- India needs clean energy to fuel its development processes, and river water can be leveraged for this.
- Fulfilling water needs impact socio-economic life of people, which will help to end poverty.
- Potential benefits to transportation through navigation, as well as broadening income sources in rural areas through fishing.

Challenges

- Interlinking of rivers is a very expensive proposal.
- The river interlinking project will adversely affect land, forests, biodiversity, rivers and the livelihood of millions of people.
- The Ken-Betwa link threatens about 200 sq. km of the Panna tiger reserve.
- Interlinking of **rivers will lead to destruction of forests, wetlands** and local water bodies, which are major groundwater recharge mechanisms.
- Less **positive experience that other countries have, like diversion of Amu Darya and the Syr** Darya or the Australia's experiments in its Murray Darling basin.
- It **causes massive displacement of people. Huge burden on the government** to deal with the issue of rehabilitation of displaced people.
- Due to **interlinking of rivers, there will be decrease in the amount of fresh water entering** seas and this will cause a serious threat to the marine life.
- The **Shah committee pointed out that the linking of rivers will affect natural supply of nutrients for agricultural lands** through curtailing flooding of downstream areas.

Inter Basin Water Transfer Links

Himalayan component
1. Manas-Sankosh-Tista-Ganga
2. Kosi-Chagra
3. Gandak-Ganga
4. Ghagra-Yamuna
5. Sarda-Yamuna
6. Yamuna-Rajasthan
7. Rajasthan-Sabarmati
8. Chunar-Sone Barrage
9. Sone dam-southern tributaries of Ganga
10. Ganga-Damodar-Subernarekha
11. Subernarekha- Mahanadi
12. Kosi-Mechi
13. Farakka-Sunderbans
14. Jogighopa-Tista-Farakka (alternative to 1)
— Water transfer link

Peninsular component
- Mahanadi (Manibhadra)-Godavari (Dowlaiswaram)
- Godavari (Inchampalli)-Krishna (Pulichintala)
- Godavari (Inchampalli)-Krishna (Nagarjunasagar)
- Godavari (Polavaram)-Krishna (Vijayawada)
- Krishna (Almatti)-Pennar
- Krishna (Srisailam)-Pennar
- Krishna (Nagarjunasagar)-Pennar (Somasila)
- Pennar (Somasila)-Cauvery (Grand Anaicut)
- Cauvery (Kattalai)-Vaigai-Gundar
- Ken-Betwa
- Parbati-Kalisindh-Chambal
- Par-Tapi-Narmada
- Damanganga-Pinjal
- Bedti-Varda
- Netravati-Hemavati
- Pamba-Achankovil-Vaippar

Source: National Water Development Agency

Way Forward

- Each and every project must be taken up on case to case basis.
- Development of national waterways must be considered along with it.

FUNCTIONING OF PARLIAMENT

News

- The Budget session of Parliament ended, **two weeks ahead of the original plan.**

Trends of Parliament Functioning

- The **Budget session of 2020 was curtailed ahead** of the lockdown imposed following the novel coronavirus pandemic,
- A **short 18-day monsoon session ended after 10 days** as several Members of Parliament and Parliament staff got affected by COVID-19,
- The **winter session was cancelled**.

Impact on Functioning

- As a result, the fiscal year **2020-21 saw the Lok Sabha sitting for 34 days** (and the Rajya Sabha for 33), the lowest ever.
- The casualty was proper legislative scrutiny of **proposed legislation as well as government functioning and finances**.

No Bill scrutiny

- An important development this session has been the **absence of careful scrutiny of Bills**.
- During the session, 13 Bills were introduced, and n**ot even one of them was referred to a parliamentary committee** for examination.

Money Bill classification

- The last few years have seen the dubious practice of marking **Bills as 'Money Bills'** and getting them past the Rajya Sabha.
- Some sections of the **Aadhaar Act** were read down by the Supreme Court of India due to this procedure.
- The Finance Bills over the last few years have contained **several unconnected items** such as restructuring of tribunals, introduction of electoral bonds, and amendments to the foreign contribution act.

Poor Budget Discussion

- The Constitution requires the Lok Sabha to approve the expenditure Budget of each department and Ministry.
- The Lok Sabha had listed the budget of just five Ministries for detailed discussion and discussed only three of these; 76% of the total Budget was approved without any discussion.

The missing Deputy Speaker

- A striking feature of the current Lok Sabha is the **absence of a Deputy Speaker.**
- **Article 93** of the Constitution states that "The House of the People shall, as soon as may be, choose two members of the House to be respectively Speaker and Deputy Speaker".
- Usually, the Deputy Speaker is elected within a couple of months of the formation of a new Lok Sabha.
- By the time of the next session of Parliament, two years would have elapsed without the election of a Deputy Speaker.

Role of Parliament

- Parliament has the **central role in our democracy as the representative body** that checks the work of the government.
- It is also expected to **examine all legislative proposals in detail**, understand their nuances and implications of the provisions, and decide on the appropriate way forward.

Measures to enhance the working of Parliament

- Creating a system of research support to Members of Parliament,
- Providing sufficient time for MPs to examine issues,
- Requiring that all Bills and budgets are examined by committees and public feedback is taken.
- Adopting Remote Working and technological solutions like other countries to enhance efficiency.
- In sum, Parliament needs to ensure sufficient scrutiny over the proposals and actions of the government.

About Deputy Speaker

- Article 93 of the Constitution provides for the election of both the Speaker and the Deputy Speaker of the Lok Sabha.
- Like the Speaker, the Deputy Speaker is also elected by the Lok Sabha itself from amongst its members.
- He is elected after the election of the Speaker has taken place. The date of election of the Deputy Speaker is fixed by the Speaker.
- Whenever the office of the Deputy Speaker falls vacant, the Lok Sabha elects another member to fill the vacancy.

Role of Deputy Speaker

- The Deputy Speaker performs the duties of the Speaker's office when it is vacant.
- He also acts as the Speaker when the latter is absent from the sitting of the House.
- In both the cases, he assumes all the powers of the Speaker. He also presides over the joint sitting of both the Houses of Parliament, in case the Speaker is absent from such a sitting.
- The Deputy Speaker has one special privilege, that is, whenever he is appointed as a member of a parliamentary committee, he automatically becomes its chairman.

NO ACTION ON LIST SENT BY COLLEGIUM *GS-II POLITY*

Context

- The Supreme Court asked the government to clarify on the **status of 55 recommendations** made by the Collegium for judicial appointments to various High Courts six months to nearly a year-and-a-half ago.

Details

- Forty-four of the pending recommendations were made to fill vacancies in the Calcutta, Madhya Pradesh, Gauhati, Rajasthan and Punjab High Courts.
- These recommendations have been pending with the government for over seven months to a year. The remaining 10 names have been pending with the government despite their reiteration by the Collegium.

About Collegium System:

- Collegium System is a system under which appointments and elevations of judges and lawyers to the Supreme Court and the High Courts, and also transfer of judges to High Courts and the Apex court are decided by a forum of the **Chief Justice of India and 4 senior most judges of the Supreme Court**.

Appointment to Judiciary
Constitutional Provisions:

- Judges of the Supreme Court and High Courts are appointed by the President under Articles 124(2) and 217 of the Constitution.
- The President is required to hold consultations with such of the judges of the Supreme Court and of the High Courts as he may deem necessary.
- Article 124(2) says: "Every Judge of the Supreme Court shall be appointed by the President by warrant under his hand and seal after consultation with such of the Judges of the Supreme Court and of the High Courts in the

States as the President may deem necessary for the purpose and shall hold office until he attains the age of sixty-five years.

In Practicality:

- It is appointed by recommendations of a collegium system.
- Collegium system is the system of appointment and transfer of judges that has evolved through judgments of the Supreme Court, and not by an Act of Parliament or by a provision of the Constitution.
- The Supreme Court collegium is headed by the Chief Justice of India and comprises four other seniormost judges of the court.
- The government's role is limited to getting an inquiry conducted by the Intelligence Bureau (IB) if a lawyer is to be elevated as a judge in a High Court or the Supreme Court.
- It can also raise objections and seek clarifications regarding the collegium's choices, but if the collegium reiterates the same names, the government is bound, under Constitution Bench judgments, to appoint them as judges.

Evolution of Collegium System

1st Judges Case:

- The Supreme Court held that the concept of primacy of the Chief Justice of India was not really to be found in the Constitution.
- The Constitution Bench also held that the term "consultation" used in Articles 124 and 217 was not "concurrence" — meaning that although the President will consult these functionaries, his decision was not bound to be in concurrence with all of them.

2nd Judges Case:

- It devised a specific procedure called 'Collegium System' for the appointment and transfer of judges in the higher judiciary.
- It gave primacy to the CJI in matters of appointment and transfers while also ruling that the the term "consultation" would not diminish the primary role of the CJI in judicial appointments.
- The court said that the recommendation should be made by the CJI in consultation with his two senior most colleagues, and that such recommendation should normally be given effect to by the executive.
- It held that executive can ask for reconsideration, but if reiterated the same name, executive will have to make the appointment.

3rd Judges Case:

- The recommendation should be made by the CJI and his four senior most colleagues, instead of two leading to birth of new collegium system.
- It also held that Supreme Court judges who hailed from the High Court for which the proposed name came, should also be consulted.
- It was also held that even if two judges gave an adverse opinion, the CJI should not send the recommendation to the government.

Challenges to Collegium system

- The system is non-transparent, since it does not involve any official mechanism or secretariat.
- It is seen as a closed-door affair with no prescribed norms regarding eligibility criteria or even the selection procedure.
- There is no public knowledge of how and when a collegium meets, and how it takes its decisions.
- It violates the principle of separation of power as judges are appointing themselves. It has led to tyranny of unelected.
- There is the lack of a written manual for functioning, the absence of selection criteria, the arbitrary reversal of decisions already taken, the selective publication of records of meetings.

Possible reforms in collegium system

- At the supreme court level, a secretariat is required since the Supreme Court collegium (its composition varies when comes to the appointment of High Court Judges) has a decisive role to play in appointing judges to both High Courts and the Supreme Court.
- There is an urgent need to develop appropriate criteria for determining the merit. Arun Jaitley, the then leader of opposition in Rajya Sabha, advocated the need to develop objective criteria for determining eligibility and suitability of candidate for appointments.
- Need for Transparency in Collegium system:
  - o Vacancies in the Supreme Court and the High Courts shall be announced in advance.
  - o The practice of providing regional and demographic representation in the Supreme Court shall be formally acknowledged and their extent earmarked.
  - o even with respect to appointment of judges to the High Courts, the percentage of judges selected/to be selected from each of the two categories mentioned in the Constitution shall be announced.
  - o List of candidates, who had applied, nominated or considered by the members of the collegium on their own, shall be maintained.

Conclusion

- Supreme Court itself has accepted that collegium system needs to be reformed. With, more pressure and demand for transparency in working of judiciary, it is high time that court makes system more transparent, participative and representational.

TAMILNADU CAUVERY SCHEME / *GS-II POLITY*

Context

- Karnataka will soon approach the Supreme Court with an original suit against Tamil Nadu's decision to unilaterally go ahead with the **Cauvery-Vellaru-Vaigai-Gundar link project** to **utilise excess water in the Cauvery basin** and **transfer it to its southern districts**.

Details

- The utilisation of surplus water requires permission of all the basin States and that Karnataka has submitted its opposition to the Centre, and the Central Water Commission.
- The link scheme to which Tamil Nadu laid the foundation last month did not have the approval of the State.

CAUVERY-VAIGAI-GUNDAR LINK SCHEME

Cost | ₹6,941 crore

Phase I | Cauvery (Kattalai barrage)-South Vellar | 118km

Phase II | South Vellar-Vaigai | 107km

Phase III | Vaigai-Gundar | 34km

➤ Proposal to divert 6,360cusecs of water for nine days from the 8.5tmcft Mettur surplus available

➤ A head regulator on the right flank of Kattalai

barrage with discharge capacity of 6,360cusecs

➤ A link canal of 256.82km take off from **Kattalai** barrage with full supply level of 100.7m

➤ 9.25km long tunnels planned enroute

➤ Branch canals and 25 direct sluices to facilitate irrigation enroute

Constitutional Approach for Inter-state River water dispute

- Entry 17 of State List deals with water i.e. water supply, irrigation, canal, drainage, embankments, water storage and water power.
- Entry 56 of Union List empowers the Union Government for the regulation and development of inter-state rivers and river valleys to the extent declared by Parliament to be expedient in the public interest.

According to Article 262, in case of disputes relating to waters

- Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution or control of the waters of, or in, any inter-State river or river valley.

- Parliament may, by law provide that neither the Supreme Court nor any other court shall exercise jurisdiction in respect of any such dispute or complaint as mentioned above.

Parliament has enacted two laws according to Article 262

- River Board Act, 1956: The objective of Boards is to advise on the inter-state basin to prepare development scheme and to prevent the emergence of conflicts. Till date, no river board as per above Act has been created.
- Inter-State Water Dispute Act, 1956:
- In case, if a particular state or states approach to Union Government for the constitution of the tribunal:
- Central Government should try to resolve the matter by consultation among the aggrieved states.
- In case, if it does not work, then it may constitute the tribunal.

No	Name of Tribunal	States concerned
LIST OF EXISTING WATER DISPUTE TRIBUNALS
1.	Godavari Water Disputes Tribunal	Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh & Odisha
2.	Krishna Water Disputes Tribunal -I	Maharashtra, Andhra Pradesh, Karnataka,
3.	Narmada Water Disputes Tribunal	Rajasthan, Madhya Pradesh, Gujarat and Maharashtra
4.	Ravi & Beas Water Tribunal	Punjab, Haryana and Rajasthan
5.	Cauvery Water Disputes Tribunal	Kerala, Karnataka, Tamil Nadu and Puducherry
6.	Krishna Water Disputes Tribunal -II	Karnataka, Telangana, Andhra Pradesh and Maharashtra
7.	Vansadhara Water Disputes Tribunal	Andhra Pradesh &Odisha
8.	Mahadayi Water Disputes Tribunal	Goa, Karnataka and Maharashtra

Need to amend 1956 act

- There are dozens of tribunals for inter-state water dispute resolution. It makes the process unwieldy and delayed.
- There are time delays from 6 years to 20 years in awarding the verdict.
- Low acceptance of the awards by the state: Only three out of eight awards have been accepted.
- There are tribunals for last 30 years like Cauvery tribunal, Ravi tribunal and hasn't given any verdict.
- There has been delay in constituting the tribunals. It took nine years to constitute the Narmada tribunal.
- The River Boards Act 1956, which is supposed to facilitate inter-state collaboration over water resource development, remained a 'dead letter' since its enactment.
- There was no clarity in the tenure of tribunal members.
- Generally tribunal's members were not specialist in areas.
- Tribunals didn't go forward in water management and focus on developing a water database.
- Tribunals were created when State approached the center and center approved creation of tribunals.

Provisions of the Inter-State River Dispute (Amendment) act: 2019

- A dispute between two states will first go to a dispute resolution committee. In case of its failure, dispute will go to the permanent tribunal.
- A single Tribunal with different benches for all the river disputes.
- Maximum duration for a tribunal award is 6 years. 1.5 years are for dispute resolution committee and 4.5 years are for tribunals hearing and verdict.
- Tribunals member tenure will be of 5 years or 70 years of age.
- Tribunal will consist domain experts.
- Tribunal decisions are binding and has authority of Supreme court order.
- It will require maintenance of basin database.

RESERVATION FOR MARATHAS

Context
- The Supreme Court reserved its decision on a batch of petitions challenging the Maharashtra State Reservation for Socially and Educationally Backward Classes Act, 2018.
- It provides reservation to the Maratha community in jobs and admissions, taking the total quota beyond the 50 per cent cap fixed by the apex court's 1992 ruling in the Indra Sawhney case.

Details
- A five-judge bench headed by Justice Ashok Bhushan heard arguments for ten days on **whether the 1992 judgment by a nine-judge bench needs to be reconsidered** and the **effect of the 102nd amendment** on the power of the states to identify Socially and Educationally Backward Classes so as to provide them reservation.
- Earlier, the bench had said that the **50 per cent ceiling "is a manifestation of the right to equality"** and wondered what would happen to the concept of equality if the ceiling is scrapped.

About Marathas
- The Marathas are a group of castes comprising peasants, landowners among others.
- Historically, Marathas have been identified as a 'warrior' caste with large land-holdings.
- Since the formation of the Maharashtra state in 1960, of its 19 chief ministers, 11 have been from the Maratha community.
- Division of land and agrarian problems over the years have led to a decline of prosperity among middle class and lower middle-class Marathas.

Ruling of the Bombay High Court
- Ruled that the 16 per cent quota granted by the state was not 'justifiable.
- **Reduced it to 12 per cent in education** and 13 per cent in government jobs.
- Limit of reservation should not exceed 50%.
- The limit can be increased:
  - Subject to availability of quantifiable and contemporaneous data reflecting backwardness,
  - Inadequacy of representation
  - Without affecting the efficiency in administration.
- The Court had said **that while the backwardness of the community was not comparable with SCs and STs, it was comparable with several other backward** classes.

Finding of the Maharashtra State Backward Class Commission (MSBCC) on Marathas:

Social Backwardness
- 76.86 % of Maratha families are engaged in agriculture and agricultural labour for their livelihood
- nearly 70% reside in Kachha dwellings,
- 35- 39 % have personal tap water connections.
- In 2013-2018, a total of 2,152 (23.56%) Maratha farmers died by suicide, against total 13, 368 farmer suicides.
- 88.81 % Maratha women are involved in physical labour for earning livelihood.

Educational Backwardness
- 13.42 % of Marathas are illiterate,
- 35.31 % primary educated,
- 43.79 % Higher Secondary and Secondary.
- 6.71 % undergraduates and postgraduates
- 0.77 % technically and professionally qualified.

Economic backwardness

- 93 % Maratha families have an annual income of Rs 1 lakh, which was below average income of middle-class families.
- 37. 38% families were Below Poverty line against the state average of 24%
- 71% own less than 2.5 acres land, whereas only 2.7% big farmers own 10 acres of land.
- Also established inadequacy of representation of the Maratha community in public employment in the state.

Current Status in Maharastra

- A nine-judge bench of the Supreme Court, in the 1993 Indra Sawhney case, which is known as Mandal Commission case, **had ruled that total reservation for backward classes cannot go beyond the 50%-mark.**
- Following the 2001 State Reservation Act, the total reservation was 52 per cent.
- With the **addition of 12-13 per cent Maratha quota, the total reservation in the state is 64-65 per cent.**
- The **10 % Economically Weaker Sections (EWS) quota announced by the Centre last year is also effective** in the state.

Supreme Court Verdict in Mandal Commission

- Backward classes in Article 16(4) were not like as socially and educationally backward in article 15(4).
- Creamy layer must be barred from the backward classes.
- Article 16(4) grants characterization of backward classes into backward & more backward classes.
- A backward class of citizen can't be distinguished just and solely with reference to financial criteria.
- Reservation should not exceed 50%.
- Reservation can be made by the Executive Order.
- No reservation in promotion.
- Permanent Statutory body to look at whines of over – inclusion /under – inclusion.
- Majority held that there is no need to express any opinion on the accuracy or ampleness of the activity done by the Mandal Commission.
- Disputes with respect to new criteria can only be raised in the Supreme Court.

Breach of 50% Ceiling by the State Government

- States have breached the 50% ceiling before and intend to bring more reservation.
- The **Tamil Nadu** Backward Classes, Scheduled Castes and Scheduled Tribes (Reservation of Seats in Educational Institutions and of Appointments or Posts in the Services under the State) Act, 1993, **reserves 69% of the seats in colleges and jobs** in the state government.
- However, this was done by amending the Constitution, to place the law in the **Ninth Schedule** after the Indra Sawhney judgment.
- The Ninth Schedule provides the law with a **"safe harbour" from judicial review under Article 31A of the Constitution**.
- A later Bench was to decide whether the Tamil Nadu law itself (breaching the 50% ceiling) violates basic structure, based on the I R Coelho verdict. The Bench has not yet been set up.

Concept of 9th Schedule

- Laws placed in the Ninth Schedule cannot be challenged for reasons of violating any fundamental right protected under the Constitution. H
- However, when the Tamil Nadu law was challenged in **2007 (I R Coelho v State of Tamil Nadu)**, the Supreme Court ruled in a unanimous 9-judge verdict that while laws placed under Ninth Schedule cannot be challenged on the grounds of violation of fundamental rights, they can be challenged on the ground that it violates the basic structure of the Constitution.

ANNUAL REPORT ON RIGHT TO INFORMATION

News
- Central Information Commission has released annual report on Right to Information requests.

Details
- The Centre has only rejected 4.3% of all Right to Information (RTI) requests in 2019-20, the lowest ever rate.
- Home Ministry had the highest rate of rejections, as it rejected 20% of all RTIs received.
- The Agriculture Ministry's rejection rate doubled from 2% in 2018-19 to 4% in 2019-20.
- Delhi Police and the Army also saw increases in rejection rates.
- However, almost 40% of these rejections did not include any valid reason, as they did not invoke one of the permissible exemption clauses in the RTI Act.
- This includes 90% of rejections by the Prime Minister's Office.
- In 38.7% of rejections in 2019-20, public authorities failed to cite permissible exemption clauses, and were classified under the 'Others' category in the CIC data.
- It covers more than 2,000 public authorities across the Central government as well as the union territories.

Right to Information Act:
Objective:
- Provides a legal framework of citizens' democratic right to access to information under the control of public authorities;
- To promote transparency and accountability in the functioning of every public authority.

Provisions of the act:
- Under the provisions of the Act, any citizen of India may request information from a "public authority" (a body of Government or "instrumentality of State") which is required to reply immediately or within thirty days.
- The Act also requires every public authority to computerize their records for wide dissemination and to proactively certain categories of information so that the citizens need minimum recourse to request for information formally.

Definition of Public Authority
- Public Authority means any authority or body or institution established or constituted;
- By or under the constitution;
- By any other law made by Parliament;
- By any other law made by State Legislature

Definition of Information
- Any material in any form including, Records ,Documents , Memos ,Opinions & advices , Press releases , Circulars, orders & logbooks , Contracts ,Reports, papers, samples & models,
- Data material held in any electronic form and information related to any private body which can be assessed by public authority.

Coverage of RTI :
- Covers central, state and local governments and all bodies owned, controlled or substantially financed by the respective Governments;
- Section 2(h) Non-government organization substantially financed directly or indirectly by funds provided by the appropriate government.
- Section 2 (e) Executive, judiciary and legislature Includes information relating to private body which can be accessed by under any other law for the time being in force.

Exemptions from Disclosure of Information
- Sovereignty and Integrity Of India
- Prevented by courts

- Breach of privilege of Parliament
- Trade secret, Intellectual property
- Fiduciary relationship
- Information received from foreign Government
- Life and physical safety of any person
- Issues under investigation
- Cabinet papers
- Invasion in privacy

Procedure for requesting information

- Apply in writing or through electronic means in English or Hindi or in the official language of the area, to the Public Information Officer [PIO], specifying the particulars of the information sought for.
- Reason for seeking information are not required to be given;
- Pay fees as may be prescribed

Appeal

- First appeal with senior in the Department.
- Second appeal with Information Commission.

Penalties

- For Refusal of application, providing malafide or false information, destruction of information, The penalty levied under the RTI Act at the rate of Rs. 250/- a day, up to a maximum of Rs. 25,000/-, is recovered from the salary of officials. (imposed by Information Commission on PIO or assistant PIO)
- Departmental **action, However no criminal liability.**

ELECTORAL BONDS

GS-II GOVERNANCE

News

- The Supreme Court has allowed the sale of electoral bonds prior to the Assembly elections in crucial states such as West Bengal and Tamil Nadu.

Court Judgment

- It said that the scheme began in 2018 and continued in 2019 and 2020 without any impediments.
- There is no reason to stall the sale of the electoral bonds.

Court Response on Various Issues related to Electoral Bonds

Charges	Court Response
Anonymity of the buyers which allows channelizing of money without public scrutiny.	It ensures that everything happens through the banking channels alone. The purchase as well as encashment of the bonds, happening only through banking channels, is always reflected in documents that eventually come to the public domain.
Financing of the Political Parties by the Corporate Houses	The bonds require fulfillment of the KYC requirements. The Spent money will always reflect on the expense sheet of company.
Influence of the foreign Cooperation by purchase of electoral bonds	Bonds can be purchased only by a person who is a citizen of India or incorporated or established in India.
It will lead to flow of black money as it can be sold outside.	Bonds are not tradable under clause 14. Moreover, the first buyer will not stand to gain anything out of such a sale except losing white money for the black.

About Electoral Bonds

- An electoral bond is designed to be **a bearer instrument like a Promissory Note** — in effect, it will be similar to a bank note that is payable to the **bearer on demand and free of interest**.
- It can be purchased by any **citizen of India or a body incorporated in India.**

Mechanism of Electoral Bonds

- The bonds will be issued in multiples of ₹1,000, ₹10,000, ₹1 lakh, ₹10 lakh and ₹1 crore and will be available at specified branches of State Bank of India.
- They can be bought by the donor with a KYC-compliant account.
- Donors can donate the bonds to their party of choice which can then be cashed in via the party's verified account within 15 days.

Conditions related to Electoral Bonds

- Every registered party which has secured at least one per cent of the votes polled in the most recent Lok Sabha or State election will be allotted a verified account by the Election Commission of India.
- Electoral bond transactions can be made only via this account.
- The bonds will be **available for purchase for a period of 10 days each** in the beginning of every quarter, i.e. in January, April, July and October.
- The electoral bonds **will not bear the name of the donor. In essence, the donor and the party details will be available with the bank, but the** political party might not be aware of who the donor is.

Opposition to the electoral Bonds

- **Anonymity**: voters do not know which individual, company, or organization has funded which party, and to what extent.
- The government of the day **can always access the donor details by demanding the** data from the State Bank of India (SBI) which makes them more powerful.
- Printing of these bonds & SBI commission for facilitating the sale and purchase of the bonds is paid from the **taxpayers' money by the central government.**
- Classification of 1% vote share is arbitrary in nature.
- RBI has said the bonds would set a "**bad precedent**" since it would allow for money laundering and undermine trust in banknotes.

Popularity of Electoral bonds as route of Donation

- By virtue of the anonymity they offer to donors, electoral bonds **have become the most popular route of donation.**
- In the years 2017-18 and 2018-19, **political parties received a total of Rs 2,760.20 crore from electoral bonds, of which Rs 1,660.89 cr or 60.17**% was received by the BJP alone.

Election commission stand on Electoral Bonds

- It had **objected to the amendments in the Representation** of the People (RP) Act, which exempt political parties from disclosing donations received through electoral bonds.
- It **described the move as a "retrograde step"**.
- The Commission had even asked the **government to "reconsider" and "modify"** the above amendment.

EASE OF LIVING INDEX 2020

GS-II   GOVERNANCE

Why in News

- Shri Hardeep Singh Puri, Minister of State (Independent Charge), *Housing and Urban Affairs* has recently announced the release of the final rankings of Ease of Living Index (EoLI) 2020 and the Municipal Performance Index (MPI) 2020 in an online event.
- The framework for these assessments were prepared by MoHUA with the Institute for Competitiveness as the knowledge partner.

Highlights of the Two Indices

- The rankings under Ease of Living Index 2020 were announced for cities with a population of more than a million, and cities with less than a million people.
    o 111 cities participated in the assessment exercise that was conducted in 2020.
    o The analysis categorizes them into Million+ populated cities (those with a population of more than a million) and Less than Million populated cites (those with a population of less than a million) along with all the cities under the Smart Cities Program.
- *Bengaluru emerged as the top performer in the Million+ category*, followed by Pune, Ahmedabad, Chennai, Surat, Navi Mumbai, Coimbatore, Vadodara, Indore, and Greater Mumbai.
- *In the Less than Million category, Shimla was ranked the highest in ease of living*, followed by Bhubaneshwar, Silvassa, Kakinada, Salem, Vellore, Gandhinagar, Gurugram, Davangere, and Tiruchirappalli.
- Similar to the EoLI index, the assessment framework under *MPI 2020* has classified municipalities based on their population- Million+ (municipalities having over a million population) and Less than Million Population.
    o **In the Million+ category, Indore has emerged as the highest ranked municipality, followed by Surat and Bhopal.**
    o **In the Less than Million category, New Delhi Municipal Council has emerged as the leader, followed by Tirupati and Gandhinagar.**

About the Two Indices

The Ease of Living Index (EoLI)

- The EoLI 2020 strengthens its scope by consolidating the framework with the addition of a Citizen Perception Survey in the index, holding a weightage of 30%.
- It, therefore, examines the outcomes that lead to existing living conditions through pillars of Quality of Life, Economic Ability, Sustainability, spanning across 13 categories of -Education, Health, Housing and Shelter, WASH and SWM, Mobility, Safety and Security, Recreation, Level of Economic Development, Economic Opportunities, Environment, Green Spaces, and Buildings, Energy Consumption, and City Resilience, that account for 70% of the overall outcome.
- The Citizen Perception Survey (CPS) was undertaken to help validate citizens' experience of their city in terms of service delivery. The assessment was conducted from 16th January 2020 till 20th March 2020.
    o A total of 32.2 lakh citizens from 111 cities participated in the survey. Bhubaneshwar had the highest CPS score, followed by Silvassa, Davangere, Kakinada, Bilaspur and Bhagalpur.
- The EoLI report aims to measure the well-being of Indian citizens in 111 cities, across the pillars of Quality of Life, Economic-ability, and Sustainability, with 49 indicators under 13 categories.
    o The EoLI primarily seeks to accelerate India's urban development outcomes, including the achievement of the Sustainable Development Goals.
    o The findings from the index can help guide evidence-based policymaking.
    o It also promotes healthy competition among cities, encouraging them to learn from their peers and advance their development trajectory.

The Municipal Performance Index 2020 (MPI)

- Municipal Performance Index assessment was also undertaken for the first time in the country.
  - o Whereas, the **Ease of Living Index measures an outcome of the indicator, Municipal Performance Index focuses on the factors that produce those outcomes.**
  - o The latter serves in determining elements that prevent efficient local governance in service delivery mechanisms, planning, financial systems, and governance practice.
- The Municipal Performance Index is an effort to assess and analyse the performance of Indian municipalities based on their defined set of functions.
  - o The responsibilities of a municipality span across a range of verticals that include provision of basic pubic services to more complex domains like urban planning.

The salient features of MPI.

- The Municipal Performance Index provides a granular understanding of a municipalities' functionalities and the extent of their development and capabilities.
- Through the index, citizens can better understand their local government administration, which in turn builds transparency and generates trust among key stakeholders.
- The framework covers 20 varied sectors vis. Education, Health, Water & Wastewater, SWM & Sanitation, Registration & Permits, Infrastructure, Revenue Management, Expenditure Management, Fiscal Responsibility, Fiscal Decentralisation, Digital Governance, Digital Access, Digital Literacy, Plan Preparation, Plan
- Implementation, Plan Enforcement, Transparency & Accountability, Human Resource, Participation and Effectiveness.

NATIONAL CAPITAL TERRITORY OF DELHI (AMENDMENT) BILL, 2021 　　*GS-II* 　POLICY

Context
- The President of India gave assent to a Bill to accord primacy to Delhi's Lieutenant Governor (L-G) over the government.

Details of the Act
- The law says the government in Delhi means the Lieutenant Governor and the city government will now have to seek the opinion of the L-G before taking any executive action.
- Under the new bill, modifications have been proposed to four sections of the Government of National Capital Territory of Delhi Act, 1991.
- The amendments seek to promote "harmonious relations between the legislature and the executive".
- It provides for rules made by the Legislative Assembly of Delhi to be "consistent with the rules of the House of the People" or the Lok Sabha.
- The Bill seeks to define the responsibilities of the elected government and the Lieutenant Governor along the constitutional scheme of governance of the NCT interpreted by the Supreme Court in recent judgments regarding the division of powers between the two entities.
- The Bill adds that the L-G's opinion shall be obtained before the government takes any executive action based on decisions taken by the Cabinet or any individual minister.
- The amendments **also propose to ensure that the Lieutenant Governor is "necessarily granted an opportunity" to exercise** powers entrusted to him under proviso to Clause (4) of Article 239AA of the Constitution.
- The Bill seeks to add a provision in the original GNCTD Act, 1991, barring the Assembly or its committees from making rules to take up matters concerning day-to-day administration, or to conduct inquiries in relation to administrative decisions.

Government Justification
- The new bill seeks to address ambiguities in legislative provisions related to the administration of the National Capital Territory of Delhi.
- The elected government of Delhi had always been a local administrative body to be headed by the L-G as an administrator and the recent bill only tries to rectify any ambiguities regarding the same.

Challenges with the act
- There are various concerns associated with the newly introduced bill.
Against Supreme Court Verdict
- It argued that a directly elected Legislative Assembly which shall have legislative powers over matters falling within the State List and the Concurrent List, barring those excepted.
- Court held that the Lieutenant Governor will have to act on the aid and advice of the Council of Ministers except when he decides to refer the matter to the President for a final decision.
- The SC bench which looked into the issue had noted that the **Constitution mandated a federal balance** wherein independence of a certain required degree is assured to the State Governments.
- A **balanced federal structure mandates that the Union does not usurp** all powers and the States enjoy freedom without any unsolicited interference from the Central Government with respect to matters which exclusively fall within their domain.
Violation of People's right
- The Government of NCT of Delhi (Amendment) Bill, 2021 effectively reduces the elected government to a mere vestigial organ and elevates the standing of the centrally appointed LG.
- The powers of the elected government in Delhi would be completely dependent on the LG.

- The population of Delhi will have an unrepresentative administration given the powers bestowed upon the appointed LG.
- The residents of Delhi will not be able to hold accountable an unelected, centrally appointed government functionary.

Against democratic Spirit

- The Indian constitutional framework has President and Governors, in whose name, the government is run. These nominal heads can do almost nothing by themselves, without the aid and advice of their cabinet of ministers. However, the Lieutenant Governor (LG) of Delhi, will likely be an exception if the given bill is effectuated.

Provisions of the National Capital Territory of Delhi Act, 1991

- Delhi's current status as a Union Territory with a Legislative Assembly is an outcome of the 69th Amendment Act through which Articles 239AA and 239BB were introduced in the Constitution.
- For all practical purposes, the GNCTD Act outlines the powers of the Assembly, the discretionary powers enjoyed by the L-G, and the duties of the Chief Minister with respect to the need to furnish information to the L-G.

Creation of Union Territories

- During British rule certain areas were known as "Scheduled Districts" and later they came to be known as "Chief Commissioner Provinces".
- After Independence they were placed in the category of part 'C' and part 'D'.
- 7th CA and States Reorganization Act (1956), these territories were known as "Union Territories"
- Some of them later became as states.
- The Union Territories has been classified based on considerations like political and administrative, Cultural Distinctiveness, Strategic Importance.

Balakrishnan Committee

- **In 1987, the Balakrishnan Committee** was set up to recommend with regard to the status to be conferred on Delhi.
- In 1989, the Committee recommended that Delhi should continue to be a Union Territory but that there must be a Legislative Assembly and Council of Ministers responsible to the said Assembly with appropriate powers.
- Based on this report, the **Constitution (69th) Amendment Act and the Government of National Capital Territory of Delhi (GNCT) Act, 1991** were passed.
- Between 1991 to date, there have been various instances when the Delhi Assembly has been won by a party other than the ruling party at the Centre. As a result, the Delhi Government and the Union Government have differed on numerous issues. The ensuing fights lead to constitutional questions on Delhi's peculiar government structure being litigated up to the Supreme Court.

Administrative of Union Territories

- Articles 239 to 241 is part VIII of the constitution deals with the UT
- There is no Uniformity in Administrative System.
- Power of president lies in the appointment of Administrator, Lt. Governor
- Parliament Power is mostly centered on law or Court.

Advisory Committee of UT

- Government of India (Allocation of Business) Rules 1961- MHA is nodal ministry for all matters of UT relating to legislative, Finance and Budget, Services and Appointment of Lt. Governors and Administrators.
- All the five UTs without a legislature have the forum of HMAC –Consists of HM/MoSMHA, Administrator and MP from the respective UT, members from Local Elected Bodies discuss on issues related to Social and Economic Development.

69th amendment act

- It led to insertion of new articles 239AA and 239AB.

Article 239AA

- There shall be a Council of Ministers consisting of not more than ten percent, of the total number of members in the Legislative Assembly, with the Chief Minister at the head to aid and advise the Lieutenant Governor in the exercise to his functions.
- Provided that in the case of difference of opinion between the Lieutenant Governor and his Ministers on any matter, the Lieutenant Governor shall refer it to the President for decision and act according to the decision given thereon by the President.
- The Chief Minister shall be appointed by the President and the other Ministers shall be appointed by the President on the advice of the Chief Minister and the Ministers shall hold office during the pleasure of the President.

NOTA ON THE EVMS

GS-II POLICY

Context

- The Supreme Court asked the Centre and the Election Commission of India to respond to a plea that fresh elections should be conducted in constituencies where the maximum votes polled are NOTA.

Need of this move

- Political parties choose contesting candidates in a **very undemocratic manner** without consulting electors.
- Many times people in constituency are **totally discontented with candidates** presented before them.
- This problem can be solved by holding a fresh election if maximum votes are polled in favor of NOTA.
- In such situation, the contesting candidates should be considered as rejected and not be allowed in fresh election.
- Right to reject and elect new candidate would **give power to the people to express their discontent.**

Right to reject'

- It was first proposed by the Law **Commission in its 170th Report** in 1999.
- The Election Commission had **twice endorsed 'right to reject'**.
- 'Background Paper on Electoral Reforms' prepared by the Ministry of Law in 2010 had proposed that if **certain percentage of the vote was negative, then election result should be nullified and new election should** be held.

What is NOTA?

- The Supreme Court, upheld the right of voters to reject all candidates contesting the elections, saying it would go a long way in **cleansing the political system of the country.**
- Election Commission provided the option of 'None of the Above' (NOTA) on the electronic voting machines (EVMs) and ballot papers in a major electoral reform.

How is a NOTA vote cast?

- The EVMs have the NOTA option at the end of the candidates' list.
- Earlier, in order to cast a negative ballot, a voter had to inform the presiding officer at the polling booth.
- A NOTA **vote doesn't require the involvement of the presiding officer.**

Why have NOTA if there's 'no electoral value'?

- The SC said negative voting would even encourage people who are not satisfied with any of the candidates to turn up to express their opinion and reject all contestants.
- Negative voting will lead to a **systemic change in polls and political parties will be forced to project clean candidates.**

- If the right to vote is a **statutory right**, then the right to reject a candidate is a fundamental right of speech and expression under the Constitution.
- The system of **negative voting existed in several** other countries. Even in Parliament, the MPs have the option to abstain during a vote.

Which other countries allow NOTA?

- Colombia, Ukraine, Brazil, Bangladesh, Finland, Spain, Sweden, Chile, France, Belgium and Greece allow their voters to cast NOTA votes.
- In 2018, the Supreme Court **scrapped the use of 'None Of The Above' (NOTA) option in the Rajya Sabha elections it held that the NOTA option** is meant only for universal adult suffrage and direct elections and not polls held by the system of proportional representation by means of the single transferable vote as done in the Rajya Sabha.

CONSERVATION OF WATER

Context

- On World Water day (March 22) Prime Minister Narendra Modi launched the "Catch the Rain" campaign under the government's flagship programme, Jal Shakti Abhiyan.
- He emphasized the importance of using every penny spent under MGNREGA to conserve water.

Water Availability

Central Water Commission's Reassessment

- India receives a mean annual precipitation of about 3,880 billion cubic meters (BCM) but utilizes only 699 BCM (18 percent) of this; the rest is lost to evaporation and other factors.
- The demand for water is likely to be 843 BCM in 2025 and 1,180 BCM by 2050.

UN Report

- As per the UN's report on Sustainable Development Goal-6 (SDG-6) on "Clean water and sanitation for all by 2030", India achieved only 56.6 per cent of the target by 2019. This indicates that we need to move much faster in order to meet this SDG goal.

Niti Aayog's Composite Water Management Index (2019)

- 75 per cent households in India **do not have access to drinking water** on their premises and India ranks 120th amongst 122 countries in the water quality index.
- India is **identified as a water stressed country** with its per capita water availability declining from 5,178 cubic metre (m3)/year in 1951 to 1,544 m3 in 2011.

Reasons and Way Forward

Focus on Agriculture

- Agriculture uses about 78 percent of freshwater resources. And as the country develops, the **share of drinking water, industry, and other uses is likely to rise**. Unless one learns to give effect to the credo of **"per drop more crop" in agriculture**, the challenge can be daunting.
- We need a paradigm shift in our thinking and a strategy to not just increase land productivity measured as tonnes per hectare (t/ha), but also maximise applied irrigation productivity measured as kilogrammes, or Rs, per cubic metre of water (kg/m3).
- So far, with decades of large public and private investments in irrigation, only about **half of India's gross cropped area is irrigated**.

Excess use of Groundwater

- **Groundwater** contributes about 64 per cent, canals 23 per cent, tanks 2 per cent and other sources 11 per cent to irrigation.
- This results primarily from the **skewed incentive policy of free or highly subsidised power,** particularly in the country's north-west, the site of the erstwhile Green Revolution.

Realignment of crops

- As per a NABARD-ICRIER study on Water Productivity Mapping, rice and wheat crops alone consume almost 60 per cent of India's irrigation water.
- It is interesting to note that while Punjab scores high on land productivity of rice, it is at the bottom with respect to applied irrigation water productivity.
- Similarly, in the case of sugarcane, irrigation water productivity in Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu is only 1/3rd of that in Bihar and UP. There is, thus, a need to realign cropping patterns based on per unit of applied irrigation water productivity.

Case Study

- The **Punjab government**, along with the World Bank and J-PAL, has started some pilots with an innovative policy of "**Paani Bachao Paise Kamao**" to encourage rational use of water among farmers.
- Under the initiative, **meters are installed on farmers' pumps**, and if they **save water/power** compared to what they have been using (taken as entitlements) they get paid for those savings.

Improving Access to Good Quality Water

- NITI Aayog has **come out with a Composite Water Management Index** as a useful tool to assess and improve the performance in the efficient management of water resources.
- In 2017, the Union Cabinet restructured the National Rural Drinking Water Programme (NRDWP) to make it more outcome-based, ensure a greater focus on the functionality of services
- The National **Water Quality Sub-Mission initiated by the Ministry of Drinking Water and Sanitation in February2017 was included as a sub**-programme under NRDWP to provide clean drinking water in 28,000 habitations affected by arsenic and fluoride.
- Release **of a certain proportion of funds from the centre to states was** made contingent on the functionality of the piped water supply infrastructure as verified by a third party.
- A **new Jal Shakti ministry was created by the Government** to integrate two ministries that were managing water related issues.
- In 2019, the Government launched an upgraded version of NRDWP, Har Ghar Nal Se Jai, a flagship programme under the Jal Jeevan Mission, to provide piped water supply to all rural households by 2024.

About Jal Shakti Abhiyan

- Government of India launched Jal Shakti Abhiyan (JSA), a time bound campaign with a mission mode approach intended to improve water availability including ground water conditions in the water stressed blocks of 256 districts in India.
- This 'Abhiyan' is a mass movement to bring all the stakeholders under one ambit of water conservation drive, and last year it had a nationwide impact.
- To promote water conservation and water resource management, five target interventions viz.
  - water conservation & rainwater harvesting,
  - renovation of traditional & other water-bodies/tanks,
  - reuse and recharge of bore-wells,
  - watershed development
  - intensive afforestation etc implemented during JSA.\

THE PLACES OF WORSHIP (SPECIAL PROVISIONS) ACT, 1991   *GS-II   SOCIAL JUSTICE*

News

- The five-judge Constitution Bench, led by Chief Justice of India (CJI) Ranjan Gogoi in M. Siddiq v. Mahant Suresh Das popularly known as Ram Janmabhoomi temple case had upheld the Places of Worship (Special Provisions) Act, 1991.
- The Court has sought the response from the centre.

About the Act

- Preamble of the act: An act to prohibit conversion of any place of worship and to provide for the maintenance of the religious character of any place of worship as it existed on the 15th day of August, 1947.

Details

- It was Passed in 1991 to maintain the "religious character" of places of worship as it was in 1947
- It creates an exception in the case of the Ram Janmabhoomi-Babri Masjid dispute, which was already in court

- Sections 3 and 4 of the Act declare that the religious character of a place of worship shall continue to be the same as it was on August 15, 1947.
- No person shall convert any place of worship of any religious denomination into one of a different denomination or section.
- Section 4(2) says that all suits, appeals or other proceedings regarding converting the character of a place of worship, that were pending on August 15, 1947, will stand abated when the Act commences and no fresh proceedings can be filed.

Opposition to the law

- **Violation of Federal** Principle: Centre has violated the principle of federalism by legislating on "pilgrimages" or "burial grounds" which is under the state list.
- **Use or arbitrary** Power: Centre has used its residuary power under Entry 97 of the Union List to enact this law.
  - Entry 97 provides residuary powers to the Centre to legislate on subjects that are not enumerated in any of the three lists.

Court Judgement

- Law is the manifestation of the secular values of the Constitution and strictly prohibits retrogression.
- Provides the **confidence to every religious community that their places of worship will be preserved and that their ch**aracter will not be altered.
- Act is a progression to **heal the injustices of the colonial past**.
- Ensured **the equality of all religions and secularism which** is a part of the basic structure of the Constitution.
- In preserving the character of places of public worship, Parliament has mandated in no **uncertain terms that history and its wrongs shall not be used as instruments to oppress the present and** the future.

Recent Challenge in the court

- Violation of the principle of Secularism
- The cut-off date of **August 15, 1947 is "arbitrary, irrational and retrospective" and prohibits Hindus, Jains, Buddhists, and Sikhs** from approaching courts to "re-claim" their places of worship.

Features of Secularism in India

- Indian state treats all religions on equal footing.
- Indian state neither interferes with nor promotes any religion.
- It permits individual and collective freedom of religion to all citizens.
- It view all individuals as citizens with equal rights and not as members of any particular religion.
- It is not against any religion.
- It functions in a way independent of religion.
- It allows religious education in some educational institutions run and managed by minorities subject to certain conditions.

Constitutional Provisions relating to Right of Religion

- **Article 25**: Freedom of conscience and free profession, practice and propagation of religion.
- **Article 26**: Freedom to manage religious affairs.
- **Article 27**: Freedom as to payment of taxes for promotion of any particular religion.
- **Article 28**: Freedom as to attendance at religious instruction or religious worship in certain educational institutions.

Conclusion

- Any changes in the act will open the fault lines and further communalize the society.

MENSTRUATION AMONG WOMEN

GS-II   SOCIAL JUSTICE

News
- A college in Gujarat had forced girls to remove their undergarments to check if they were menstruating.

Court Action
- Taking cognizance of the incident at SSGI, the Gujarat High Court, proposed to introduce a set of guidelines that prohibit the social exclusion of menstruating women from private, public, religious and educational places.

Cultural Stigma of Menstruation
- An underlying silence, stigma, hesitation and taboo exists world over with respect to menstruation.
- Women and especially young girls face the burden of this unspoken issue to the core which has been a result of lack of awareness, knowledge and sensitization of the issues pertaining to their body, menstrual hygiene, management, puberty and maternal health.
- In India, menstruation is considered as a social-cultural taboo which is being universally observed among the diverse sub cultures, religions, states residing in the country.
- Patriarchy plays a pivotal role in restricting or changing practices and perceptions about women's reproductive rights, and sexuality rights.
- The stigma finds its roots in the notion of purity and pollution attached historically to menstruation. This was explained exceptionally by Justice D.Y. Chandrachud in Indian Young Lawyers Association v. The State of Kerala (2018)
- He reasoned that any social practice which excludes women from participation in public life as a result of their menstruation is discriminatory on the ground of their sex.
- This is because it is drawn from the notion of menstruating women being "impure", a notion which targets the physiological feature of being women.

Challenges
- **Violation of article 14:** Menstruation discriminates women on the basis of gender. It is against the notion of substantive equality adopted by the Constitution.
- **Violation of Right to Privacy:** The conduct of the authorities, in college, amounts to a violation of the Right to Privacy which is an integral component of the 'Right to life and personal liberty' guaranteed under article 21.
- **Violation of right to freedom** : Restrictions of movement imposed on these students are one of the many attempts of state and non-state actors to take control of their person.
- It **perpetuates female subordination**.
- For instance, creating embarrassment and humiliation around menstruation and regulating social exclusion and taboos to exclude and marginalize women during their period
- Due to embarrassment, shame, hesitation the young girls are susceptible to serious health hazards.
- They are **exposed to unhygienic methods and unsanitary materials such as the use of dirty rags**, dried leaves, newspapers, ash to prevent the flow of menstrual blood.
- As per the WHO statistics **it has accounted to 27% of world's cervical cancer** deaths- the incidence rate almost twice to the global average rate.
- The social stigma is coupled with lack or no access to basic amenities, clean toilets, waste disposal mechanism, lack of communication from teachers, families to orient and aid young girls about the changes that advent in their body, the result - a huge drop out rate is observed in India from school.

Statistics related menstruation in India
- 70% of **all reproductive diseases in India are caused** by poor menstrual hygiene & affects maternal mortality.
- 23 % of **girls in India leave school when** they start menstruating.
- Only 12% **Menstruating Women use sanitary** napkins.

Menstruation Hygiene Scheme

- The Ministry of Health and Family Welfare has introduced a scheme for promotion of menstrual hygiene **among adolescent girls in the age group of 10-19 year** in rural areas.

The major objectives of the scheme are:

- To increase awareness among adolescent girls on Menstrual Hygiene
- To increase access to and use of high quality sanitary napkins to adolescent girls in rural areas.
- To ensure safe disposal of Sanitary Napkins in an environmentally friendly manner.

Future Actions

- **Awareness Campaign:** Government should spread awareness among its citizens regarding the social exclusion of women on the basis of their menstrual status through various mediums :
- putting up posters at public places,
- including it in the school curriculum,
- using audiovisual mediums like radio, entertainment/news channels, short films etc;
- **Sensitization**: Sensitization of health workers, Accredited Social Health Activists and Anganwadi Workers regarding menstruation biology must also be done
- Inclusion of the issue of social exclusion of women on the basis of their menstrual status in all existing campaigns/schemes that aims at menstrual hygiene
- Prohibition of all educational institutions, hostels, and living spaces for women from following social exclusion of women on the basis of their menstrual status in any manner;
- Undertaking surprise checks
- Imposition of an appropriate penalty against the erring institution.

Conclusion

- It is high time that we understood that Menstruation is a human issue and not only a women's issue.
- People need to know and understand that it is a normal physiological function of womanhood.

MEDICAL TERMINATION OF PREGNANCY (AMENDMENT) BILL, 2021   *GS-II SOCIAL JUSTICE*

Why in News

- The RajyaSabha has approved the **Medical Termination of Pregnancy (Amendment) Bill, 2021 to amend the Medical Termination of Pregnancy Act,** 1971.

Objective

- The Medical Termination of **Pregnancy (Amendment) Bill, 2021 is** for expanding access of women to safe and legal abortion services on therapeutic, eugenic, humanitarian or social grounds.
- The amendments **include substitution of certain sub-sections, insertion of certain new clauses under some sections in the existing Medical Terminatio**n of Pregnancy Act, 1971.
  - o *with a view to increase upper gestation limit for termination of pregnancy under certain conditions*
  - o to strengthen access to comprehensive abortion care, under strict conditions, without compromising service and quality of safe abortion.

Salient features

- Enhancing the upper gestation limit from 20 to 24 weeks for special categories of women which includes survivors of rape, victims of incest and other vulnerable women (like differently-abled women, minors) etc.
- Opinion of only one provider will be required up to 20 weeks of gestation and of two providers for termination of pregnancy of 20-24 weeks of gestation.
- Upper gestation limit not to apply in cases of substantial fetal abnormalities diagnosed by Medical Board.

- The composition, functions and other details of Medical Board to be prescribed subsequently in Rules under the Act.
- Name and other particulars of a woman whose pregnancy has been terminated shall not be revealed except to a person authorized in any law for the time being in force.
- The ground of failure of contraceptive has been extended to women and her partner.

Issue in the Bill
- The limit for the first category (pregnancies terminable subject to the opinion of one medical practitioner) is raised from **12 weeks to 20 weeks**, the limit for the second category (pregnancies terminable subject to the opinion of two medical practitioners) is raised to include those exceeding **20 but not exceeding 24 weeks**, instead of the present category of cases exceeding 12 but not exceeding 20 weeks.
- The **second category is left ambiguous** and **open to potential executive overreach** insofar as it may be further narrowed down by rules made by the executive.
- Further, pregnancies are allowed to be terminated only where continuance of the pregnancy would prejudice the life of the pregnant woman or cause grave injury to her mental or physical health or if the child were born it would suffer from any serious physical or mental abnormality.
- Section 3(2B), however, makes the **upper gestational limits inapplicable to abortions necessitated**, in the opinion of the Medical Board, by any "substantial fetal abnormalities".
- The fact that a **woman's right to abortion** is exercisable only in the face of such **compelling circumstances renders motherhood the norm, and abortion** the exception.
- The **special classifications** of "serious physical or mental abnormalities" and "substantial fetal abnormalities" also **reek of societal prejudices against persons with special needs**.

About 1971 Act
- The 1971 Act **reeks of moral biases against sexual relationships** outside marriage, adopts an ablest approach and carries a strong eugenic emphasis.
- The very Statement of **Objects and Reasons of the 1971 Act** noted the fact that most of these <u>mothers are married women, and are under no particular necessity to conceal their pregnancy</u> as a logical basis for legalization of termination of pregnancies.
- In addition to preventing danger to the life or risk to **physical or mental health of the woman, eugenic grounds** were recognized as a specific category for legally permissible abortions.

Conclusion
- It is a step towards safety and well-being of the women and many women will be benefitted by this.
- Recently several petitions were received by the Courts seeking permission for aborting pregnancies at a gestational age beyond the present permissible limit on grounds of fetal abnormalities or pregnancies due to sexual violence faced by women.
- The amendments will increase the ambit and access of women to safe abortion services and will ensure dignity, autonomy, confidentiality and justice for women who need to terminate pregnancy.

HUNGER IN INDIA /// *GS-II   SOCIAL JUSTICE*

Context
- Union Minister of State for Agriculture Parshottam Rupala **questioned the methodology and data accuracy of the Global Hunger Index (GHI) report**, which has placed India at 94th out of 107 countries in 2020.

Government Data

- According to the **National Family Health Survey (NFHS)-4**, the percentage of wasted, stunted and malnourished children in 2015-16 stood at 21, 38.4 and 35.7, respectively.
- The **Comprehensive National Nutrition Survey (CNNS)** of 2017-18 showed an improvement of 4%, 3.7% and 2.3% in wasted, stunted and malnourished children respectively.
- The first-ever CNNS was commissioned by the government in 2016 and was conducted from 2016-18, led by the Union Health Ministry, in collaboration with UNICEF.
- The findings were published in 2019. CNNS includes only nutrition data, whereas NFHS encompasses overall health indicators.

About GHI

- GHI is a **peer-reviewed annual report**, jointly published by **Concern Worldwide**, an Ireland-based humanitarian group, and **Welthungerhilfe**, a Germany-based NGO, designed to comprehensively **measure and track hunger at the global, regional, and country levels**.
- It says the aim of publishing the report is to trigger action to reduce hunger around the world.
- According to the GHI website, the data for the indicators come from the **United Nations and other multilateral agencies**, including the World Health Organisation and the World Bank.

Explanation for the index

- The GHI has been brought out almost every year by Welthungerhilfe (lately in partnerships with Concern Worldwide) since 2000
- The GHI slots countries on a scale ranging from "low" hunger to "moderate", "serious", "alarming", and "extremely alarming".
- India is one of **the 47 countries that have "serious" levels of hunger.**
- **A low score gets a country a higher ranking** and implies a better performance.
- The reason for mapping hunger is to ensure that the world achieves "Zero Hunger by 2030" — one of the Sustainable Development Goals laid out by the United Nations.
- It is for this reason that GHI scores are **not calculated for certain high-income countries**.
- in a formal sense, GHI is calculated by mapping the level of calorie intake.
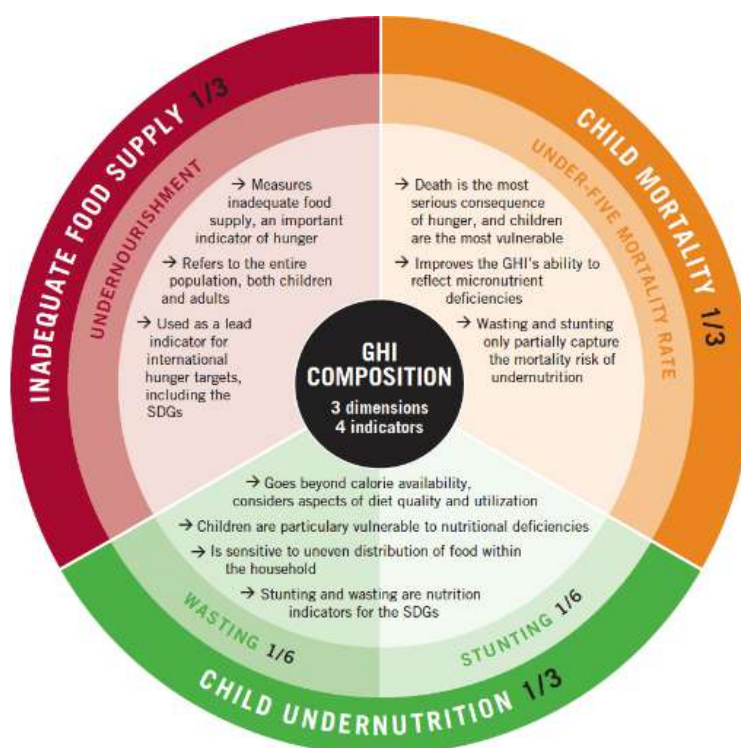
Calculation of Global Hunger Index

- **Undernourishment (which reflects inadequate food availability):** calculated by the share of the population that is undernourished (that is, whose caloric intake is insufficient).
- **Child Wasting (which reflects acute under nutrition):** calculated by the share of children under the age of five who are wasted (that is, those who have low weight for their height).
- **Child Stunting (which reflects chronic under nutrition):** calculated by the share of children under the age of five who are stunted (that is, those who have low height for their age).
- **Child Mortality (which reflects both inadequate nutrition and unhealthy environment):** calculated by the mortality rate of children under the age of five (in part, a reflection of the fatal mix of inadequate nutrition.

Causes of Hunger

- Poor uneducated women don't focus on children nutrition.
- Poor sanitations, lack of access to good quality food, lack of access to mineral drinking water are biggest reasons behind it.
- birthing child in lower age, poor nutritional status of pregnant women and lack of adequate gap between two children are other reasons.
- Low per capita income, higher food inflation specially fruit inflation, monodiet (having rice and lentils only) further aggravates the malnutritions.
- Poor implementation of the Policies like ICDS (Integrated Child development scheme), corruption in implementation of Mid-day meal scheme, lack of convergence between different ministry are other policy related causes.
- Poor fund utilization: Many States have only utilized 16% of their allotted funds in National Nutrition Mission.

Effects of Hunger

- Low Brain development causing low realization of the cognitive faculty.
- It's a leading cause behind under 5 mortality.
- Initiates a vicious cycle of poverty and malnutrition.
- Malnutrition children perform poorly in schools subsequently having low incomes, high fertility and provide poor care for their children. It transmits the poverty.

Dealing with Hunger

- Government has launched **a National Nutrition Mission to deal** with malnutrition.
- It set targets to **reduce stunting, under-nutrition, anemia among young children, women and adolescent girls and reduce low birth weight** by 2%, 2 2%, 3% and 2% per annum respectively.
- It focuses on intense monitoring and Convergence Action Plan right up to grass root level.
- It will also **create synergy, issue alerts for timely action, ensure better monitoring, and encourage States/**UTs to perform.
- It will also **incentivize Anganwadi Workers (AWWs) for using** IT based tools.
- **Other Direct Targeted interventions:** 1) Integrated Child Development Services (ICDS) 2) National Health Mission (NHM) 3) Mid-Day Meal Scheme 4) Rajiv Gandhi Schemes for Empowerment of Adolescent Girls (RGSEAG) or SABLA, 5) Indira Gandhi Matritva Sahyog Yojana (IGMSY).
- Focus on **increasing breast feeding through programs like MAA** (Mothers Absolute affection).
- Indirect **approach like Swachh Bharat Abhiyan, Jal Shakti also focusses on** Malnutrition.

Way Forward

- Best Practices of States should be emulated and propagated across country.
- Women's empowerment, Political commitment and administration efficiency are the key to deal with malnutrition.
- $1 spent on dealing with malnutrition leads to generation of $34-$38 in return.
- Decentralized approach by making Panchayats a key stakeholder can mobilize masses.
- Strengthening of PHC, increasing doctor ratio, increasing higher spending on health are further steps to ensure better nutrition.

NEW AICTE RULES ON ENGINEERING COURSES

GS-II SOCIAL JUSTICE

Context

- AICTE has taken decision to give engineering colleges the flexibility to admit students without mathematics and physics in high school and offer them remedial bridge courses to cope in class.

New Rules

- AICTE, India's technical education regulator, **tweaked the entry-level qualification for undergraduate engineering** programmes making students who haven't studied either physics or mathematics (or both) in **Classes 11 and 12 eligible for admission**.
- Under the new norms, a candidate is expected to have **scored at least 45%** in any three subjects out of a list of 14 — physics, mathematics, chemistry, computer science, electronics, information technology, biology, informatics practices, biotechnology, technical vocational subject, engineering graphics, business studies, and entrepreneurship.
- Earlier, an engineering aspirant should have passed high school with **physics and mathematics as compulsory subjects.**

Reason for change in rules

- The regulator has been defending the changes on the ground that they are in line with the new **National Education Policy's multidisciplinary approach**.
- It will make **technical education more accessible to students** coming from diverse backgrounds
- It will **reduce the pressure on students to study topics which** are not relevant for higher technical education.
- The changes, which are not binding on institutes and colleges, will open a window of opportunity for students from diverse academic backgrounds to pursue engineering.
- branches like **textile and biotechnology where, an advanced knowledge of physics a**nd mathematics is not required and can be fulfilled with bridge courses in college.

Bridge Courses

- The new guidelines state that institutes and universities can **offer bridge courses to help such students with subjects** (in this instance, Mathematics) they didn't have in Classes 11 and 12.
- Universities will offer suitable bridge courses such as Mathematics, Physics, Engineering, Drawing, for students coming from diverse backgrounds to achieve the desired learning outcome of the programme.

Challenges

- Niti Ayog Member has called the decision "retrograde" and a "step in the wrong direction.
- Principal Scientific Advisor K VijayRaghavan told that "rigour and depth in mathematics and physics comes easier early on".
- A high-quality biotechnology course without, at the least, a strong high-school level training in physics and mathematics to start with is difficult to progress through. A good course will require advanced methods in statistics, computer science, probability, the physics of motion, and of colloids, and so on.
- There is a renewed focus on STEM. Even MBBS doctors are now using mathematics.

New National Education Policy on interdisciplinary

- The new NEP talks about doing away with **rigid separation between curricular and extracurricular, vocational and academic streams** and between arts, humanities, and sciences in school education.
- Students will be **given increased flexibility and choice of subjects** to study, particularly in secondary school — including subjects in physical education, the arts and crafts, and vocational skills – so that they can design their own paths of study and life plans.
- **Holistic development and a wide choice of subjects** and courses year to year will be the new distinguishing feature of secondary school education.

About All India Council for Technical Education (AICTE)

- All India Council for Technical Education (AICTE) is the statutory body and a national-level council for technical education, under Department of Higher Education, Ministry of Human Resource Development.

- Established in November 1945 first as an advisory body and later on in 1987 given statutory status by an Act of Parliament.
- AICTE is responsible for proper planning and coordinated development of the technical education and management education system in India.

ENTRY OF TRANSGENDERS IN NATIONAL CADET CORPS   *GS-II   SOCIAL JUSTICE*

Context
- The Kerala High Court order allowing the enrolment of trans-persons in the National Cadet Corps (NCC) is a **significant step towards gender inclusion and equality**.

Background
- The court was responding to a petition filed last year by a **Trans woman**, HanaHonea, who was **refused admission to the NCC unit** in a Thiruvananthapuram college.
- **NCC Act, 1948** only allows **members of the male sex and the female sex** to be enrolled as cadets.

Centre's Stand
- The Centre reasoned that the NCC aimed to provide young people an environment that **prepared them for a career in the armed forces**, where roles and training are sometimes **gender-specific** due to **the difference in physical, biological and psychological aspects.**
- It also took recourse to the argument that **admission of transwomen in common spaces such as toilets and sleeping areas would risk the safety and privacy of women cadets**.

Kerala High Court's Stand
- We cannot take recourse to the **outdated provisions of a 1948 enactment** to deal with the realities of life in the year 2021.
- It upheld the petitioner's contention that such an **entry bar was discriminatory,** and **violated the rights of equality and personal liberty**, among others, guaranteed to citizens by the Constitution.
- The court pointed out that while admission to the NCC was once a male preserve, the law had been **modified later to include women**.
- It must now shed provisions that exclude trans-people.
- The judge based her reasoning on the landmark **2014 Nalsa v Union of India judgment** that not only recognizes the rights of transgender people, but, more radically, gives primacy to the freedom of an individual to decide their gender identity for themselves.
- It also directed the government to amend the law and to provide guidelines for enrolling trans persons in the NCC.

National Legal Services Authority v. Union of India
- The Court has directed Centre and State Governments to grant legal recognition of gender identity whether it be male, female or third-gender:
- **Legal Recognition for Third Gender**: The Court recognized that fundamental rights are available to the **third gender in the same manner as they are to males and females**.
- Further, non-recognition of third gender **in both criminal and civil statutes such as those relating to marriage, adoption, divorce, etc. is discriminatory** to the transgender.
- **Legal Recognition for Persons transitioning within male/female binary:** The Court merely states that they prefer to follow the psyche of the person and use the "Psychological Test' as opposed to the 'Biological Test.'
- It also declared that insisting on Sex Reassignment Surgery (SRS) as a condition for changing one's gender is illegal.

- **Public Health and Sanitation:** Centre and State Governments have been directed to take proper measures to **provide medical care to transgender in hospitals** and provide them separate public toilets and other facilities.
- **Socio-Economic Rights:** Centre and State Governments have been asked to provide the **community various social welfare schemes and to treat the community as socially** and economically backward classes.
- **Stigma and Public Awareness:** These are the broadest directions Centre and State Governments were asked to take steps to **create public awareness to better help incorporate trans genders into society and end treatment as untouchables**;
  - take measures to regain their respect and place in society;
  - Seriously address the problems such as fear, shame, gender dysphoria, social pressure, depression, suicidal tendencies and social stigma.

Conclusion

- The trans-rights movement is **not only about expanding public spaces and institutions** to include a much-stigmatized minority, but it is also vital to a **redefinition of patriarchal ideas** about gender and sexuality.
- In recognizing the government responsibility to provide full and effective participation of transgender persons in institutions like the NCC, the **HC lives up to the progressive spirit of the Nalsa judgment.**

Introduction to National Cadet Corps

- The National Cadet Corps has established in the University corps which was created under the defence Act, 1917 with the object to make up the shortage of the ARMY.
- **MOTTO OF NCC is** "Unity and Discipline".
- PRINCIPALS OF DISCIPLINE
  - Obey with a smile
  - Be Punctual
  - Work hard and without fuss
  - Make no excuses and tell no lies

AIMS OF NCC

- To develop qualities of character, discipline, leadership and ideals of selfless service among the youth to make them useful citizen.
- To create a human resource of organized trained and motivated youth to provide leadership in all walks of life including the Armed Forces and be always available for the service of the nation.

About National Legal Services Authority (NALSA)

- 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
- It needs to organize Lok Adalats for amicable settlement of disputes.
- It monitors and evaluates implementation of legal services available under the Act.
- The Act empowers the State to establish a Four Tier System of providing speedy and informal justice at the National, State, District and Taluk Levels.

RELIGIOUS CONVERSION
GS-II SOCIAL JUSTICE

Context

- The Madhya Pradesh Assembly passed a Bill that penalizes religious conversion through marriage or any other fraudulent means.

Details

- Government said unlike the 1968 legislation, the present Act provides for annulment of marriage and a harsher sentence.

- The Act also provides for fine of up to Rs. 1 lakh.
- The law regulates inter-faith marriages and prescribes a punishment of two to 10 years in prison and a fine of Rs 50, 000 for forcing women to convert their religion.

Universal Acceptance of Freedom of Religion

- Every individual has a **natural entitlement of religious faith and freedom of conscience**, a right to adopt or abandoned any faith of his own choice.
- The freedom of religion and freedom of conscience has also been **recognized under the international law**.
- freedom of religion and freedom of conscience is **fundamental right both constitutionally and conventionally**.

Constitution on freedom of religion

- Indian society has nourished and nurtured almost all the established religion of the world like Hinduism, Islam, Christianity, Buddhism, Jainism, Sikhism etc. from its time immemorial.
- Article 25 (1) states, "Subject to public order, morality and health and to the other provisions of this Part, all persons are equally entitled to freedom of conscience and the right freely to profess, practice and propagate religion
- Religious conversion means adopting a new religion, a religion that is different from his previous religion or religion by his birth.

WE DON'T NEED NO CONVERSION

Only six states have laws barring use of force and fraud for religious conversion

Rajasthan 2006
In 2006, the Assembly approved an anti-conversion bill but then governor Pratibha Patil declined to sign it. Another bill approved in 2008; is now pending with the President.

Gujarat 2003
The first state to make prior permission of the district administration compulsory for legitimising religious conversion.

Madhya Pradesh 1968
The first state to enact a law to regulate religious conversion. It was later amended in 2013, making prior permission compulsory and stipulating harsher jail terms for forcible conversion.

Himachal Pradesh 2007
In 2011, Himachal Pradesh High Court struck down the provision of mandatory prior permission from the local administration.

Arunachal Pradesh 1978
Enacted to prevent religious conversion of local tribes through inducement; yet to be implemented.

There have been proposals to enact anti-conversion laws in Jharkhand, Karnataka and Uttarakhand.

Odisha 1969
The Odisha High Court declared the law unconstitutional; in 1977, the Supreme Court restored both the Odisha and Madhya Pradesh laws.

Chhattisgarh 2000
Inherited from Madhya Pradesh, law amended in 2006 to make prior permission of the DM compulsory for conversion.

Tamil Nadu 2002
The AIADMK government passed the law in 2002 but repealed it in 2006 following the party's drubbing in the 2004 Lok Sabha polls.

Reasons behind religious conversion

- Conversion by force
- Conversion by offering better life. It means offering economic incentive for one to come out of the religion.
- Conversion for marriage.
- Conversion to escape the rigid hierarchical system caste system.
- Conversion by free will or free choice as the tenets of other religion appear closer to person.
- Conversion to get reservation benefits

Anti -Conversion laws in India

- There is no pan India anti conversion law Some states have adopted their state specific anti conversion laws.
- Under these state laws, one is given a fixed time period before converting to another religion. It ensures that one doesn't convert due to force.

Supreme Court verdict on conversion

- The freedom of religion **enshrined in Article 25 is not guaranteed in respect of one religion only but covers all religions alike which** can be properly enjoyed by a person if he exercises his right in a manner commensurate with the like freedom of persons following other religion.
- What is freedom for **one is freedom for the other in equal measure and there can, therefore, be no such thing as a fundamental right to convert any pe**rson to one's own religion.

QS WORLD UNIVERSITY RANKINGS

GS-II   SOCIAL JUSTICE

Context

- According to the latest edition of the **QS World University Rankings** by Subject, **Twenty Five Programmes offered by higher education institutions** in India rank among the top 100 in the world in their respective subject categories. Last year, this number stood at **26**.

Details

- The number of Indian universities/ institutes in the top 100 subject rankings has **increased from eight to 12 this year.**
- IIM-Ahmedabad, IIM-Bangalore, IIM-Lucknow and IIM-Kozhikode have more or less maintained their positions in the Business and Management Studies category.
- The **O P Jindal Global University** is the only private university to have entered the top-100 club. Its law programme is now **ranked 76th globally**.
- 17 of the 25 globally ranked Indian programmes are in engineering.
- **IIT-Madras's Petroleum Engineering programme** registered the best performance among Indian institutes — 30th in the world.
- The four new universities/ institutes in the top 100 subject rankings are: IIT-Guwahati (for petroleum engineering), Jawaharlal Nehru University (anthropology), Anna University (petroleum engineering), and O P Jindal Global University (law).
- While the **public Institutions of Eminence (IoE)** such as the IITs are better-represented in the QS World University Rankings, the **private ones have made a mark** in the Subject Rankings edition.

QS World University Rankings

- QS World University Rankings by subject calculate performance based on four parameters — **academic reputation, employer reputation, research impact** (citations per paper) and the **productivity of an institution's research faculty**.
- QS ranking is viewed as one of the three most-widely read university rankings in the world, along with **Academic Ranking of World Universities** and **Times Higher Education World University Rankings.**

Methodology of QS World University Rankings[22]

Indicator	Weighting	Elaboration
Academic peer review	• 40%	Based on an internal global academic survey
Faculty/Student ratio	• 20%	A measurement of teaching commitment
Citations per faculty	• 20%	A measurement of research impact
Employer reputation	• 10%	Based on a survey on graduate employers
International student ratio	• 5%	A measurement of the diversity of the student community
International staff ratio	• 5%	A measurement of the diversity of the academic staff

Reasons behind Poor Ranking

- Low spending by global standards that it holds back India's economic, technological and strategic ambitions. **India's R&D spending amounts to 0.7% of gross domestic product, a fraction of China's 2.1%, let alo**ne Japan's 3.1%.
- A **lax intellectual property regime, foolish sectoral regulations and a protectionist trade policy have deterred** R&D thus reducing industry income.
- Composition of spending is also skewed. The **government and a few strategic sectors, notably atomic energy, space and defense, account for t**he bulk of the meagre spending.
- The contribution of **Indian companies, both private and public sector taken together, to total R&D is just 44% against a** global average of 71%.
- Indian Higher education is **marred with the curse of plagiarism**.
- Government policies like paying graduate students cash incentives for publishing in the reputed journal creates **a bias towards publishing than high quality science. Indian papers are cites lower compared to tho**se in USA and China.
- Our school system is focused on rote-learning than critically thinking. It also affects the quality of research.
- **Poor quality infrastructure** at institutes is also an issue.

Questions on Rankings

- Quantified rankings bring conflict between educational values and market values. Educational values focus on **critical thinking, analytical abilities, social agendas and the inculcation of citizenship ideals that are unquantifiable** and intangible While Market values **are industry-driven, orients the project of neoliberal higher education t**raining towards developing particular skill-sets for the labour market.
- Rankins are leading to defunding of the public institutions where they are supposed to enhance the income from corporates. It **has an attack on dissent, critical education, and any public institution that might exercise a de**mocratizing influence on the nation.
- Rankings **are one Size fits all model where** they do not consider local cultures/societies.
- Rankins increased **focus in on research output fuelling the consumerism. It violates the basic principle of university: T**eaching.
- Focus on increased international exposure reduces opportunity for local regions.
- Focus on publication has resulted in massification in research journals. Scams have been unearthed about fake journals providing no peer research support.

Way Forward

- University ranking by the Ministry of Education is more holistic in nature and should be used to gauge the performance.
- Focus must be on the enhancing the equity as well accessibility of the higher education for all.
- Programs like Institute of Eminence which provide necessary freedom for higher education institutes must be further strengthened to enhance the research output.

VACCINE WASTAGE

Context

- Prime Minister Narendra Modi raised concerns on vaccine wastage emerging from the Covid-19 inoculation drive.

What is vaccine wastage?

- Vaccine wastage is an expected component of any large vaccination drive, and a vaccine is procured from the maker with an estimated wastage. For each vaccine type, the wastage has to be within recommended limits.
- High vaccine wastage inflates vaccine demand and increases unnecessary vaccine procurement and supply chain costs.
- The vaccine wastage rate is defined as 100 minus the vaccine usage rate. The wastage rate directly determines the "wastage factor" that needs to be established for each vaccine in the immunisation schedule to accurately plan vaccine needs.

How is wastage factor calculated? How much is it in the ongoing programme?

- Wastage Multiple Factor (WMF) is calculated from the formula WMF = 100/(100 – wastage).
- In the Centre's operational guidelines on Covid-19 vaccination, WMF has been calculated at 1.11 after assuming an allowable programmatic wastage of 10%.
- Vaccine wastage is one of the key factors to be considered for vaccine forecasting and need estimation.

How does vaccine wastage happen?

- It is broadly divided into two categories: wastage in **unopened vials**, and in **opened vials**.

Wastage in unopened vials can occur due to six broad reasons:

- if the expiry date has been reached;
- if the vaccine is exposed to heat;
- if the vaccine has been frozen;
- breakage;
- missing inventory and theft;
- while discarding unused vials returned from the vaccination site.

Wastage in opened vials can occur due to five broad reasons:

- while discarding remaining doses at the end of the session;
- not being able to draw the number of doses in a vial;
- submergence of opened vials in the water;
- suspected contamination;
- poor vaccine administration practices.

At what stages can wastage occur?

- Wastage occurs at three levels: during **transportation**; during **cold chain point**; and at a **vaccination site** — both at service and delivery levels.

Why are certain states showing a higher vaccine wastage?

- At the vaccination site, the wastage of vaccines has a **direct relationship with session size** — the number of beneficiaries per session — and vial size.
- The first reason identified by the Centre is **inadequate planning of sessions**. For instance, if the vial contains doses for 10 people and only six turn up, four doses can go waste. The Centre has advised the states to mobilise people and not to open the vials if they don't have 10 people.

- **Inadequate Training**: The second reason identified by the Centre is **inadequate training**. Vaccinators are ending up drawing, maybe, only nine doses against ten doses.

RIGHT TO HEALTH
GS-II   HEALTH

Context
- This led the Rajasthan government has introduced the **Rajasthan Model of Public Health (RMPH)** in its budget for 2021-22, embedding in it a public health law making access to health a right.

Need for Right to Health
- **Building of Modern state on the principles of equality** require a life of dignity which means health for all.
- Constitution didn't explicitly mentioned **health as a fundamental right**.
- Access to **good quality healthcare** was, and continues to be, a **privilege**, enjoyed by those fulfilling conditions of **wealth, location and social status**.
- This was so **despite India being a signatory to the WHO's Constitution of 1946** which envisaged the ideal of ensuring the <u>highest attainable standard of health as a fundamental right of every human being</u> by <u>allocating the maximum available resources</u>.

Notion of Health Right
- The <u>**World Health Organization**</u>**(link is external)** defines the right to health as "a complete state of physical, mental and social well-being, and not merely the absence of disease or infirmity."
- It includes
   - the right to control one's health and body, including sexual and reproductive freedom,
   - the freedom from interference such as torture, non-consensual medical treatment and experimentation.
   - access to adequate health care facilities and services,
   - appropriate State measures in relation to the socio-economic determinants of health, such as food, water and sanitation, safe and health working conditions, housing, and poverty.
- The right to health is closely interconnected with numerous other human rights, including the rights to food, water, housing, work, education, life, non-discrimination.

Features of Right to Health
- **Availability**: States should ensure the **provision of enough functioning public health and individual** health care facilities throughout their territory.
- **Accessibility**: Access to health involves four key elements:
   - non-discrimination,
   - physical accessibility,
   - economic accessibility,
   - information accessibility.
- Health care facilities, goods and services must be affordable for all, with any payment based on the principle of equity so that poorer households are not disproportionately burdened with health-related expenses.
- The facilities and services, as well as underlying determinants of health such as water and sanitation amenities, must be within safe physical reach.
- **Acceptability**: Health facilities should be respectful of medical ethics and the culture of individuals and communities, as well as attentive to gender and life-cycle requirements.
- **Quality**: Health facilities should be scientifically and medically appropriate and of good quality. Among other things, this requires the provision of necessary medicines and equipment, skilled medical professionals, and adequate water and sanitation.

Health Financing in India

- To address the entire game of disease burden, the public expenditure on health accounts for nearly **one-third of the total expenditure at 1.2% of the GDP and remaining is met by Out-of-Pocket expenditure (OOPE) by**the households.
- According to the latest National Health Accounts Estimates (2016-2017), the total spending on **health in India is 3.8% of the GDP which has reduced from 4.2% in 2004- 05**.
- The Government health spending has **remained almost static around an average of 1% of GDP and the State health spending is around 2% of S**GDP on average with variations across the States.
- The **Total Health Expenditure (THE) per capita has increased more than three times from 2004-05 to 2016**- 17.
- The **government share on secondary tertiary (10.8%) care is lower than the private sector (42.4% and 15.6% respectively**).
- Among the providers of health care, the Government hospitals contribute to 14% of the current health expenditures, whereas the contribution of the private sector is significantly higher at 26%.
- At **67 percent out-of-pocket expenditure on health**, such spending in India was the 13th highest in the world.

Constitution and the Right to Health

- The Constitution of India does not expressly guarantee a fundamental right to health.
- However, there are multiple references in the Constitution to public health and on the role of the State in the provision of healthcare to citizens.
- The Directive Principles of State Policy in Part IV of the India Constitution provide a basis for the right to health.
  o Article 39 (E) directs the State to secure health of workers,
  o Article 42 **directs the State to just and humane conditions of work** and maternity relief,
  o Article 47 **casts a duty on the State to raise the nutrition levels and standard of living** of people and to improve public health.
- It also **endows the Panchayats and Municipalities to strengthen public health** under Article 243G (read with 11th Schedule, Entry 23).

Implementation of Right to Health

- Sufficient offices are given at the general health habitats where the patient can be given essential treatment and his condition balanced out.
- Medical at the locale and sub divisional level ought to be redesigned with the goal that genuine cases be treated there.
- Offices for given authority treatment ought to be expanded and having respect to the developing needs, it must be made accessible at the area and sub divisional level emergency clinics.
- So as to guarantee accessibility of bed in any crisis at State level medical clinics, there ought to be a concentrated correspondence framework with the goal that the patient can be sent promptly to the emergency clinic where bed is accessible in regard to the treatment, which is required.
- Legitimate game plan of rescue vehicles ought to be made for transport of a patient from the general health place to the State emergency clinic.
- Emergency vehicles ought to be sufficiently given vital types of gear and clinical faculty.

Supreme Court Ruling on Health as Right

- Given no explicit recognition of the right to health or healthcare under the Constitution, the Supreme Court of India in *BandhuaMuktiMorcha v Union of India &Ors* interpreted the right to health under Article 21 which guarantees the right to life.
- In *State of Punjab &Ors v Mohinder Singh Chawla* the apex court reaffirmed that the right to health is fundamental to the right to life and should be put on record that the government had a constitutional obligation to provide health services.

- In *State of Punjab &Ors v Ram LubhayaBagga*, the court went on to endorse the State's responsibility to maintain health services.

Rajasthan Case Study

For realising UHC, Rajasthan has proposed

- doubling its budget, setting up medical and nursing colleges,
- establishing and upgrading primary health centres
- substantially improving the delivery of services by expanding access to free medicines and diagnostics,
- adding 1,000 beds and establishing institutions of excellence for cardiology, virology, cancer and maternity and childcare.

New features to its current health insurance programme are three:

- expansion of the eligibility criteria to cover **two-thirds of the population**,
- providing 50 per cent subsidy for the non-poor sections to avail of the **health insurance programme** by providing them cover for Rs 5 lakh worth of cashless treatment in government and accredited private hospitals, and
- assuring coverage of not just **inpatient but also outpatient treatment**.

Principle of Health as Right

- The right to health in India will need to be implemented within the framework of principles of solidarity, proportionality, and transparency.
- The principle of solidarity is closely linked to the fundamentals of justice and equity. In the context of the right to health, solidarity can guarantee equal access to public health systems to all.
- The assertion of solidarity requires that the government and institutions treat people and protect their rights equally without any discrimination based on sex, caste, class, religion and language.
- **Principle of Proportionality:** The doctrine of proportionality help in determining the conditions for a limitation of constitutionally-protected rights.
- **Principle of Transparency:** To effectively allow the scrutiny of decisions made by the government and of its maintained institutions, information should be available, accessible and disseminated among the population.
  - The principle of transparency **goes hand-in-hand with that of accountability and reliability**.
  - The practice of **transparency will help in keeping the inflation in drugs and medical services under control,** maintain the adequate functioning of public institutions and hold on to the trust of the people.
  - Recent efforts to use big data analytics to track patients and trace contacts through applications **like Aarogya Setu, need to align with the principle of personal data protection**, and any use or **dissemination should be with the prior consent of the** citizens in a transparent manner.

Way Forward

- Existing constitutional guarantees, legal precedents and global commitments form a solid basis for a fundamental right to health in India.
- A legislatively guaranteed right will make access to health legally binding and ensure accountability.
- A constitutional amendment on the lines of the 93rd Amendment to the Constitution which provided a constitutional sanction to the right to education, should be adopted for providing adequate healthcare in India.
- It is critical then that the right to health be implemented, using the principles of transparency, proportionality and solidarity.

PROGRESS UNDER NATIONAL HEALTH MISSION

GS-II HEALTH

Context
- Recently, government was apprised on the progress under National Health Mission (NHM)during FY 2019-20.

New Initiatives Undertaken in National Health Mission
- **Social Awareness and Actions to Neutralize Pneumonia Successfully (SAANS)** initiative was launched to accelerate action to reduce deaths due to childhood pneumonia.
- **SurakshitMatritvaAashwasan (SUMAN) initiative was launched to provide assured, dignified, respectful and quality healthcare at** no cost and zero tolerance for denial of services and all existing Schemes for maternal and neonatal health have been brought under one umbrella.
- **Midwifery Services Initiative aims to create a cadre of Nurse Practitioners in** *Midwifery* **who** are skilled in accordance to competencies prescribed by the International Confederation of Midwives (ICM) and **are knowledgeable and capable of providing compassionate women-centered, reproductive, maternal and newborn health care services.**
- School Health and Wellness Ambassadors Initiative has **been launched under the AB-HWCs Programme in partnership with Ministry of Education to promote health** and well-being through an active lifestyle amongst school children.

Implementation Strategy under National Health Mission
- It is to provide financial and technical support to States / Union Territories (UTs) enabling them to provide accessible, affordable, accountable, and effective healthcare upto District Hospitals (DHs), especially to the poor and vulnerable sections of the population.
- It has also aimed to bridge the gap in rural healthcare services through improved health infrastructure, augmentation of human resource and improved service delivery in rural areas
- It has envisaged decentralization of programme to district level to facilitate need-based interventions, improve intra and inter-sectoral convergence and effective utilization of resources.

Targets
- Reduce MMR to 1/1000 live births
- Reduce IMR to 25/1000 live births
- Reduce TFR to 2.1
- Reduce prevalence of Leprosy to < 1 /10000 population and incidence to zero in all districts
- Annual Malaria Incidence to be <I/1000
- Prevent and reduce mortality &morbidity from communicable, non-communicable; injuries and emerging diseases
- Reduce household out-of-pocket expenditure on total health care expenditure
- Ending the TB epidemic by 2025 from the country.

Impact of National Health Mission
- The implementation of NHM during 2019-20 has led to further strengthening of Public Health system which also enabled effective and coordinated Covid-19 response.
- U5MR in India has declined from 52 in 2012 to 36 in 2018 and the percentage annual rate of decline in U5MR during 2013-2018 has accelerated to 6.0 % from 3.9 % observed during 1990-2012.
- Maternal Mortality Ratio (MMR) of India has declined by 443 points from 556 per one lakh live births in 1990 to 113 in 2016-18.
- As per Sample Registration System (SRS), TFR(Total Fertility Rate) in India declined from 2.3 in 2013 to 2.2 in the year 2018. The National Family Health Survey-4 (NFHS-4, 2015-16) also recorded a TFR of 2.2.

- In the year 2019, malaria cases and deaths declined by 21.27% and 20% respectively as compared to 2018.
- The incidence of TB per 1,00,000 population has been reduced from 234 in 2012 to 193 in 2019. The mortality due to TB per 1,00,000 populations for India reduced from 42 in 2012 to 33 in 2019.

Background of National Health Mission

- The National Rural Health Mission (NRHM) was launched by the Hon'ble Prime Minister on 12th April 2005, **for accessible, affordable and quality health care to the rural population**, especially the vulnerable groups.
- Government approved the **National Urban Health Mission (NUHM) as a Sub-mission of an over-arching National Health Mission (NHM**), with National Rural Health Mission (NRHM) being the other Sub-mission of National Health Mission.

| INDIA BANGLADESH RELATIONS | *GS-II INTERNATIONAL RELATIONS* |

Context

- Prime Minister Narendra Modi's two-day trip to Dhaka to attend the birth centenary of Bangladesh's Father of the Nation, Bangabandhu Sheikh Mujibur Rahman, and the golden jubilee celebrations of the country's Independence undertook last month. The warmth and goodwill were evident.

Background

- Bangladesh's emergence was the result of a unique **uprising of the Bengali people** who fought a heroic war for national independence in 1971.
- The unprecedented atrocities committed by the marauding Pakistani Army in 1971 led to a **mass exodus to India**, where an **estimated 10 million people took refuge for nine months**.
- India, under Indira Gandhi, **opened its eastern borders** allowing streams of refugees to take shelter.
- India stood solidly behind Bangladesh throughout the **nine-month-long war** and **recognised the new state on 6 December 1971**.
- The relationship between the two countries comes attached with a unique bond as **India's Mitro Bahini** fought shoulder-to-shoulder with the Bangladeshi forces, **Mukti Bahini**, and embraced martyrdom.
- Bangabandhu Sheikh Mujibur Rahman, the founding father of Bangladesh, had laid the foundation of relations with India, based on **geopolitical reality and upholding the secular national spirit** that had influenced the people to break away from Pakistan.

Bilateral Relations

- **Economic Relations:**
  - **Indian investments** have largely increased. Bangladesh is now the **largest recipient of line of credit (LOC) funds** from India.
  - India's exports to Bangladesh in 2018–19 stood at **US$ 9.21 billion** and **imports from Bangladesh for the same period stood at US$ 1.22 billion**.
- **Power:**
  - Cooperation in the power sector has become one of the hallmarks of bilateral relations.
  - Bangladesh is **importing 1,160 Megawatts of power** from India to meet its demand, including **exporting internet bandwidth** to the state.
- **Connectivity:**
  - Rd connectivity is being restored and new rail links are being planned. There are **regular train services between Kolkata and Dhaka**, and **buses run from Dhaka to Shillong, Agartala and Kolkata**.
  - Old rail link of **Chilahati-Haldibari** was reopened.
  - The Prime Ministers of both the countries will also inaugurate the **Dhaka–New Jalpaiguri passenger train**.
  - Dhaka also took the remarkable step of granting a **trans-shipment facility to India to transport goods to the Northeastern states** through its territory.
- **Defence:**
  - Bangladesh's **tri-service contingent** joined India's 2021 Republic Day parade.
  - Bangladesh has also cooperated with India in sorting out **security issues in the Northeast**.
- **Cultural:**
  - The national anthems of the two countries were **written by Rabindranath Tagore**, the great Bengali poet.

World Bank Report:

- A World Bank Report stated that seamless movement of vehicles between the two neighbouring countries for trade could raise India's national income by eight per cent and Bangladesh's by 17 per cent; provide faster and cheaper access to products from Northeast and boost real income in states such as West Bengal, Uttar Pradesh and Maharashtra.
- Commenting that a "broad trust deficit throughout the region" was a major reason behind lack of seamless transport between the two countries.

Issues

- The India–Bangladesh relationship has, so far, faced many obstacles from broadly three categories of adversaries:
  - The traditional foes who pursue the **communal ideals of 1947's** communal division of British India;
  - The **anti-Bangladesh elements**, who were defeated in the 1971 War by the Mukti Bahini and Mitro Bahini and who reorganised their followers to strike back the spirit of 1971;
  - The **political Islamists**, who would never like to see the relations stabilised.
- Recent Indian policies that include enacting of the **Citizenship Amendment Act (CAA)** and plans to implement the **National Register of Citizens (NRC)** has triggered fear over an impending **exodus of people from Assam to Bangladesh**.
- Trade between the two countries, a major part of which takes place through land ports, face formidable challenges.
- **Cost of trading remains very high**, mostly associated with lack of appropriate trade facilitation as well as logistical difficulties and the consequent high lead time that discourages traders.
- In spite of the fact that **India imports about US$ 450.0 billion worth of products** annually from the global market, Bangladesh's exports to India have tended to hover around only US$ 1.0 billion.

- **Recent Initiatives:** Energy import from India; India's involvement in building **Bangladesh's nuclear power plant**; the **grant provided for the Padma bridge**; building **special economic zones** for Indian investors in Bangladesh; the signing of the **coastal shipping agreement**; allowing transit facilities to Nepal and Bhutan through India to use Bangladesh's Mongla, Chattogram, and Payra ports; the signing of the **Bangladesh-Bhutan-India-Nepal (BBIN) Motor Vehicle Agreement** and other initiatives could usher in a sea of change in the way that trade, business, and other areas of connectivity operate at the moment.

Way Forward

- It is important to take effective steps to **resolve pending issues** like sharing of common river waters and bringing down border killing to zero as such incidents vitiate public minds.
- The policymakers should also expedite **signing of the treaty for sharing of the waters of the Teesta**, the river so vital for northern Bangladesh's irrigation as it still remains a long-pending issue.
- The two countries, bonded by nature, history and culture, should be **bold enough to go for new areas of cooperation and connectivity**, as it is the key apparatus to change the fate of the region.
- Connectivity should **not be in terms of land, road, and waterways alone**, it must be of **culture and people-to-people connections** as well.
- **Trade:**
  - The two countries' political leaders must look beyond the borders, and forge a progressive partnership for a **peaceful, prosperous, and progressive region.**
  - Modalities of **public-private partnerships and cross-country joint private sector initiatives** will need to be identified and realised on the ground to reap the potential benefits originating from the various ongoing initiatives.

○ Concrete actions will need to be identified towards triangulation o**f trade, transport, and investment connectivity** to develop the production networks and establish the backward and forward value chains that serve the **interests of trade, business and commerce, bilateral and even beyond that**.

QUAD SUMMIT

GS-II INTERNATIONAL RELATIONS

Context
- A virtual meeting of the leaders of the Quadrilateral (Quad) was held on 12 March 2021, which highlighted the **need for cooperation among the member countries** to deal with the ongoing COVID-19 pandemic through **joint partnership on vaccines** and also stressed on the need for ensuring an **'open' and 'free' Indo-Pacific region**.

Background
- The first Quad meeting in 2007 in the aftermath of the **2004 tsunami** started as a tentative grouping of officials from the four countries.
- Quad 2.0 kicked off as a senior officials meeting at the **level of joint secretaries in 2017**, and there were doubts if this grouping would emerge as something substantial in the upcoming years.
- Quad is a direct result of China's heavy-handed and aggressive **territorial expansionist policy around its periphery in the South China Sea (SCS), Ladakh and Hong Kong**.
- This meeting also witnessed the release of a Quad leaders joint statement — **"The Spirit of the Quad"**.

> **'The Spirit of the Quad' Joint Statement:**
> It committed the four members to promoting a <u>free, open rules-based order, rooted in international law, to advance security and prosperity and counter threats</u> to both in the Indo-Pacific and beyond as well as supporting the <u>rule of law, freedom of navigation and overflight, peaceful resolution of disputes, democratic values, and territorial integrity</u>.

About the meeting
- Its focus was on the economic and health impacts of covid-19, climate change, as well as shared challenges in **cyberspace, critical technologies, counterterrorism, quality infrastructure investment, and humanitarian-assistance and disaster-relief.**
- **Maritime security retained** its centrality in this agenda, as the Quad underscored the need to prioritise the role of **international law in the maritime** domain and facilitate collaboration, including in maritime security, to meet challenges to the rules-based maritime order in the East and South China Sea.
- Cooperation in critical emerging technologies has also been highlighted as key to a resilient Indo-Pacific region.
- Quad meeting deliberated on matters like climate change, and critical and emerging technologies.
- The establishment of a new Quad Climate Working Group, Critical and Emerging Technology Working Group that will help set standards in key technologies.

China's Response
- The announcement of the second summit meeting has drawn a guarded response from China which has "hoped" that the meeting will be "conducive to regional peace and stability and prosperity".

India in the Quad
- The U.S.'s focus on the west Pacific due to **aggressive Chinese maritime activity** gradually **pulled India into the ambit of the Indo-Pacific** that views the western Pacific and the Indian Ocean as an integrated geopolitical space.
- Besides the U.S. navy, **India expanded its maritime ties with other regional states**, the most high-profile of the interactions being the Quad.

- Since November 2017, the **joint naval exercises of Quad members** are being supplemented by extensive consultations on security issues.
- However, India's involvement with the Quad was **initially cautious due to its reluctance to join an overt anti-China coalition**.
- For instance, at the **Shangri La Dialogue in June 2018**, Prime Minister Narendra Modi described the Indo-Pacific as a **"geographical definition"** and firmly **denied it was a "strategy" or a "club of limited members … directed against any country"**.
- Despite this, in September 2019, India agreed to elevate the **Quad platform to ministerial level**.

Significance of Quad for India

- **Geo-Politics:** The Indo-Pacific construct provides New Delhi with an opportunity to rise above its long-labeled middle-power status. This is reinforced by India joining the league of great powers and fostering close strategic relationships with Washington and its allies in the region.
- **Relations with other countries:** New Delhi's active engagement in the Indo-Pacific automatically boosts India's Act East Policy and Extended Neighbourhood Policy. This boost is reinforced by New Delhi's closer ties with the member states of ASEAN, including Vietnam, Singapore, Thailand, and Myanmar.
- The strengthening of the **India–US Strategic partnership**, mainly through defense ties, acts as a strong counterweight to India's rivals. This is exemplified by four foundational agreements signed between the two countries, comprising the General Security of Military Information Agreement; Logistics Exchange Memorandum of Agreement; and Communications Compatibility and Security Agreement; and finally, Basic Exchange and Cooperation Agreement.
- **Countering China:** China's increased aggression in the South China Sea and aggression in LAC and its likely impact on aggravating regional tension. Quad seeks to check any aggression.

Issues

- **India's Policy:** India has traditionally taken the non-alignment approach and has stayed away from military alliance.
- **Lack of clarity:** USA is looking for a formal alliance while India wants cooperation in security and economic dimension among countries of all countries in Asia-Pacific.
- **Vision of Indo-Pacific:** It is a new concept which will be difficult to materialise considering the difference in vision of participant countries.
- **Trustworthiness of USA:** Military guarantee of USA might never materialise because of its history of unfulfilled promises (Eg. Pakistan). Moreover, the USA has not come to the rescue of Japan and the Philippines despite military alliance.

Way Forward

- The stand-off at Ladakh has been a **bitter experience for India**: it has affirmed the **limits of India-U.S. security ties**, the **folly of Indian involvement in the Quad**, and the need to focus national attention and resources in areas of abiding interest for India — the **border, the neighbours and the Indian Ocean.**
- The **rebuilding of ties with China** will have to be a priority concern. Though it will take time for trust to be restored, what will help will be for India to **dilute its focus on the Indo-Pacific** and the Quad and accept that the borders and the Indian Ocean are where it's crucial interests lie.
- The Ladakh experience has highlighted certain deficiencies at home: the government appears to be **largely focused on reshaping the national ethos** on the basis of a narrow and exclusive political ideology that has raised **doubts about India's continued commitment to democratic pluralism**.
- **Foreign policy cannot be a part-time concern** of the national leadership; in terms of priority and attention, it should be **on a par with domestic affairs**.

- **India's foreign policy has often been ad hoc**, reactive and short term, reflecting the **absence of a broad strategic culture**. As the global scenario gets more complex and India's ambitions increase, a **cohesive strategic vision would give substance** and drive to India's pursuit of its interests over the long term.

INDIA TAIWAN RELATIONS

GS-II INTERNATIONAL RELATIONS

Context

- India and Taiwan are celebrating **25 years of their partnership**. However, the growing relationship has been a **low-key affair** as India has been hesitant to acknowledge the improving ties in public.
- Though **mutual efforts between Delhi and Taipei** have enabled a range of bilateral agreements covering agriculture, investment, customs cooperation, civil aviation, industrial cooperation and other areas, the time has come to recalibrate India-Taiwan relations.

Background

- The bilateral relations between India and Taiwan have **improved since the 1990s** despite both nations not maintaining official diplomatic relations.
- India **recognises only the People's Republic of China** (in mainland China) and **not the Republic of China's** claims of being the legitimate government of Mainland China, Hong Kong, and Macau - a conflict that emerged after the Chinese Civil War (1945–49).
- However, India's **economic and commercial links** as well as **people-to-people contacts** with Taiwan have expanded in recent years.

Bilateral Relations

- **Commercial ties:**
  - Both governments have launched efforts to significantly expand bilateral trade and investment, especially in the fields of **information technology (IT), energy, telecommunications and electronics**.
  - India's trade with Taiwan in the calendar year 2008 registered a total of **US$5.34 billion**, an increase of **9.5% as compared to 2007**.
  - Taiwanese **exports to India in 2008 grew at a rate of 28.41% to reach US$3 billion**.
  - Major Indian exports to Taiwan include <u>waste oil, naphtha, cereals, cotton, organic chemicals, copper, aluminum and food residues</u>.
- **Cultural exchanges:**
  - While the ROC and India are two of **Asia's leading democracies**, both with fairly close ties to the United States and Europe, both sides continue to **lack formal diplomatic relations**.
  - **Buddhism** is the most widely practiced religion in Taiwan, usually alongside elements of **Daoism**, and **Bollywood films** have in recent years gained a reasonably popular following, along with other aspects of Indian culture such as yoga, cuisine and Indian dance.

Barriers to Taiwan-India relations

- India is sticking to its decades-old **"one China" policy**, so it is implausible to push for that decision to change.
- India is the most recent victim of **China's unlawful territorial incursions**, with the two countries' armed forces engaged in an eyeball-to-eyeball situation over the past 10 months. Beijing is sending forceful signals that it aims to maintain its belligerent position if New Delhi does not go China's way.
- China has been ambivalent toward **India's territorial concerns**. Almost one year into the standoff, Beijing has not shown any sign of resolving the issue, but has rather chosen to escalate the impasse.
- Over the past several decades, it has made sense for Taiwan to be **US-centric in its foreign relations**, but with the **emergence of the Indo-Pacific construct and the rise of Asian countries**, Taiwan should shift its focus toward regional issues and closer engagement with Indo-Pacific countries.

Way Forward

- **Cultivating political framework:**
  - Creating a political framework is a prerequisite to doing this. Both partners have increasingly **deepened mutual respect** underpinned by openness, with **democracy and diversity** as the key principles for collective growth.
  - The shared faith in **freedom, human rights, justice, and rule of law** continues to embolden their partnership. To make this relationship more meaningful, **both sides can create a group of empowered persons** or a task force to chart out a road map in a given time frame.

- **Health:**
  - India has been in the forefront of the fight against COVID-19. Taiwan's handling of the pandemic and its support to many other countries underlines the **need to deepen healthcare cooperation.**
  - India and Taiwan **already collaborate in the area of traditional medicine**. The time is ripe to expand cooperation in the **field of healthcare**.
  - Maintaining **air quality** has become a mammoth challenge for the Indian government and stubble burning is an important reason for severe air pollution. Taiwan could be a valuable partner in dealing with this challenge through its **bio-friendly technologies**.
  - Such methods are applied to **convert agricultural waste into value-added and environmentally beneficial renewable energy or biochemicals**.
  - Further, New Delhi and Taipei can also undertake **joint research and development** initiatives in the field of organic farming.

- **Cultural exchange:**
  - India and Taiwan need to deepen **people-to-people connection.** Cultural exchange is the cornerstone of any **civilisational exchange.**
  - It not only helps one appreciate another culture but also helps in **overcoming prejudices and cultural misunderstanding**.
  - **Tourism** is the key tool in this exchange. However, Taiwanese tourists in India are a **very small number**.
  - The **Buddhist pilgrimage tour** needs better connectivity and visibility, in addition to showcasing incredible India's diversity. This will accelerate the flow of Taiwanese tourists.
  - With the **Taiwan Tourism Bureau** partnering with **Mumbai Metro,** Taiwan is trying to raise awareness about the country and increase the inflow of Indian tourists.

- **Deepening economic ties:**
  - India's huge market provides Taiwan with **investment opportunities**. Taiwan's reputation as the world leader in **semiconductor and electronics complements** India's leadership in **ITES (Information Technology-Enabled Services)**.
  - This convergence of interests will help **create new opportunities**. India's recent strides in the **ease of business ranking not only provide Taiwan** with lucrative business opportunities but also help it mitigate its **over-dependence on one country for investment opportunities**.
  - The signing of a **bilateral trade agreement in 2018** was an important milestone. There are around **200 Taiwanese companies** in the field of electronics, construction, petrochemicals, machine, Information and Communications Technology and auto parts operating in India. Despite the huge potential, Taiwan investments have been paltry in India.
  - Taiwanese firms find the **regulatory and labour regime** daunting with stray incidents such as the incident in the Wistron plant last year creating confusion and mistrust.

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AIR STRIKE ON SANA'A

GS-II INTERNATIONAL RELATIONS

Context

- A Saudi-led military coalition mounted air strikes on Yemen's Houthi-controlled capital Sana'a on Sunday after it intercepted 10 drones launched by the Iran-backed rebels, state media reported.

Details

- The military operation **targets Houthi military capabilities in Sana'a** and a number of other provinces.
- The raids come after the coalition intercepted 10 drones launched by the rebels in a sharp escalation in cross-border attacks on the kingdom.
- The escalation comes even after the **U.S. last month delisted the Houthis as terrorists** and stepped up efforts to de-escalate the six-year conflict.
- The removal of the Houthis from the list of terrorist groups has been interpreted in a hostile way by the militia.
- Yemeni government sources said fierce fighting between pro-government forces and the rebels in **oil-rich Marib** had left at least 90 combatants on the two sides dead over the span of 24 hours.

> **Houthi:** Houthis are **Zaydi Shiites**, or **Zaydiyyah**. Shiite Muslims are the minority community in the Islamic world and Zaydis are a minority of Shiites, significantly different in doctrine and beliefs from the Shiites who dominate in Iran, Iraq, and elsewhere.

Background of the war

- The conflict has its roots in the **failure of a political transition** following an Arab Spring uprising that forced its longtime authoritarian president, **Ali Abdullah Saleh**, to hand over power to his deputy, **Abdrabbuh Mansour Had**i, in 2011.
- As president, Mr Hadi struggled to deal with a variety of problems, including attacks by jihadists, a separatist movement in the south, the continuing loyalty of security personnel to Saleh, as well as corruption, unemployment and food insecurity.
- The Houthi movement which champions Yemen's Zaidi Shia Muslim minority and fought a series of rebellions against Saleh during the previous decade, took **advantage of the new president's weakness** by taking **control of their northern heartland of Saada province** and neighbouring areas.

Way Forward

- Immediate focus should be on tackling the **humanitarian situation** in Yemen.
- The Saudis should ask themselves whether they should **continue with a failed strategy while the situation in Yemen keeps worsening**.
- If Houthis want international legitimacy, they should **stop fighting and start talking with other stakeholders.** A **ceasefire** is in everybody's interest but the question is who will blink first.
- The Biden administration should use its leverage to **pressure Riyadh to lift the blockade**, a key Houthi demand, as a **confidence-building measure** and push for talks for a lasting ceasefire.
- Yemen can find a way out of the current crisis provided the war is brought to an immediate end and the country is given diplomatic assistance.

INDIA-AFGHANISTAN RELATIONS

GS-II INTERNATIONAL RELATIONS

Context
- Biden Administration's new peace initiative could mark the beginning of a new chapter in Afghanistan's violent contemporary history. New Delhi will take a strong interest in the ambitious new US framework.

U.S.-Taliban Agreement
- On February 29, 2020, after more than a year of official negotiations between U.S. and Taliban representatives, the two sides concluded an agreement laying the groundwork for the withdrawal of U.S. armed forces from Afghanistan, and for talks between Kabul and the Taliban.
- In the accord, the two sides agreed to two "interconnected" guarantees: the withdrawal of all U.S. and international forces by May 2021, and unspecified Taliban action to prevent other groups (including Al Qaeda) from using Afghan soil to threaten the United States and its allies. Other U.S. commitments included facilitating a prisoner exchange between the Taliban and the Afghan government, and removing U.S. sanctions on Taliban members.
- Taliban pledged not to attack U.S. or international forces, as well as Afghan provincial capitals and other high profile targets.

India-Afghanistan Relations
- **Commercial Relations:**
  - 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**.
  - In order to expand trade to India, the Afghan government in collaboration with the Government of India launched a **dedicated Air Freight Corridor** on 19 June 2017.
  - India-Afghanistan Air-Freight Corridor has witnessed close to a 1000 flights, carrying goods valued at over USD 216 million.
- **Afghanistan India Culture Relations:**
  - There have been several exchanges of artistes and music troupes over the past few years.
  - Major such events include an "**India-Afghanistan Culture Week**" held in New Delhi in November 2017 in collaboration with **India-Afghanistan Foundation (IAF)** and ICCR.
  - 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:**
  - 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.
  - **Afghanistan Cricket Board (ACB)** has been allotted three cricket home grounds in India (Noida, Dehradun and Lucknow).
- **High Impact Community Development Projects (HICDP):**
  - 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.
- **Humanitarian Assistance:**
  - 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.

- 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 the Government of Afghanistan in 2020.

Risks associated in Afghanistan

- **Terrorism:** While the U.S.-Taliban agreement states that the Taliban will prevent terrorist outfits from operating on Afghan soil, there is little clarity on how the agreement will be verified and enforced.
- **Pakistan Growth:** Growing influence of Pakistan's Inter-Services Intelligence Directorate, which shares an undeniable link with the Taliban, especially the Haqqani group.
- **Political Instability:** India's long-term interests in Afghanistan has to do with the increasing political instability in Kabul.

Way Forward for India

- **Broader Diplomatic Engagement**: India should consider appointing a special envoy dedicated to Afghan reconciliation. The envoy can ensure that Indian views are expressed at every meeting, broaden engagement with the Afghan government and other political actors, and reach out to certain Taliban representatives.
- **Continued Training and Investments:** India should provide more military training to Afghan security forces and invest in longer-term capacity-building programs. It should actively support and invest in the National Directorate of Security (for example, by providing training and sharing intelligence). Finally, given the continued levels of violence and the impact of the coronavirus on the Afghan economy, India should expand its development assistance.
- **Working With and Through Others:** India should look to broaden its engagements with Iran and Russia, explore opportunities for cooperation (as limited as they might be) with China, and find common ground with the United States on Afghanistan's future. This does not mean forcing competing interests to align; it means investing in a wider diplomatic initiative with the view to carve out areas of convergence.

RESILIENT INDIAN ECONOMY

GS-III ECONOMY

Background

- Asia watchers observing China are missing the real economic shift at play — that this is India's economic decade. Almost every major global company is either contemplating or operating on the assumption that India is a key part of their growth story.

History of Indian Economic Growth

- In the 1990s and 2000s, India had an **impressive growth** run for a democratic country.
- While economic growth slowed down in some years due to exogenous shocks—the **Asian financial crisis** in 1997, a **major drought in 2000**, and the **global financial crisis in 2008**—each time the country made a speedy recovery.
- After the crisis in 2008, the economy **recovered quickly**, and **growth in investments and economic output was robust** for two years.
- It saw a sharp slowdown beginning in 2012, but showed some recovery between 2014 and 2017, suggesting that India had returned to a norm of high growth.
- But the **economy has slowed down significantly since then**, with **gross domestic product (GDP) growing by 8.3 percent in 2017 to only 4.6 percent** in the first three quarters of fiscal year 2020.

Reason for Temporary Recovery between 2014-2017

- This recovery had little to do with a renewed dynamism or continued structural transformation of the Indian economy.
- The recovery had a lot to do with a **fall in the trade deficit** (import of gold declined; import of certain engineering goods declined due to slowing economic activity; and the import bill for some commodities, such as metals and crude oil, shrank because of falling international prices), an i**ncrease in real-value addition due to drops in input prices**, and a **recovery in consumption fueled by low crude oil prices**, **off-budget fiscal stimulus**, and **expansion of credit from non-banking financial firms**.

> **Recent FDI inflows:**
> - Google, Facebook, Walmart, Samsung, Foxconn, and Silver Lake have been just a handful of the firms that made big ticket bets on India in 2020.
> - As a result, even as India experienced one of the world's sharpest economic contractions, it also saw the **fastest growth in Foreign Direct Investment (FDI) inflows** among all the major economies last year.
> - India's **$60 billion-plus tally for new annual FDI equity** inflows was its largest-ever haul and a milestone in the agenda of Prime Minister Narendra Modi's government in its second term.

Current Issues in Indian market

- Three decades after its economy was liberalised, India remains a complex and challenging place to do business.
- **Frequent shifts in the policy landscape** and **persistent market access barriers** are standard complaints levied against India by the business community.
- Government's **push to build a "self-reliant" India** has also rattled skittish investors and smaller companies that lack the resources to navigate on-the-ground hurdles.
- Leading corporate investors see the Indian market differently. They recognise that **doing business in India comes with inherent risks** but that **adaptation in approach is critical to success**. Most importantly, they have the **vision to understand that these are risks worth taking** given the scale of the India Opportunity.

Core Dynamics Driving the Economy

- Four core dynamics drive this calculus and explain why multinational companies are making India an essential part of their growth story.

1. Demographics:

- What India offers through its **nearly 1.4 billion people** and their **growing purchasing power is uniquely valuable** for multinationals with global ambitions.
- No other country outside of China has a market that houses **nearly one in six people on the planet and a rising middle class of 600 million**.
- Failure to compete for a share of **Indians' wallets is not just a missed strategic opportunity**; it's borderline malpractice at the boardroom level.

2. Shifting geopolitics:

- Rising U.S.-China competition is **redefining the global landscape for investment and manufacturing**, forcing multinationals to rethink their footprints and production hubs.
- Savvy countries such as Vietnam have capitalised on this opportunity to great effect, but **India is finally getting serious about attracting large-scale production and exports**.
- Major multinational companies such as **Samsung have invested billions in the Indian market**, and manufacturers such as Cisco, Nokia, Ericsson, and Flex are reportedly weighing new investments that take advantage of fresh incentive programs.

3. Rising digital connectivity:

- **Cheap mobile data** have powered a revolution across India's digital economy and connected an estimated 700 million Indians to the Internet.
- As Mr. Modi has said, more than **500 million Indians still remain offline**, and the rise of these **'next gen netizens' is a key reason** why leading global tech companies are investing in India and weathering acute policy pressure.
- **Domestic Indian companies** have also demonstrated their ability to innovate and deliver high quality services at scale.
- The partnerships and FDI flows linking multinationals and Indian tech firms will continue to unlock shared market opportunities for years to come.

4. National Resilience:

- Despite facing the scourge of the novel coronavirus head on, India has **managed the pandemic better than many of its western peers** and restored economic activity even before implementing a mass vaccination programme.
- These are remarkable developments, and yet they speak to India's underlying resilience even in the face of historic challenges.
- This ethos will serve India well as it navigates the complex challenges of the 21st century, and global investors are clearly taking note.

Way Forward

- Balance its lopsided economic relationship with China and recalibrate its engagement with other Asian states.
  - Playing a stronger role in developing South Asia and having a clearly defined Indo-Pacific strategy will help India safeguard its interests.
- Consider emerging as a **viable alternative for firms relocating from China**. Given shifting trade relations, India could position itself as a strong alternative.
  - In addition to building capability, India will have to **balance its image of being economically self-sufficient yet keen on building trade relations.**
- Invest and strengthen its **digital infrastructure.** To meet the demands of a world reliant on technology, India must make hard-nosed decisions to build digital capability. Without building domestic capability, India loses the opportunity to play a pivotal role in key transnational projects.
- Undertake a **strategic reorientation** of existing assets to create more usable **military assets**.
- Charting a path forward in this dynamic growing market will **require corporate executives to make new commitments and navigate choppy waters**. But for leading companies with global ambitions and a willingness to make big bets, the **rewards of investing in the Indian market are substantial and well worth pursuing**.

UNPAID WORK

Context

- Women everywhere carry a disproportionately higher burden of unpaid work, namely, unpaid domestic services as well as unpaid care of children, the old and the disabled for their respective households.
- Though this work contributes to overall well-being at the household level and collectively at the national level, it is invisible in the national database and particularly in national policies.

Unpaid Work

- This work is **repetitive, boring and frequently drudgery** — a 24-hour job without remuneration, promotions or retirement benefits.
- It **restricts opportunities for women** in the economy and in life. Women do this job not necessarily because they like it or are efficient in it, but because it is **imposed on them by patriarchal norms**, which are the roots of all pervasive gender inequalities.
- This unequal division of unpaid work between women and men is **unfair and unjust and it deprives women of equal opportunities** as men.

WOMEN CARRY OUT AT LEAST TWO AND A HALF TIMES MORE UNPAID HOUSEHOLD AND CARE WORK THAN MEN

TIME SPENT ON PAID AND UNPAID WORK FOR EMPLOYED PERSONS BY SEX, 23 DEVELOPING AND 23 DEVELOPED ECONOMIES (LATEST YEAR AVAILABLE)
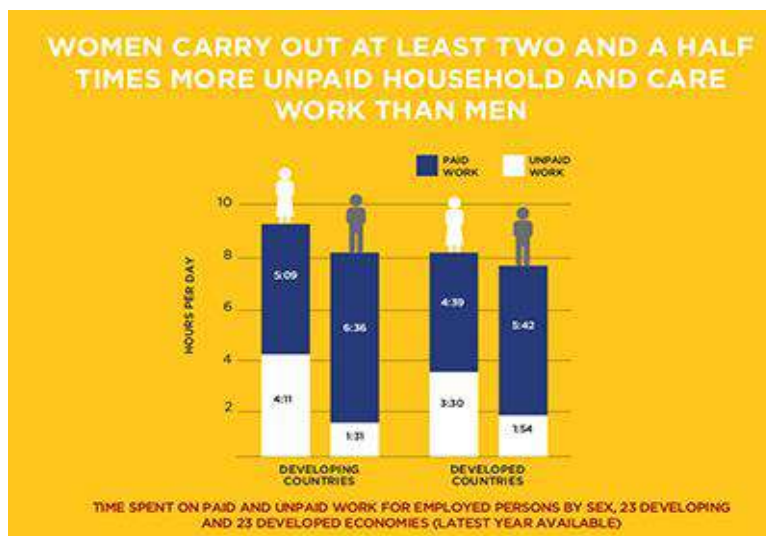
Unpaid Work in National Accounts: Pro

- By incorporating the value of unpaid work in the national accounts, they would much more **realistically reflect real growth and welfare of a nation** and make comparisons between different points in time and between different countries are more valid.
- It would also **provide more accurate measures of the effects of the business cycle**, capital accumulation in private households and the distribution of real income over individuals or
- households.
- It would **unveil the shifts between government-financed services and unpaid family care** that occur as a consequence of increases or reductions of the public budget.
- Incorporating **subsistence agriculture** would throw light on an important element of the process of development and **highlight the need for investments in this sector**.

Unpaid Work in National Accounts: Con

- Unpaid activities as such fall outside the relevant production boundary, because they **cannot be separately identified as activities in an economic sense** (involving the choice to use scarce resources for one or more alternate purposes).
- Imputed income **does not have the same significance as monetary income**, because it does not give the consumer freedom to choose on what goods or services he or she can spend it now or later; the imputed income from unpaid work is **bound to the output of the unpaid production process itself.**
- There are more practical arguments like **difficulties of measuring and valuing unpaid work** are most widely cited.

Issue with monetising unpaid work

- For political parties to recognise this work is a positive development, and the demand for wages for housewives has emerged from this concern. However, its **implementation may create problems such as affordability of the government and calculation of the amounts**.
- Women may **not be eager to enter the labour market**. More important, these wages may confirm unpaid work as **women's work only**, which would deny opportunities to women in the wider world.
- Payment of **pension to old women (60+ years) may be a better idea** to compensate them for their unpaid work.

What the government could do

- What governments could do is **recognise this unpaid work in the national database** by a sound time-use survey and use the data in national policies.
- Also, they could relieve women's burden of unpaid work by **improving technology** (e.g. better fuel for cooking), **better infrastructure** (e.g. water at the doorstep), **shifting some unpaid work to the mainstream economy** (e.g. childcare, care of the disabled, and care of the chronically sick), and by **making basic services** (e.g. health and transportation) accessible to women.
- Also, they could **redistribute the work between men and women** by providing different **incentives and disincentives to men** (e.g. mandatory training of men in housework, childcare, etc.) and **financial incentives for sharing housework**.

Unpaid work and the economy

- What is critical is to understand the linkages between **unpaid work and the economy**.
- The household produces **goods and services for its members**, and if GDP is a **measure of the total production and consumption** of the economy, it has to incorporate this work by accepting the household as a sector of the economy.
- At the macro level, **unpaid work subsidises the private sector** by providing it a generation of workers (human capital) and takes care of wear and tear of labour who are family members.
- The private sector would have **paid much higher wages and earned lower profits** in the absence of unpaid work.
- Unpaid work also **subsidises the government by taking care of the old, sick and the disabled**.
- Unpaid work is a privately provided public good which is critical for the sustenance of the mainstream economy. This work, therefore, **needs to be integrated with the mainstream economy and policies**.
- It will be up to public policies then to improve the productivity of unpaid workers, reduce their burden, and tap their potential in development, as the household could also be an important economic sector.

Conclusion

- By excluding this work from the economy, macroeconomics shows a **clear male bias**. There is an urgent need to expand the purview of economics not only for gender justice but mainly for moving towards a realistic economics.

RISING UNEMPLOYMENT

GS-III ECONOMY

Background

- The **pandemic is far from over** despite the availability of vaccines. However, unlike last year, the response this time has been muted with **no nationwide lockdown**.
- While aggregate estimates on the **growth rate of GDP showed a sharp contraction in economic activity** (the economy shrunk by 24 per cent in the April-June quarter of 2020) the **impact on lives and livelihoods is still unfolding** even though the sharp contractionary phase seems behind us.
- The extent of the loss of lives and livelihoods is becoming clear only now, with **detailed data from the Periodic Labour Force Surveys (PLFS)** — the latest round of which is for the April-June quarter of 2020.

PLFS Data

- According to the PLFS April-June 2020 round, the **urban unemployment rate** for the population above the age of 15 was 20.8 per cent, which is **close to the monthly average for the same quarter from CMIE at 19.9 per cent**.
- The CMIE data, however, does suggest a **sharp decline in June compared to April and May**.
- The PLFS data also shows a **sharp rise in the unemployment rate** which more than doubled compared to the unemployment rate in the preceding quarter of January-March 2020 at 9.1 per cent and 8.8 per cent in the same quarter (April-June) of 2019.
- While one in five persons above the age of 15 was unemployed during April-June 2020, the **unemployment rate among the 15-29-year-olds was 34.7 percent —** every third person in the 15-29 age group was unemployed during the same period.

Causes of Unemployment in India

- **Caste System**: In India caste system is prevalent. The work is prohibited for specific castes in some areas. In many cases, the work is not given to the deserving candidates but given to the person belonging to a particular community. So this gives rise to unemployment.
- **Slow Economic Growth:** Indian economy is underdeveloped and the role of economic growth is very slow. This slow growth fails to provide enough unemployment opportunities to the increasing population.
- **Increase in Population:** Constant increase in population has been a big problem in India. It is one of the main causes of unemployment. The rate of unemployment is 11.1% in the 10th Plan.
- **Agriculture is a Seasonal Occupation:** Agriculture is underdeveloped in India. It provides seasonal employment. Large part of the population is dependent on agriculture. But agriculture being seasonal provides work for a few months. So this gives rise to unemployment.
- **Joint Family System:** In big families having big business, many such persons will be available who do not do any work and depend on the joint income of the family.
  - Many of them seem to be working but they do not add anything to production. So they encourage disguised unemployment.
- **Fall of Cottage and Small industries:** Industrial development had an adverse effect on cottage and small industries. The production of cottage industries began to fall and many artisans became unemployed.
- **Slow Growth of Industrialisation:** The rate of industrial growth is slow. Though emphasis is laid on industrialisation yet the avenues of employment created by industrialisation are very few.
- **Less Savings and Investment:** There is inadequate capital in India. Above all, this capital has been judiciously invested. Investment depends on savings. Savings are inadequate. Due to shortage of savings and investment, opportunities of employment have not been created.
- **Causes of Underemployment:** Inadequate availability of means of production is the main cause of underemployment. People do not get employment for the whole year due to shortage of electricity, coal and raw materials.
- **Defective Planning:** Defective planning is one of the causes of unemployment. There is a wide gap between supply and demand for labour. No Plan had formulated any long term scheme for removal of unemployment.
- **Expansion of Universities:** The number of universities has increased manifold. There are 385 universities. As a result of this educated unemployment or white collar unemployment has increased.
- **Inadequate Irrigation Facilities:** Even after the completion of 9th five plans, 39% of the total cultivable area could get irrigation facilities.
  - Due to lack of irrigation, large areas of land can grow only one crop in a year. Farmers remain unemployed for most of the year.
- **Immobility of labour:** Mobility of labour in India is low. Due to attachment to the family, people do not go to far off areas for jobs. Factors like language, religion, and climate are also responsible for low mobility. Immobility of labour adds to unemployment.

Reason for recent rise

- The worsening situation is partly a result of the **long-term neglect of the employment issue** in policy circles.
- It is also a result of **policy decisions** such as **demonetisation and GST implementation**, which affected the informal/unorganised sector adversely.
- It is these enterprises in the unorganised sector that are the drivers of employment creation.
- The decline in the number of workers by 15 million between 2011-12 and 2017-18 is **only a partial reflection of the jobs crisis**.
- The decline in jobs was accompanied by a **decline in the quality of employment,** with an increase in precarious jobs and a decline in access to social security for a majority of workers.
- The deceleration in the growth rate of economic activities also meant that **real wages of casual workers in rural areas** by January 2021 have declined compared to two years ago.
- **Regular salaried workers were already suffering** from a decline in real wages at 1.7 per cent per annum between 2011-12 and 2017-18.

Suggestions to solve unemployment problem

- **Change in industrial technique:** Production technique should suit the needs and means of the country. It is essential that labour intensive technology should be encouraged in place of capital intensive technology.
- **Policy regarding seasonal unemployment:** Seasonal unemployment is found in the agriculture sector and agro based industries. To remove it:
  ○ Agriculture should have multiple cropping,
  ○ Plantations, horticulture, dairying and animal husbandry should be encouraged,
  ○ Cottage industries should be encouraged.
- **Change in education system:** Educational patterns should be completely changed. Students who have a liking for higher studies should be admitted to colleges and universities. Emphasis should be given on vocational education. Qualified engineers should start their own small units.
- **Expansion of Employment exchanges:** More employment exchanges should be opened. Information regarding employment opportunities should be given to people.
- **More assistance to self employed people:** Most people in India are self employed. They are engaged in agriculture, trade, cottage and small scale industries etc. These persons should be helped financially, providing raw materials and technical training.
- **Full and more productive employment:** The main objective of the county's employment policy should be to increase employment opportunities and productivity of labour. Govt. should adopt a policy that provides employment to all people.
- **Increase in Production:** To increase employment, it is essential to increase production in agriculture and industrial sectors. Development of small and cottage industries should be encouraged.
- **More importance to employment programmes:** In five year plans more importance should be given to employment. The programmes like irrigation, roads, flood control, power, agriculture, rural electrification can provide better employment to people.
- **High rate of capital formation:** Rate of capital formation in the country should be accelerated. Capital formation should be particularly encouraged in such activities which generate greater employment opportunities. Capital output ratio should be kept low.
- **Industries in the co-operative sector:** Industries in the co-operative sector should be encouraged. Kerala Govt.' set up a textile mill covering 600 unemployed persons on a co-operative basis. This is a novel approach to fight against unemployment. Different State Govt. should take necessary steps in this direction.
- **Decentralisation of industrial activity:** Decentralisation of Industrial activity is necessary to reduce unemployment. If industrial activities are centralised at one place, there will be less employment opportunities in the underdeveloped areas. So the Govt. should adopt such policies which encourage decentralisation of industrial activity.

- **Population control:** The growth of population should be checked in order to solve the unemployment problem. Family planning programmes should be implemented widely and effectively.

Conclusion

- More recent data from the PLFS is awaited, but estimates from the CMIE data suggest that the **unemployment rate has fallen 7 per cent for the 15 and above age population** in recent months.
- While this may suggest that the **economy is returning to the pre-pandemic levels**, the rate is still very high.
- This level of unemployment is **not just a symptom of the "jobless" model** of economic growth that has been followed in the last two decades, but is also a **recipe for political and social instability**.
- The pandemic and the subsequent crisis in the employment-unemployment situation has only **highlighted the fragile situation of the labour market**.
- The real crisis of unemployment and jobless growth is a bigger pandemic that is **unlikely to be resolved with the current model of economic growth** which prioritises capital over labour.

PRIVATISATION
GS-III ECONOMY

Context

- In the recent Budget session, the Union government announced its intent to **privatise Public Sector Banks (PSBs)**.

Background

- Improving efficiency has been cited as the reason for this move, it is not clear whether privatisation brings efficiency or reduces associated risks.
- Around the world, innumerable private banks have failed, thus challenging the notion that only private banks are efficient.
- Similarly, if private enterprises are the epitome of efficiency, why do private corporate entities have such large volumes of NPAs?

> **Bank nationalisation:**
> - **Bank nationalisation** ushered in a revolution for India's banking sector.
> - Before nationalisation, barring the State Bank of India, most banks were **privately owned and they largely benefited the rich** and the powerful.
> - The nationalisation of **14 private banks in 1969**, followed by **six more in 1980**, transformed the banking sector, created jobs, extended credit to the agriculture sector and benefited the poor.
> - Areas that had so far been neglected, including agriculture, employment-generating productive activities, poverty alleviation plans, rural development, health, education, exports, infrastructure, women's empowerment, small scale and medium industry, and small and micro industries, became priority sectors for these banks.

Nationalisation brought Equitable growth

- The move also helped in promoting more **equitable regional growth**, and this is evident from **RBI data**.
  - There were only 1,833 bank branches in rural areas in the country in 1969, which increased to 33,004 by 1995 and continued to grow over the next decades.
- Banking services also **reduced the dependence on moneylenders** in rural regions.
- Nationalised banking improved the **working conditions of employees** in the banking sector, as the state ensured **higher wages, security of services, and other fringe benefits**.

Importance of PSBs

- PSBs are vehicles of the Indian economy's growth and development, and they have become the trustees of people's savings and confidence.
- The PSBs played a huge role in making the country self-sufficient by supporting the green, blue, and dairy revolutions. They have also contributed significantly to infrastructural development.
- Public sector banks in India are currently earning considerable operating profits, to the tune of Rs. 1,74,390 crore in 2019-20 and Rs. 1,49,603 crore in 2018-19.

Issue with Privatisation of PSBs

- Placing such a huge network of bank branches and the infrastructure and assets in the hands of private enterprises or corporates may turn out to be an irrational move.
- It could lead to denial of convenient and economical banking services to the common man; the risks of monopoly and cartelisation may only complicate the issue.

Issue of Stringent laws in Banking Sector

- Stringent measures are required to recover **large corporate stressed assets**, which is a key concern for the entire banking sector. This must include **strong recovery laws** and taking **criminal action against willful defaulters**.
- Willful default by **large corporate borrowers** and **subsequent recovery haircuts**, imposed through the **ill-conceived Insolvency and Bankruptcy Code**, has resulted in a heap of **write-offs**, putting a big dent on the balance sheets of PSBs.
- This has not only affected the profitability of the banks, but has also become an **excuse to allege inefficiency.**

Conclusion

- There is an urgent and imperative need to bring in a suitable statutory framework to consider willful defaults on bank loans a "criminal offence". A system to examine top executives of PSBs across the country will also help in improving accountability. But privatisation of PSBs is not a definitive panacea for the problems of the banking sector in India.

E-COMMERCE MARKETPLACES AND MSME MAKEOVER — *GS-III ECONOMY*

Context

- Manufacturing by small units, cottage units and MSMEs, if effectively facilitated, will be the game changer to accelerate economic growth, employment, income levels and enhance supply chain efficiencies.
- For MSMEs to be sustainable and effective, the need of the hour is not just **better automation in the production process** for greater efficiencies on the input side but also **more channels for accessing greater markets** and **opportunities to become a part of the national and global supply chains.**
- E-commerce marketplaces are today the best possible enablers for this transformation at **minimal cost, innovation and investment**.

Benefits of E-commerce Sector

- **Digital Transformation:**
  - ○ **China** captured the world market through the traditional method of having **guilds and business centres**. Now to compete successfully in established supply chains, the best way is to **invest in digital transformation and leverage modern technology**.
  - ○ Today, digital empowerment is the key differentiator. Without that, MSMEs will not be future ready.
- **Supply Chains:**
  - ○ By investing in supply chains, the e-commerce sector provides opportunities for MSMEs to **partner them in supply and delivery networks**.

- ○ Start-ups and young brands are also **finding opportunities to build national brands** and even **going global**.
- ○ This leads to **additional income generation through multiple livelihood opportunities** and thus contributes to **economic prosperity and inclusive**

Hurdles for robust e-commerce sector

1. Address the roadblocks that the e-commerce sector suffers in terms of **ease of doing business online**. Sellers on e-commerce marketplaces do not get advantage of GST threshold exemption (of Rs 40 lakh) for intra–state supplies that offline sellers enjoy.
2. The government would do well to **simplify the "Principal Place of Business" (PPoB)** requirement especially for **online sellers by making it digital** and **not requiring physical presence to expand their reach** outside their home state.
3. Provide MSMEs with **handholding support** to understand how e-commerce functions.
a. The government can collaborate with e-commerce entities to **leverage their expertise** and **scale to create special on-boarding programmes**, hold series of awareness sessions, provide common but important services like imaging and cataloguing, etc. These can be provided by state governments.
b. Equally important is to **examine the existing schemes and benefits for MSMEs**, which were formulated with an **offline, physical market in mind, and tweak them to include the special needs** to leverage online sales channels.
4. **Build infrastructure —** both physical and digital infrastructure is important for digital transformation.
a. The road and telecom network will facilitate not just access to the consumer but also enable the seller from remote areas to enter the larger national market as well as the export market.
b. A robust logistic network and warehouse chains created by e-commerce platforms enable similar access and reach. The National Logistics Policy should focus on e-commerce sector needs.
5. Dovetail the **skilling policy and programmes** with the requirements of the e-commerce sector to meet future demand of the sector.
6. Take specific steps to **increase exports via e-commerce**.
a. Identify products that have potential for the export market, connect e-commerce with export-oriented manufacturing clusters, encourage tie-ups with sector-specific export promotion councils, leverage existing SEZs to create e-commerce export zones.
b. India Posts can play a significant role by creating e-commerce specific small parcel solutions at competitive rates, building a parcel tracking system, and partnering with foreign post offices to enable customs clearances.

Conclusion

- There is an urgent need to create a **consolidated policy framework for e-commerce exports.**
- Policies like the **upcoming Foreign Trade Policy** needs to be fully leveraged.
- In order to give Indian e-commerce exporters that competitive advantage they need in order to succeed in global markers, specific policy provisions that provide incentives for **e-commerce exports, create more awareness and enable end to end digitisation** for e-commerce exports are critical.
- The Foreign Trade Policy should identify these areas and include e-commerce export specific provisions in the revised policy that comes into effect in April this year.

● **RISING POVERTY IN INDIA**　　　　　　　　　　　　　　　　　　_GS-III　ECONOMY_

Context

- According to an analysis by the Pew Research Center, India's **middle class may have shrunk by a third** due to 2020's pandemic-driven recession, while the **number of poor people** — earning less than □150 per day — more than **doubled**.

Details

- The report **uses World Bank projections of economic growth** to estimate the impact of COVID-19 on Indian incomes.

- The lockdown triggered by the pandemic resulted in shut businesses, lost jobs and falling incomes, plunging the Indian economy into a deep recession.

Slipping into poverty | The number of poor in India (with income of $2 or less a day) is estimated to have increased from almost 6 crore to 13.4 crore due to the COVID-19 induced recession. The chart shows the estimated number of people in each income tier in 2020 before and after the COVID-19 induced global recession

Income tiers:
Earning $2 or less a day: poor;
$2.01-10: low income;
$10.01-20: middle income;
$20.01-50: upper-middle income;
>$50: high income

*The term post-pandemic refers to the period since the onset of the pandemic in January 2020

SOURCE: PEW RESEARCH

- The middle class in India is estimated to have **shrunk by 3.2 crore in 2020** as a consequence of the downturn, compared with the number it may have reached absent the pandemic.

- The number of people who are poor in India (with incomes of $2 or less a day) is estimated to have increased by 7.5 crore because of the COVID-19 recession.

- This accounts for nearly **60% of the global increase in poverty**.

- It also noted the record spike in **MGNREGA participants** as proof that the poor were struggling to find work.
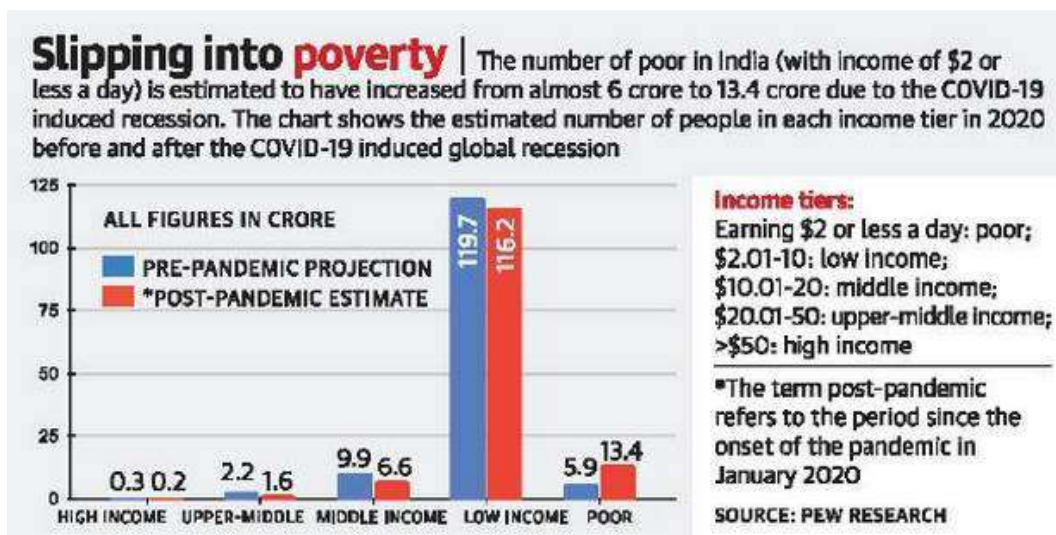
Comparison with china

- China's middle class is likely to see a **miniscule dip of just one crore**, while the number of poor people may have gone up by 10 lakh.

Evolution of Poverty Calculation Strategy in India

- **Pre independence poverty estimates**
  - One of the earliest estimates of poverty was done by **Dadabhai Naoroji** in his book, **'Poverty and the Un-British Rule in India'**. He formulated a poverty line ranging from Rs 16 to Rs 35 per capita per year, based on 1867-68 prices.

Year	Rural	Urban	Total
1993 – 94	50.1	31.8	45.3
2004 – 05	41.8	25.7	37.2
2009 – 10	33.8	20.9	29.8
2011 – 12	25.7	13.7	21.9

  - Next, in 1938, the **National Planning Committee (NPC)** estimated a poverty line ranging from Rs 15 to Rs 20 per capita per month. Like the earlier method, the NPC also formulated its poverty line based on 'a minimum standard of living perspective in which nutritional requirements are implicit'.
  - In 1944, the authors of the '**Bombay Plan**' (Thakurdas et al 1944) suggested a poverty line of Rs 75 per capita per year.

- **Post independence poverty estimates**
  - In 1962, the **Planning Commission** constituted a working group to estimate poverty nationally, and it formulated separate poverty lines for rural and urban areas – of Rs 20 and Rs 25 per capita per year respectively.
  - **VM Dandekar** and **N Rath** made the first systematic assessment of poverty in India in 1971, based on National Sample Survey (NSS) data from 1960-61.

- o They argued that the **poverty line must be derived from the expenditure** that was adequate to provide 2250 calories per day in both rural and urban areas.
- **Alagh Committee (1979)**
  - o In 1979, a task force constituted by the Planning Commission for the purpose of poverty estimation, chaired by YK Alagh, **constructed a poverty line for rural and urban areas** on the basis of nutritional requirements.
  - o The nutritional requirements and related consumption expenditure based on 1973-74 price levels recommended by the task force.
- **Lakdawala Committee (1993)**
  - o In 1993, an expert group constituted to review methodology for poverty estimation, chaired by DT Lakdawala, made the following suggestions:
  - o consumption expenditure should be calculated based on **calorie consumption** as earlier;
  - o state specific poverty lines should be constructed and these should be updated using the **Consumer Price Index of Industrial Workers (CPI-IW) in urban areas** and **Consumer Price Index of Agricultural Labour (CPI-AL) in rural areas**; and
  - o discontinuation of 'scaling' of poverty estimates based on National Accounts Statistics.
- **Tendulkar Committee (2009)**
  - o It recommended four major changes:
  - o a shift away from calorie consumption based poverty estimation;
  - o a **uniform poverty line basket (PLB)** across rural and urban India;
  - o a change in the **price adjustment procedure to correct spatial and temporal issues** with price adjustment; and
  - o incorporation of private expenditure on health and education while estimating poverty.
- **Rangarajan Committee**
  - o In 2012, the Planning Commission constituted a new expert panel on poverty estimation, chaired by C Rangarajan with the following key objectives:
  - o to provide an alternate method to estimate poverty levels and examine whether poverty lines should be fixed solely in terms of a **consumption basket or if other criteria are also relevant;**
  - o to examine divergence between the **consumption estimates based on the NSSO methodology and those emerging** from the National Accounts aggregates;
  - o to review international poverty estimation methods and indicate whether based on these, a particular method for empirical poverty estimation can be developed in India, and
  - o to recommend how these estimates of poverty can be linked to **eligibility and entitlements un**der the various schemes of the Government of India.

Way Forward

1. Accelerating Economic Growth:

- Efforts should be made to accelerate economic growth but if it has to make a significant dent on the problem of poverty the use of capital-intensive technologies imported from the Western Countries should be avoided.
- We should pursue a labour-intensive path of economic growth. Such monetary and fiscal policies should be adopted that provide incentives for using labour-intensive techniques.

2. Agricultural Growth and Poverty Alleviation:

- To ensure marked decline in rural poverty through agricultural growth, the rate of agricultural growth should be accelerated by increasing public investment in irrigation and other infrastructure.
- This trend has to be reversed by increasing public investment in agriculture, especially irrigation.
- Higher agricultural growth can be achieved in semi-arid and rain-fed areas by increasing public investment in infrastructure and ensuring adequate access to credit to the small farmers.

3. Speedy Development of Infrastructure:

- A country like India where the physical and social infrastructure is inherited from the pre-liberalisation period is not strong and redistribution of land on a significant scale is not feasible, public investment needs to be stepped up for expending physical infrastructure in the less developed areas.

4. Accelerating Human Resource Development:

- Human resource development requires greater investment in educational facilities such as schools to promote literacy, technical training institutes and vocational colleges to import skills to the people.
- Further, human resource development requires health care by public investment in Primary Health Centres, dispensaries and hospitals.
- This human resource development not only generates a good deal of employment opportunities but also raises productivity and income of the poor.

5. Growth of Non-Farm Employment:

- Non-farm employment is created in marketing (i.e., petty trade), transportation, handicrafts, dairying, and forestry, processing of food and other agricultural products, repair workshops.
- A study of Andhra Pradesh also shows that poverty declined more rapidly in the districts adjoining Hyderabad city due to large increase in non-farm employment.

6. Access to Credit:

- An important step in the credit delivery system for the poor has been setting up regional rural banks (RRB).
- Regional rural banks are primarily meant to meet the credit needs of the poor.
- The Government should take effective steps to improve the functioning of these financial institutions so as to ensure availability of adequate credit to the poor.

POST-PANDEMIC PRESCRIPTION: ATMA NIRBHARTA

GS-III ECONOMY

Context

- India suffered serious economic contraction due to the COVID lockdown. However, Atmanirbhar Swasth Bharat policies in the health sector can check a possible second wave and fuel a robust recovery.

Latest Report

- The **Asian Development Bank** identifies India as an outlier, with the country's **GDP growth** likely to range between **eight and 10 per cent — as against 7.7 per cent for China and seven per cent for the Asian region.**
- The convergence between the rich and poor countries in the 1990s and 2000s was founded on high relative growth rates driven by globalisation and export-led growth.
- **The World Bank** and many international think tanks are now projecting a process of de-globalisation, reduction in the demand for exports, and reduced service exports from the tourism, travel and hospitality sector in response to COVID. So, the phenomenon of trade-led catch-up growth is petering out.

Can India maintain its high growth rate beyond the statistical bounce-back from a low base in 2021-22 in the coming decade?

- India's **import substituting growth strategy** of the 1960s did not succeed because the high protective customs barriers led to the growth of **non-competitive industries that were locked into older technologies —** the Ambassador car, for example.
- The current Atma Nirbhar Bharat project is different because **tariffs are low and public investment is focused on non-tradable infrastructure** rather than commodity production.

Suggestions
New Cadre

- Atmanirbhar Swasth Bharat is a domestic non-trade dependent initiative which will **invest over Rs 64,000 crore** in setting up **17,800 rural and 11,000 urban health and wellness centres** and 602 critical care hospitals in the country's districts.
- Today India has **29 health workers per 10,000 population**, while we need 60 such professionals per 10,000 people, as per WHO norms.

- Creating such a cadre will mean **nearly four million new jobs**, which can be **self-paying as many of the services** like laboratory checks, screening for NCDs, X-rays, physiotherapy and drug protocol monitoring can be provided on a cost recovery basis.
- These professionals can be **employed on fixed-term contracts** as per the newly-reformed labour legislation.

Infrastructure

- Like the country's medical sector, its infrastructure, too, is poised to feel the effects of the government's emphasis on atmanirbharta.
- China and emerging markets like Russia and Brazil have a fairly **advanced transport and energy infrastructure**.
- India has a huge **potential to renew its railways and highways** and **shift to solar energy** from its current dependence on coal.
- In fact, the country's **long-neglected fourth largest rail network in the world** is undergoing rapid transformation. While rail track coverage expanded by 5,000 km during 2010 to 2014-15, nearly 7,000 km of tracks were added between 2015 and 2020.
- The Railways now aim to lay **9.5 km of track daily** and have **raised adequate capital for the same by leveraging domestic insurance funds**.
- Railways are also aiming for **100 percent electrification and zero carbon footprint by 2024.**

> **Steps Taken:**
> - The Centre's decision to invest heavily in **urban mass transit systems** since 2014 has led to the rapid expansion of such services. Starting from an estimated length of 380 km in Delhi, Kolkata, Chennai and Mumbai in 2014-15, over 500 km of metro rail systems are under construction in 40 large cities of India.
> - The **resolution of financial problems of blocked PPP projects** and smooth land acquisition process has increased the pace of construction of **national highways from 3,330 km per year** during 2009-20014 to nearly 9,450 km in 2020-21.
> - Starting with only 10 MW of solar power in 2010, India has **installed nearly 35 GW of solar power by 2020**. This has been propelled by economic reforms which drove solar power prices down from **Rs 17 per unit in 2010 to Rs 2.44 per unit in 2020**.

Conclusion

- The Centre's **shift towards privatising public sector outfits** including banks, insurance companies and other PSUs can fund the growth of rail, road and energy infrastructure.This will also **foster efficiency in India's credit system**.
- Recent studies have revealed that **financial decentralisation and commercial exploitation** of state-owned lands was critical to the project.
- In India, too, **regional development authorities** like the Mumbai Metropolitan Regional Development Authority and Maharashtra Industries Development Corporation have financed the metro, trans-harbour links and industrial infrastructure through a similar commercial land allocation model.
- This model can be **extended throughout the country to finance infrastructure expansion** — large parcels of idle land under loss-making public sector undertakings can be monetised for public infrastructure and health facilities.

CUT IN PETROL AND DIESEL PRICES   *GS-III   ECONOMY*

Context

- Oil marketing companies cut petrol and diesel prices for the **second consecutive day after a near six-month period**, which saw petrol and diesel prices rising consistently and hitting record highs across the country.
- OMCs **cut the price of petrol by 21 paise to Rs 90.78 per litre** and **reduced the price of diesel by 20 paise to Rs 81.1** in the national capital as the price of Brent crude fell from a peak of $70 per barrel in early March to $63.5.

Why are OMCs cutting fuel prices now?

- Oil marketing companies are **cutting prices of petrol and diesel** after holding them **constant for a 24-day period** which has witnessed significant volatility in the global prices of crude oil.
- Sources noted that **OMCs had halted price revisions despite rising crude prices** as fuel prices had become an electoral issue in key **upcoming state elections** in West Bengal, Tamil Nadu, Kerala and Assam.
- Experts noted that the freeze in price revisions likely **wiped out the Rs 2.5-3 per litre margin** that OMCs made on the sale of petrol and diesel as prices reached $70 per barrel but that OMCs would have **recouped most of their losses in the recent fall in crude prices** and that a cut in prices meant that their margins would have returned to normal levels.

Why are crude prices falling now?

- Both i**ncreasing supply of crude oil** and concerns about demand have caused the recent correction in crude oil prices which had **risen consistently from about $40 per barrel at the end of October to $70 per barrel** in early March.
- Crude oil prices have fallen on **fears of new Covid-19 restrictions in Europe** and **increasing crude oil output from the US**.
- Crude oil prices **continued to rise between October and early March** as the **OPEC+ group of oil-producing nations** decided to continue production cuts despite crude oil prices reaching near pre-covid levels and the US was hit by severe snowstorms in mid-February which led to a sharp fall in US crude oil production.
- Experts have however noted that **rising crude oil prices have accelerated the recovery of crude oil supplies** from the US.
- A move by India to **cut oil imports from Saudi Arabia** as a response to the country maintaining production cuts despite India calling for a withdrawal of production cuts may also **boost crude oil production in the US** which emerged as the **second most important source of crude oil for India** in February displacing Saudi Arabia.

OPERATION GREEN

Context

- While presenting the Union budget for the FY 2021-22, Finance Minister Nirmala Sitharaman announced that **Operation Green (OG) will be expanded** beyond tomatoes, onions, and potatoes (TOP) to **22 perishable commodities**.

Background

- Operation Green was **originally launched in 2018** by the late Finance Minister Arun Jaitley.
- There were three basic objectives when OG was launched:
  - It should contain the **wide price volatility in the three largest vegetables of India (TOP).**
  - It should **build efficient value chains of these from fresh to value-added products** with a view to give a larger share of the consumers' rupee to the farmers.
  - It should reduce the post-harvest losses by building modern warehouses and cold storages wherever needed.
- The strategy will comprise of a series of measures as decided by the Ministry which include:

1. Short term Price Stabilisation Measures: MoFPI will provide 50% of the subsidy on the following two components:
  - Transportation of Tomato Onion Potato(TOP) Crops from production to storage;
  - Hiring of appropriate storage facilities for TOP Crops;

2. 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.

Issue with the scheme

- **Fund Release:**
  - As of February 23, **six projects worth Rs 363.3 crore** have been approved for the scheme, of which Rs 136.82 crore has been approved as grant-in-aid.
  - But so far, a mere **Rs. 8.45 crore has been actually released**, which may be because the scheme envisages the payment of subsidy on a reimbursement basis.
- **High Volatility:**
  - Research at ICRIER reveals that price volatility remains as high as ever, and farmers' share in consumers' rupee is as low as 26.6 per cent for potatoes, 29.1 per cent in the case of onions, and 32.4 percent for tomatoes.
- **Structure:**
  - There is no separate board for Operation Greens such as the National Dairy Development Board (NDDB) which played an important role in Operation Flood.
- **Lack of Transparency:**
  - The criteria for choosing clusters for TOP crops under OG is not very transparent and clear. While some

MARKUPS (COSTS AND MARGINS) FOR VALUE CHAIN OF TOP
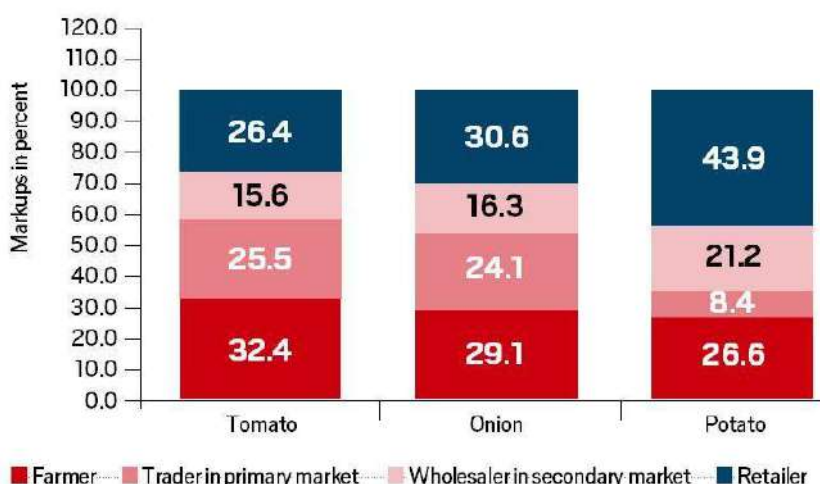
	Tomato	Onion	Potato
Retailer	26.4	30.6	43.9
Wholesaler in secondary market	15.6	16.3	21.2
Trader in primary market	25.5	24.1	8.4
Farmer	32.4	29.1	26.6

■ Farmer ■ Trader in primary market ■ Wholesaler in secondary market ■ Retailer

important districts have been left out from the list of clusters, less important ones have been included.

> **Comparison with Operation Flood**
> - In contrast to this situation in the horticulture sector, in the milk sector. In cooperatives like AMUL, **farmers get almost 75-80 percent of what consumers' pay**.
> - Operation Flood (OF) transformed **India's milk sector**, making the country the **world's largest milk producer**, crossing almost **200 million tonnes of production** by now.
> - Although OG is going to be more challenging than OF — **each commodity under OG has its own specificity, production and consumption cycle**, unlike the homogeneity of milk as a single commodity — there are some important lessons one can learn from OF.

Way Forward

- First and foremost is that **results are not going to come in three to four years**. One has to be patient.
  - **OF 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.
- We need a **champion like Verghese Kurien to head this new board** of OG — a leader who is **respected** for his/her independence, as well as **commitment** and **competence** to give a different shape to horticulture sector value chains.
- The **criteria for choosing clusters for TOP crops** under OG is **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 will have to be made innovative with new generation entrepreneurs, startups and FPOs**. 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.

● AGRI-REGULATORY SYSTEM   /   *GS-III   AGRICULTURE*

Context

- The intense debates around the recently enacted farm laws have brought to light the issue of developing a sound regulatory framework to **promote India's agricultural growth** — and in **keeping pace with the changing times**.

Previous Reform Attempts

Year	Event
2001	Expert Committee Report, Ministry of Agriculture
2001	Report of the Inter-Ministerial Taskforce on Agricultural Marketing Reforms
2002	Model Agriculture Produce Marketing Committee Act, 2003 circulated to States
2003	National Commission on Farmers
2004-2006	Model APMC Rules, 2007 published
2007	Report of Committee of State Ministers, In-charge of Agriculture Marketing to Promote Reforms
2013	eNAM Launched
2015	NITI Aayog Taskforce on Agriculture Development
2016	Doubling Farmers Income Committee Report, Model APLM Act, 2017
2017	Model Contract Farming Act, 2018, Operational Guidelines for GrAMs
2018	High Powered Committee of Chief Ministers

Present Reforms

1. The Essential Commodities (Amendment) Bill, 2020:

- The Central Government may only invoke the provisions of the Essential Commodities Act, 1955 in an extraordinary situation (war, famine, extraordinary price rises and natural calamities)
- Imposition of stock limits must only be based on price rises, and can only be imposed if there is a 100% increase in retail price of horticultural produce and a 50% increase in the retail price of non-perishable produce.

2. Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020:

- Intra and Inter State Trade of farmers produce beyond the physical premises of the existing markets. Trade can be conducted in/at: (i) farm gate, (ii) factory premises, (iii) warehouses, (iv) silos and (v) cold storages.
- Permits online trading of farmers produce, allowing farmer organizations and private sector companies to set up their own electronic trading platforms.
- State Governments may not levy any market fees, cess or levies outside the physical market area.

3. Farmers' (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020:

- Farming agreements between farmers and buyers are made possible, for production or rearing of any farm produce.
- The price of the produce will be clearly mentioned in the contract.
- A clearly specified dispute resolution mechanism, protecting the rights of both farmers and buyers.

Need of new Regulatory System

- Farmers, mainly smallholders, across India continue to face various constraints in carrying out farming activities.
  - They include constraints in **accessing agricultural inputs, markets, finance, human resources, and information**, which are critical for increasing farmers' competitiveness.
- The **existing institutional set up** that controls farm production often **fails** to ease these constraints. A way out of this problem is to develop a suitable regulatory system that would **enable farmers to overcome their constraints**.
- Governments can play a **critical role in this regard by enacting laws and regulations** that influence farmers' access to **agricultural inputs, cost of production, farmers' participation** in agricultural markets and value chains, the competitiveness of farmers, and private investment in the farming sector.

Comparison to other countries

- A recent publication by the World Bank titled **Enabling the Business of Agriculture (EBA) 2019** provides some interesting insights on this question.
- Based on eight indicators, the EBA measures the extent to which **government regulatory systems in 101 countries worldwide** make it easier for their farmers to operate agricultural activities.
- The indicators are **supplying seed, registering fertilizer, securing water, registering machinery, sustaining livestock, protecting plant health, trading food,** and accessing finance.
- These indicators measure the **strength of a country's agricultural regulatory environment** pertaining to market integration and entrepreneurship in agriculture.

India's Performance in EBA

- Among 101 countries covered, India ranked **49 on the EBA aggregate score**. France, Croatia, and the Czech Republic are the three top-ranking countries.
- Among emerging groups of 20 (EG 20) countries, India has the **second least favourable regulatory environment for farming** activities after South Africa.
- Turkey is the top-performing country among EG 20 countries, followed by Argentina, Brazil, the Russian Federation, Mexico and China.
- Notably, India lags behind its close competitors in world agriculture, namely **China, Brazil, and the Russian Federation**.

- Compared to these three countries, India has the **weakest performance on five out of eight indicators**.
  - They are **registering fertilizer and machinery, securing water, sustaining livestock, and protecting plant health indicators**.
  - Registering fertilizer and machinery indicators measure domestic laws and regulations that provide farmers access to fertilizer and agricultural machinery.
- The regulatory processes that help farmers make appropriate decisions regarding the level of investment in irrigation are measured by securing water indicators.

Reason

- Inadequate access to **quality agricultural inputs** such as fertilizers, water, and mechanical power can cause productivity loss, **higher cost of food production** and uncertainty, and **lower capacity of farmers to produce surpluses**, adopt **new plant varieties** and accept new opportunities to improve their income.
- The regulatory system that **governs irrigation management** is essential for **reducing the variability of farm output**, prices, and incomes, minimising vulnerability to natural shocks, and incentivising the production of riskier and high returns crops.
- Gaining access to the **global agricultural value chain requires a sound regulatory framework** on SPS.

Conclusion

- The future of world agriculture and food production is expected to **increasingly depend on middle-income countries** such as China, India, Brazil, and Indonesia, just like the **high-income countries dictating the fortunes of global agriculture** in the past five decades.
- To make the best use of this great opportunity, India needs to put in place an **agricultural regulatory system** that would make it easier for its farmers to conduct agricultural activities, thereby improving their productivity, competitiveness, and income.

FARMER PRODUCER ORGANISATIONS

GS-III   AGRICULTURE

Context

- One of the reasons for agrarian distress is the declining average size of farm holdings. Small farmers face several challenges in getting access to inputs and marketing facilities.
- A number of innovative institutional models are emerging and there are many opportunities for small and marginal farmers in India. A group or collective is one of the main institutional mechanisms to help the country's marginal and small farmers.

- The average farm size declined from **2.3 hectares (ha) in 1970-71 to 1.08 ha in 2015-16**. The share of small and marginal farmers increased from **70 per cent in 1980-81 to 86 per cent** in 2015-16.
- At the state level, the average size of farm holdings in 2015-16 ranged from **3.62 ha in Punjab**, 2.73 in Rajasthan and 2.22 in Haryana to 0.75 in Tamil Nadu, 0.73 in Uttar Pradesh, 0.39 in Bihar and **0.18 in Kerala**.

Background

- In the last decade, the Centre has encouraged farmer producer organisations (FPOs) to help farmers. Since 2011, it has intensively promoted FPOs under the Small Farmers' Agri-Business Consortium (SFAC), NABARD, state governments and NGOs.
- The membership of an FPO ranges from 100 to over 1,000 farmers. Most of these farmers have small holdings.
- The ongoing support for FPOs is mainly in the form of, one, a grant of matching equity (cash infusion of up to Rs 10 lakh) to registered FPOs, and two, a credit guarantee cover to lending institutions (maximum guarantee cover 85 percent of loans not exceeding Rs 100 lakh).

- India has 5,000 to 7,500 such entities as per different estimates and a majority of them are farmer producer companies.
- The budget for 2018-19 announced supporting measures for FPOs including a **five-year tax exemption** while the budget for 2019-20 talked of setting up **10,000 more FPOs in the next five years.**

Performance of FPOs

- Experience shows a mixed performance of FPOs in the last decade. Some estimates show that 30 percent of these are operating viably while 20 per cent are struggling to survive.
- The remaining 50 per cent are still in the initial phase of mobilisation and business planning.
- FPOs in Gujarat, Maharashtra and Madhya Pradesh, Rajasthan and some other states have shown encouraging results and have been able to realise higher returns for their produce.
- For example, tribal women in the Pali district of Rajasthan formed a producer company and they are getting higher prices for custard apples.
- NABARD has undertaken a field study on the benefits of FPOs in Punjab and Madhya Pradesh. The study shows that in nascent FPOs, the proportion of farmer members contributing to FPOs activities is 20-30 per cent while for the emerging and mature FPOs it is higher at about 40-50 percent.
- In Maharashtra, some of the FPOs have organically evolved (OFPOs) when farmers have taken the lead to adopt market-oriented practices, develop cost-effective solutions in production and marketing.

Challenges

Studies of NABARD show that there are some important challenges for building sustainable FPOs.

- Some of these are:
- lack of technical skills,
- inadequate professional management,
- weak financials,
- inadequate access to credit,
- lack of risk mitigation mechanism and
- inadequate access to market and infrastructure.

Way Forward

Among other things, we emphasize on three issues for the improvement of FPOs in order to help the small farmers.

1. The above issues such as **working capital, marketing, infrastructure** have to be addressed while scaling up FPOs.
   - Getting credit is the biggest problem. Banks must have structured products for lending to FPOs. These organisations lack professional management and, therefore, need capacity building.
2. They have to be **linked with input companies, technical service providers, marketing/processing companies, retailers** etc. They need a lot of **data on markets** and prices and other information and competency in information technology.
3. FPOs can be used to **augment the size of the land** by focusing on **grouping contiguous tracts of land** as far as possible — they should **not be a mere grouping of individuals**. **Women farmers** also can be encouraged to group cultivate for getting better returns. FPOs can also encourage **consolidation of holdings**.

Conclusion

- To conclude, FPO seems to be an **important institutional mechanism** to organise small and marginal farmers. **Aggregation** can overcome the constraint of small size.
- The real hope is in farmer producer organisations (FPOs) that **allow members to negotiate as a group** and can **help small farmers in both input and output markets**.
- The FPOs have to be **encouraged by policy makers** and other stakeholders apart from scaling up throughout the country to benefit particularly the small holders.

- While **small farmers gain greater bargaining power through FPOs** in relation to the purchase of inputs, obtaining credit and selling the produce, the fundamental problem of the small size of holdings giving only a limited income is not resolved.
- While incomes will rise because of the benefits flowing from FPOs, they **may not still be adequate to give a reasonable income** to small and marginal farmers. That **issue has to be handled separately.**

PUBLIC DISTRIBUTION SYSTEM (PDS)   *GS-III   AGRICULTURE*

Context
- The Economic Survey rightly flagged the issue of a growing food subsidy bill which is becoming unmanageably large.

Status of Food Subsidy
- Food subsidy, coupled with the **drawal of food grains by States from the central pool** under various schemes, has been on a perpetual growth trajectory.
- During 2016-17 to 2019-20, the subsidy amount, clubbed with loans taken by the **Food Corporation of India (FCI) under the National Small Savings Fund (NSSF)** towards food subsidy, was in the range of **Rs. 1.65-lakh crore to Rs. 2.2-lakh crore**.

- In future, the annual subsidy bill of the Centre is expected to be about **Rs. 2.5-lakh crore**.
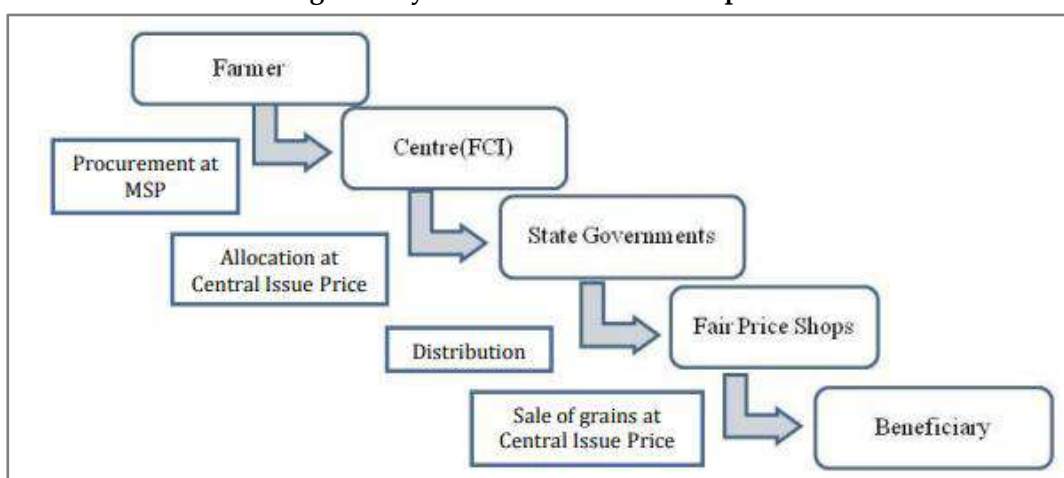
> **Key findings from the CAG audit:**
> - **Imbalances in availability of storage capacity across states:** There is an imbalance in the availability of storage capacity across regions. On the one hand, there is a shortage of space in consuming states, such as Rajasthan and Maharashtra, which together account for 13 percent of the total capacity of the FCI.
> - **Maximum buffer norms not specified:** The minimum buffer norms prescribed by the government do not clearly delineate individual elements of food security (e.g., emergency, price stabilisation, food security reserve, and TPDS) within the minimum buffer stock. The existing norms also do not specify the maximum stock that should be maintained in the central pool for each of the above components.
> - **Low utilisation of existing capacity in various states/UTs:** The audit observed that despite storage constraints in FCI, utilisation of existing storage capacity in various states/UTs was less than 75 percent in the majority of the months during the period 2006-07 to 2011-12.

Reason for High Subsidy
- **High drawal rate:**
  - During the three years, the quantity of food grains drawn by States (annually) hovered around **60 million tonnes to 66 million tonnes**.
  - Compared to the allocation, the **rate of drawal was 91% to 95%**.
  - As the **National Food Security Act (NFSA)** enhanced entitlements (covering two-thirds of the country's population), this naturally pushed up the States' drawal.

- **Issue prices:**
  - Central Issue Price (CIP) has remained at Rs. 2 per kg for wheat and Rs. 3 per kg for rice for years, though the NFSA, even in 2013, envisaged a price revision after three years.

Comparison with other mechanism

Mechanism	Advantages	Disadvantages
PDS	Insulates beneficiaries from inflation and price volatility	Low offtake of food grains from each household
	Ensures entitlement is used for food grains only	High leakage and diversion of subsidised food grain
	Well-developed network of FPS ensures access to food grains even in remote areas	Adulteration of food grain
		Lack of viability of FPS due to low margins
Cash transfers	Cash in the hands of poor increases their choices	Cash can be used to buy non-food items
	Cash may relieve financial constraints faced by the poor, make it possible to form thrift societies and access credit	May expose recipients to price volatility and inflation
	Administrative costs of cash transfer programmes may be significantly lesser than that of other schemes	There is poor access to banks and post offices in some areas
	Potential for making electronic transfer	
Food coupons	Household is given the freedom to choose where it buys food	Food coupons are not indexed for inflation; may expose recipients to inflation
	Increases incentive for competitive prices and assured quality of food grains among PDS stores	Difficult to administer; there have known to be delays in issuing food coupons and reimbursing shops
	Ration shops get full price for food grains from the poor; no incentive to turn the poor away	

Way Forward

In this context, it is time the Centre had a **relook at the overall food subsidy system** including the pricing mechanism.

- **Give Up Option:**
  - It should **revisit NFSA norms and coverage**. An official committee in January 2015 called for **decreasing the quantum of coverage** under the law, from the **present 67% to around 40%**. For all ration cardholders drawing food grains, a **"give-up" option**, as done in the case of cooking gas cylinders, can be made available.
  - Even though States have been allowed to frame criteria for the identification of PHH cardholders, the **Centre can nudge them into pruning the number of such beneficiaries**.
- **Slab System:**
  - As for the prices, the existing arrangement of **flat rates should be replaced with a slab system**. Barring the needy, other beneficiaries can be made to pay a little more for a higher quantum of food grains.
  - The rates at which these beneficiaries have to be charged can be arrived at by the Centre and the States through consultations.

CATCH THE RAIN CAMPAIGN · GS-III AGRICULTURE

Context

On World Water day (March 22) Prime Minister Narendra Modi launched the **"Catch the Rain" campaign** under the government's flagship programme, **Jal Shakti Abhiyan**. He emphasised the importance of **using every penny spent under MGNREGA to conserve water**.

Water Availability

- **Central Water Commission's Reassessment:**
  - India receives a **mean annual precipitation of about 3,880 billion cubic meters** (BCM) but **utilises only 699 BCM (18 percent)** of this; the **rest is lost to evaporation** and other factors.
  - The **demand for water is likely to be 843 BCM in 2025** and **1,180 BCM by 2050**.
- **UN Report:**

- ○ As per the UN's report on **Sustainable Development Goal-6 (SDG-6)** on **"Clean water and sanitation for all by 2030"**, India achieved only 56.6 per cent of the target by 2019. This indicates that we **need to move much faster in order to meet this SDG goal**.
- **Niti Aayog's Composite Water Management Index (2019):**
  - ○ 75 per cent households in India **do not have access to drinking water** on their premises and India ranks 120th amongst 122 countries in the water quality index.
  - ○ India is **identified as a water stressed country** with its per capita water availability declining from 5,178 cubic metre (m3)/year in 1951 to 1,544 m3 in 2011.

Focus on Agriculture

- Agriculture uses about 78 percent of freshwater resources. And as the country develops, the **share of drinking water, industry, and other uses is likely to rise**. Unless one learns to give effect to the credo of **"per drop more crop" in agriculture**, the challenge can be daunting.
- We need a paradigm shift in our thinking and a strategy to **not just increase land productivity measured as tonnes per hectare (t/ha)**, but also **maximise applied irrigation productivity measured as kilogrammes**, or Rs, per cubic metre of water (kg/m3).
- So far, with decades of large public and private investments in irrigation, only about **half of India's gross cropped area is irrigated**.

> **Groundwater** contributes about 64 per cent, canals 23 per cent, tanks 2 per cent and other sources 11 per cent to irrigation. This results primarily from the **skewed incentive policy of free or highly subsidised power,** particularly in the country's north-west, the site of the erstwhile Green Revolution.

Realignment of crops

- As per a **NABARD-ICRIER study on Water Productivity Mapping**, rice and wheat crops alone consume almost **60 per cent of India's irrigation water.**
- It is interesting to note that while **Punjab scores high on land productivity of rice,** it is at the bottom with respect to applied irrigation water productivity.
- Similarly, in the case of sugarcane, irrigation water productivity in Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu is only 1/3rd of that in Bihar and UP. There is, thus, a **need to realign cropping patterns based on per unit** of applied irrigation water productivity.

> The **Punjab government**, along with the World Bank and J-PAL, has started some pilots with an innovative policy of "**Paani Bachao Paise Kamao**" to encourage rational use of water among farmers. Under the initiative, **meters are installed on farmers' pumps**, and if they **save water/power** compared to what they have been using (taken as entitlements) they get paid for those savings.

Conclusion

- Overall, it seems it is time to switch from the highly subsidised price policy of water/power (and even fertilisers) to direct income support on a per hectare basis, and investment policies that help with newer technologies and innovations. Water and power need to be priced as per their economic value or at least to recover a significant part of their costs to ensure sustainable agriculture.

GLACIAL OUTBURST

Context
- A "new" glacial lake in the Rishi Ganga catchment area, has emerged after the glacial burst in the Chamoli, Uttarakhand.
- The lake is a remaining part of the bigger lake that caused flash floods.

Background- The glacial outburst
- A glacier break in Uttarakhand's Chamoli district triggered huge flooding in the month of February.
- It was followed by the evacuation of thousands - living near Alaknanda and Dhauliganga rivers - to safety.
- The flooding damaged nearby Rishiganga and NTPC power plants.
- A similar flash flood caused by glacial lake burst ravaged the Kedarnath shrine at the peak of the pilgrimage season in June 2013, killing close to 3,000 people and leaving thousands missing.

What is a glacier outburst?
- When glaciers break off, the space underneath them develops into a glacial lake filled with water.
- The breaking off of the glacial lake is termed as Glacial Lake Outburst Flood (GLOF) or glacial outburst.
- The glacial outburst occurs when the water level of lake rises or when the glacier retreats.

What causes Glacier Outburst?
- Earthquakes, erosion, volcanic eruptions, build of water pressure or an avalanche of heavy snow can cause the glaciers to burst.
- The glacier outburst can also happen after the displacement of massive water pocket in a glacial lake when an adjacent glacier retreats into it.

Can these glacial outbursts be manmade?
Research
- Data from the Indian Space Research Organisation's resource centre on Himalayan glaciers reveals that melting of the glaciers in Central Himalayan catchment area, where Chamoli falls, has increased in the first 20 years of this century.
- A research based on the study of 650 glaciers spanning 2,000 kms showed that glacial melting has doubled since 2000 as compared to 1975-2000.

Inference drawn by experts
Human activities
- Stone quarrying, blasting of mountains and digging of tunnels in the base of the fragile mountain system for the two back-to-back under-construction dams on Rishi Ganga and Dhauli Ganga rivers, despite warning by experts and ecologists, had played havoc with the local ecology.

Human induced Climate Change
- Human activities profoundly affect the earth's climate and mountains are a sensitive indicator of that effect.
- A 2019 report by Kathmandu-based International Centre for Integrated Mountain Development said that 36% of the volume of glaciers in Hindu Kush Himalayan (HKH) region will be gone by the end of 2100 if the world manages to keep the temperature rise within 1.5 degrees Celsius as mandated by Paris Climate Agreement.
- Melting of Himalayan glaciers has doubled since the start of the 21st century due to rising temperature, potentially threatening water supply for hundreds of millions of people in counties, including India.
- An analysis spanning 40 years of satellite observations across India, China, Nepal, and Bhutan indicated that climate change is eating the Himalayan glaciers.

- Little attention has been paid to the damage caused to the local ecology and loss of forest cover in the upper reaches of Central Himalayas for building hydel dams and construction of wider roads keeping environmental norms at bay.

Prone to Earthquake

- The entire State of Uttarakhand is categorised as falling in Zone IV and V of the earthquake risk map of India.
- Previously, the region has witnessed devastating earthquakes and in the recent past earthquakes in Chamoli and flood in Kedarnath has been witnessed.
- Despite the threat of such calamity large hydropower projects are in vogue in the state.
- The potential of cumulative effect of multiple such projects has turned out to be more environmentally damaging than sustainable.

> **Illegal Quarrying**
>
> Villagers of Raini in Chamoli, the epicentre of Chamolidisaster, had petitioned the Uttarkhand high court in May 2019 against illegal stone quarrying on Rishi Ganga river bed, blasting of mountains and improper muck disposal by contractors engaged in construction of Rishi Ganga hydel project. The district magistrate of Chamoli , asked by the high court to submit a report, found some of the allegations true.

> **More Damage awaiting**
>
> The fragile upper reaches of Uttarakhand, source for several small riverine systems feeding Ganga, already has 16 dams and another 13 are under construction. The state government has proposed another 54 dams to harness hydel energy potential of these rivers. On Dhauli Ganga river, 8 back-to-back new hydel projects are proposed in addition to National Thermal Power Corporation's Tapovan project, which was badly damaged in these flash floods. Geologists say that such heavy drilling of young and under-studied mountain systems such as Himalayas and loss of massive green cover for these dams were causing an irreparable damage.

Tackling such Disasters- The Way Ahead

Technology and Infrastructure

- We need a broad framework for infrastructure development, construction and excavation in vulnerable zones.
- It is important to innovate and design lighter machinery, which are more suitable to be carried in the mountains in a disassembled form for rescue purpose.

Regulating Construction

- Construction of any habitation should be prohibited in the high hazard zone.
- Existing buildings are to be relocated to a safer nearby region and all the resources for the relocation have to be managed by Central/State governments.
- New infrastructures in the medium hazard zone have to be accompanied by specific protection measures.

Land Use planning

- The importance of land use planning cannot be emphasized enough.
- There are no widely accepted procedures or regulation in India for land use planning in the GLOF/LLOF prone areas. Such regulations need to be developed. There should be monitoring systems prior to, during, and after construction of infrastructure and settlements in the downstream area.

Uniform Code

- In contrast to other countries, there are no uniform codes for excavation, construction and grading codes in India.
- Restricting constructions and development in GLOF/LLOF prone areas is a very efficient means to reduce risks at no cost—NDMA Guidelines.

Training locals

- Experience has shown that over 80 percent of search and rescue is carried out by the local community before the intervention of the state machinery and specialised search and rescue teams.- **NDMA**
- Thus, Trained and equipped teams consisting of local people must be set up in GLOF and LLOF prone areas- NDMA.

- These local teams assist in planning and setting up emergency shelters, distributing relief packages, identifying missing people, and addressing the needs for food, healthcare, water supply etc.

Comprehensive alarm systems

- Besides classical alarming infrastructure consisting of acoustic alarms by sirens, modern communication technology using cell and smart phones can complement or even replace traditional alarming infrastructure.

Quick Reaction Medical Teams

- For emergency medical response, NDMA has called for Quick Reaction Medical Teams, mobile field hospitals, Accident Relief Medical Vans, and heli-ambulances in areas inaccessible by roads.

Learning from mistakes

- It is said that those who fail to learn from history are doomed to suffer from it repeatedly.
- It is high time, therefore, for the government to realise that the Himalayan mountains are fragile.
- Government should set its development priorities and projects based on the potential of the mountains, local and traditional knowledge as well as aspirations of the place.
- If we don't stop this ecological catastrophe, the nature will strike back again, as it did in Kedarnath and Chamoli, and next time, it could be worse. So, saving Himalayas is the only option India has.

NCRMP
GS-III   DISASTER MANAGEMENT

Context

- The Government of India has initiated the National Cyclone Risk Mitigation Project (NCRMP) with a view to address cyclone risks in the country.

Implementation

- **National Disaster Management Authority** under the aegis of **Ministry of Home Affairs (MHA)** is implementing the Project in coordination with participating State Governments and the National Institute for Disaster Management (NIDM).

Objective

- To undertake suitable structural and non-structural measures to mitigate the effects of cyclones in the coastal states and UTs of India.
- The main objective of the NCRMP is to reduce vulnerability of coastal communities to cyclone and other hydro meteorological hazards through;
  - ✓ Improved early warning dissemination systems
  - ✓ Enhanced capacity of local communities to respond to disasters
  - ✓ Improved access to emergency shelter, evacuation, and protection against wind storms, flooding and storm surge in high areas
  - ✓ Strengthening DRM capacity at central, state and local levels in order to enable mainstreaming of risk mitigation measures into the overall development agenda.

Areas covered

- The Project has identified 13 cyclone prone States and Union Territories (UTs), with varying levels of vulnerability.
- These States/UT have further been classified into two categories:
  - **Category I:** Higher vulnerability States namely Andhra Pradesh, Gujarat, Odisha, Tamil Nadu, and West Bengal.
  - **Category II:** Lower vulnerability States i.e. Maharashtra, Karnataka, Kerala, Goa, Pondicherry, Lakshadweep, Daman and Diu, Andaman, and the Nicobar Islands

Significance OF NCRMP

- **Improvements in warning systems and preparedness in disaster management** remain critical to mitigate the loss of lives and, to some extent, loss of property.
- Studies have highlighted the importance of **land-use planning, development of coastal districts and insurance measures, in addition to development of a vigilant disaster management system**.
- Based on the Global best practices, the risk management of the Cyclones depends on several factors including
  - (i) hazard & vulnerability analysis,
  - (ii) preparedness & planning,
  - (iii) early warning services and
  - (iv) prevention and mitigation.
- Hence, National Cyclone Risk Mitigation Project is a right step in this direction.

Some suggestions to mitigate Cyclones

Structural Measures
- o Retrofitting of important buildings
- o Sea Walls and Coral reefs
- o Tsunami Breakwaters
- o Increasing the river dyke height
- o Tsunami and Cyclone Shelters
- o Siting or Re-siting of buildings in locations with minimal exposure to use high velocity winds, floods and surge prone zones.
- o Use of special resistant building materials/patterns
- o Coastal embankment construction
- o Engineered structures
- o Artificial hills (mounds)
- o Construction of artificial hills act as a strong community shelter for immediate evacuation after receiving a warning
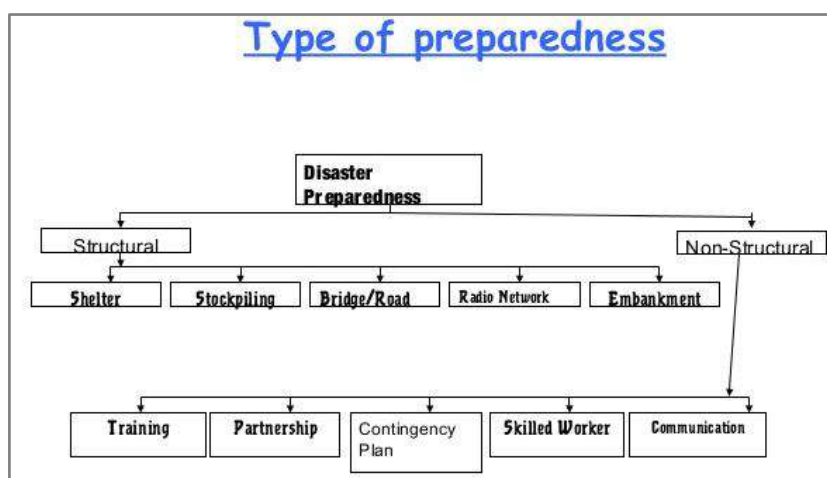
Non Structural Measures
- o Land use zoning according to CRZ
- o Warning Systems
- o Community Education
- o Coastal forestry planning with appropriate mangrove species and vegetation on the embankment
- o Maintaining Natural Sand Dunes
- o Shelterbelt Plantations
- o Natural Bio-shields
- o Saline embankments
- **End to end warning system**: There is a need for an end to end early warning which will enable people at all levels to respond quickly and effectively.

ARTIFICIAL PHOTOSYNTHESIS	GS-III SCIENCE & TECHNOLOGY

Context

- Recently, scientists have found a method to mimic photosynthesis, to capture excess carbon dioxide in the atmosphere.

Purpose

- This artificial photosynthesis (AP) harnesses solar energy and converts the captured carbon dioxide to carbon monoxide (CO), which can be used as a fuel for internal combustion engines.

> **What is photosynthesis?**
> Photosynthesis is the process by which green plants use sunlight to synthesize foods from carbon dioxide and water. The process combines 6 molecules of carbon dioxide and 6 molecules of water to produce one molecule of glucose and 6 oxygen molecules. The glucose is stored in the plant as starch and cellulose which are simply long chain glucose molecules (known as polysaccharides) as a source of food for the plant to survive and grow. The oxygen that is produced as a byproduct of photosynthesis is what most animals rely on to breath, so the process plants and trees fulfill on our behalf is critical to our survival.
> **Artificial Photosynthesis**
> In Artificial Photosynthesis we replicate the photosynthetic process completed by plants
> **Steps**
> 1. Light capture and moving the electrons to the reaction centers.
> 2. Splitting water into Hydrogen and Oxygen
> 3. Reducing Carbon Dioxide

Mechanism

- In artificial photosynthesis (AP), scientists are essentially conducting the same fundamental process in natural photosynthesis but with simpler nanostructures.
- They have designed an integrated **catalytic system**.
- The system is based on a metal-organic framework (MOF-808) comprising of a photosensitizer that can harness solar power and a catalytic centre that can eventually reduce CO_2 to CO.
  - ✓ A catalytic converter is a device that accelerates a redox reaction.
  - ✓ In AP, we would need the catalyst to reduce CO_2 to CO and oxidize water to produce oxygen (O_2).
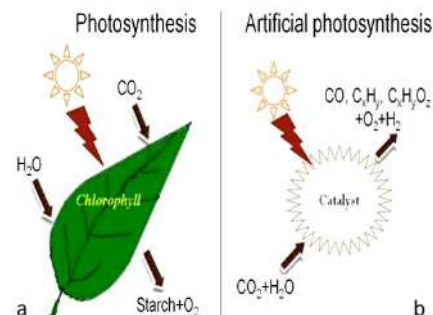
Redox Reactions

- ✓ Metal-organic frameworks (MOFs) are organic-inorganic hybrid crystalline porous materials that consist of a regular array of positively charged metal ions surrounded by organic 'linker' molecules. The metal ions form nodes that bind the arms of the linkers together to form a repeating, cage-like structure.
- ✓ A photosensitizer is defined as a chemical entity, which absorbs light and transfers the electron from the incident light into another nearby molecule. It then induces a chemical and physical alteration of nearby chemical entity.
- Here, the Photosensitizer, is a chemical called ruthenium bipyridyl complex ([Ru(bpy)2Cl2]).
- The catalytic part is another chemical called rhenium carbonyl complex ([Re(CO)5Cl]), inside the nanospace of metal-organic framework for artificial photosynthesis.

Oxidation	Reduction
1. gain of oxygen	1. Loss of oxygen
2. loss of hydrogen	2. Gain of hydrogen
3. loss of electrons	3. Gain of electrons
4. increase in oxidation number	4. Decrease in oxidation number
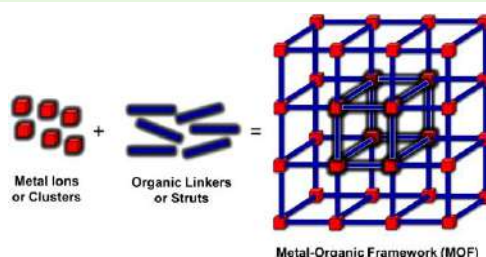
- Both these molecular entities stay in close proximity in the confined nano-space of a porous metal-organic framework system resulting in excellent CO_2 uptake capability at room temperature.
- The catalyst exhibits visible-light-driven CO_2 reduction to CO with more than 99% selectivity.
- The catalyst also oxidizes water to produce oxygen (O_2).
- The integrated catalytic assembly can be reused for several catalytic cycles without losing its activity.

Significance

- **Chemical Fuels:** Artificial photosynthesis is envisioned as a promising strategy to convert sunlight, a practically unlimited and sustainable source of energy, into chemical fuels.
- **Lower CO2 in atmosphere:** Through AP we would also be able to lower carbon dioxide concentrations in the atmosphere, while also producing sugar that we could use for food and energy production.
- **Energy alternative**: Fossil fuels are in short supply and they are contributing to pollution and global warming. AP could offer a new, possibly ideal way out of our energy predicament.
- **Storable Fuel:** It has benefits over Photovoltaic Cells found in today's solar panels. The direct conversion of sunlight to electricity in photovoltaic cells makes solar power a weather and time dependent energy, which decreases its utility and increases its price. AP, on the other hand could produce a storable fuel.
- **More than one Fuel:** Unlike most methods of generating alternative energy, AP has the potential to produce more than one type of fuel.
- **Clean Fuel:** AP produces a clean fuel without generating any harmful by-products, like greenhouse gasses an makes it an ideal energy source for the environment.
- **Powering Vehicles:** Producing a new fuel that can power vehicles from naturally occurring input materials, CO_2, water and Sunlight.
- **Saleable CO2:** It makes Carbon storage more economically viable as the CO_2 can be used to create a saleable product.
- **Reuse of CO2:** If we are able to tap into existing big producers of CO_2, such as power station exhaust we are able to use the CO_2 twice before it enters the atmosphere.

ALUMINIUM-AIR TECHNOLOGY BATTERY SYSTEM / *GS-III SCIENCE & TECHNOLOGY*

Context

- Indian Oil Corporation Ltd. has entered into a joint venture with Israel-based battery technology startup Phinergy to develop aluminium-air technology based battery systems for electric vehicles and stationary storage, as well as hydrogen storage solutions.

What is an aluminium-air battery?

- Aluminium–air batteries (Al–air batteries) produce electricity from the reaction of oxygen in the air with an aluminium hydroxide solution.

Applications

- Aluminum air batteries have been used as experimental stage for electric vehicles, supplementing the built-in rechargeable batteries.
- They have also found limited uses in the military for aircraft and underwater vehicles, where their high power and light weight are of great benefit.

Pros

- **Cost effective:** Aluminum-air batteries are of **low cost.** It works out at 1/7th the cost per kilowatt hour of a Li-ion battery.
- **Energy Dense: They are more energy-dense alternative to lithium-ion** batteries which are currently in widespread use for electric vehicles in India.

- **Greater run**: Aluminium-air battery-based electric vehicles **offer much greater range of 400 km or more per battery** compared to lithium-ion batteries which currently offer a range of 150-200 kilometres per full charge.
- **Recyclable, replaceable**: Aluminium plate in an aluminium-air battery is converted into aluminium trihydroxide over time and that aluminium can be reclaimed from aluminium trihydroxide or even traded directly for industrial uses.
- **Environmental friendly:** The batteries are constructed from plastic, aluminium and a non-toxic, safe electrolyte.
- **Safe:** They can be air-freighted wet or dry and are not flammable – in stark contrast with Li-ion batteries, which are vulnerable to thermal runaway. They also cannot be short-circuited as there is no stored charge.
- **Power Source:** They are a power source rather than an energy storage device, with the energy being derived from a chemical reaction from stable aluminium.

Cons

- **Non-Rechargeable:** Aluminium-air batteries are that they cannot be recharged like lithium-ion batteries.
- Therefore, large scale use of aluminium-air battery based vehicles would require the wide availability of battery swapping stations.

Why is this technology important for India's EV push?

- Currently, India is largely dependent on imports of lithium-ion batteries from China for electric vehicles.
- While some Indian companies have started manufacturing lithium-ion batteries in the country, metal-air battery solutions including aluminium-air batteries could offer a viable alternative to lithium-ion batteries.
- It could further boost the domestic manufacture of batteries to meet India's growing demand for energy storage.
- Aluminium-air based batteries are also expected to be significantly cheaper than lithium-ion batteries, thereby reducing the cost of electric vehicle usage and boosting electric vehicle adoption in the country.

PSLV-C51	*GS-III SCIENCE & TECHNOLOGY*

Context

- Recently, India's Polar Satellite Launch Vehicle PSLV-C51 was launched successfully.

About

- And PSLV-C51 is the first dedicated commercial mission of **New Space India Limited (NSIL)**, a Government of India company under Department of Space.
- PSLV-C51 is the 53rd flight of PSLV and 3rd flight of PSLV in 'DL' configuration (with 2 strap-on motors).
- In this mission, Amazonia-1 along with 18 co-passenger satellites were launched.

Amazonia 1

- Amazonia-1 is the optical earth observation satellite of National Institute for Space Research (INPE), Brazil.
- The Amazonia-1 was injected into its precise orbit of 758 km in a **sun-synchronous polar orbit.**
- **Mandate:** This satellite would further strengthen the existing structure by providing remote sensing data to users for monitoring deforestation in the Amazon region and analysis of diversified agriculture across the Brazilian territory.

Student Built Satellites on board

- **Some student-built satellites also rode into space on board ISRO's PSLV-C51 rocket**
- "UNITYsat - It is intended for providing Radio relay services.
- SDSAT- It is a Nano-Satellite intended to study the radiation levels/space weather and demonstrate long range communication technologies.
- **SindhuNetra Satellite** – It will help the Navy and security agencies to monitor suspicious ships operating there.
- The capability will allow us to keep an eye on the areas of our interest from the African region to South China Sea.

- Sindhu Netra is one of the first in the series of satellites that would help the nation in enhancing its surveillance capabilities on land in areas such as the Ladakh region with China and the border areas with Pakistan.

Polar Satellite Launch Vehicle

- Polar Satellite Launch Vehicle (PSLV) is the **third generation launch vehicle** of India.
- It is the **first Indian launch vehicle to be equipped with liquid stages.**
- The vehicle successfully launched two spacecraft – Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft in 2013 – that later traveled to Moon and Mars respectively.

Evolution of Launch Vehicles in India

Types of Earth orbit

by inclination

plane through Equator

satellite orbit

satellite track over Equator

Earth's rotation

equatorial orbit

plane through Earth's axis

satellite orbit

satellite track covering all parts of Earth as planet rotates

polar orbit

plane inclined at some angle to Equator

satellite track covering a range of latitudes in Northern and Southern hemispheres

inclined orbit

by shape

Earth at centre

all points of satellite orbit at about the same altitude

circular orbit

apogee (farthest distance)

Earth at one focus of ellipse

perigee (closest distance)

elliptical orbit

by altitude

about 160–2,000 km (100–1,200 miles) altitude

low Earth orbit (LEO)

5,000–10,000 km (3,100–6,200 miles) altitude (typical)

medium Earth orbit (MEO)

35,800 km (22,300 miles) altitude

orbital period of satellite equal to rotational period of Earth

satellite orbit in equatorial plane

geostationary orbit (GEO)

© Encyclopædia Britannica, Inc.

NISAR

GS-III SCIENCE & TECHNOLOGY

Context
- NASA and ISRO are collaborating on developing a satellite called NISAR.

What is NISAR?
- It's an SUV-sized satellite that is being jointly developed by the Space Agency of the US and India.
- The name NISAR is short for NASA-ISRO-SAR.

Aim
- It will detect movements of the planet's surface as small as 0.4 inches over areas about half the size of a tennis court.
- Its primary goals include tracking subtle changes in the Earth's surface, spotting warning signs of imminent volcanic eruptions, helping to monitor groundwater supplies and tracking the rate at which ice sheets are melting.

Equipments
- NASA will provide one of the radars for the satellite, a high-rate communication subsystem for science data, GPS receivers and a payload data subsystem.
- ISRO, on the other hand, will provide the spacecraft bus, the second type of radar (called the S-band radar), the launch vehicle and associated launch services.

"SAR" in NISAR
- SAR here refers to the synthetic aperture radar that NASA will use to measure changes in the surface of the Earth.

- Essentially, SAR refers to a technique for producing high-resolution images.
- Because of the precision, the radar can penetrate clouds and darkness, which means that it can collect data day and night in any weather.

Significance of the Mission

- The images taken by NISAR will allow scientists to track changes in croplands, hazard sites and will help them to monitor crises such as volcanic eruptions.
- Data collected from NISAR will reveal information about the evolution and state of Earth's crust, help scientists better understand our planet's processes and changing climate, and aid future resource and hazard management.
- The images will be detailed enough to show local changes and broad enough to measure regional trends.
- As the mission continues for years, the data will allow for better understanding of the causes and consequences of land surface changes, increasing our ability to manage resources and prepare for and cope with global change.
- The images will be able to capture changes in the Earth caused by certain activities.
- For instance, drawing drinking water from an underground aquifer can leave signs on the surface.
- NISAR as an all-weather satellite is going to give us an unprecedented ability to look at how Earth's surface is changing.

NATIONAL SCIENCE DAY   GS-III   SCIENCE & TECHNOLOGY

Context

- In India, the National Science Day (NSD) is celebrated on February 28 each year to honor the discovery of the 'Raman effect' by Indian physicist Sir C. V. Raman.
- Sir C.V. Raman presented the 'Raman effect' on February 28, 1928, for which he was awarded the Nobel Prize in Physics in 1930.

Aim

- To draw awareness to people about the significance of science in our daily life and to encourage people by popularising Science and Technology.

Theme of the year

- The theme for the National Science Day (NSD) 2021 is "Future of STI: Impacts on Education, Skills, and Work"

History of National Science Day

- In 1986, the National Council for Science and Technology Communication (NCSTC) asked the Indian government to observe February 28 as National Science Day.
- Since then, National Science Day has been celebrated all over India in schools, colleges,
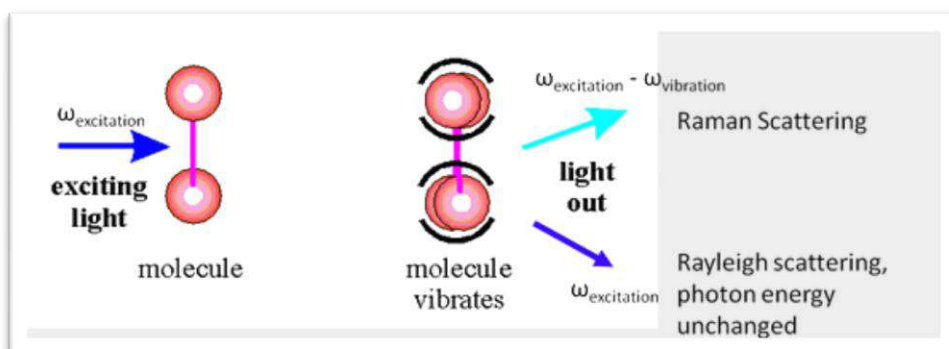
universities, and other academic, scientific, technical, medical, and research institutions.

Raman Spectroscopy

- Raman is a light scattering technique, whereby a molecule scatters incident light from a high intensity laser light source.
- Most of the scattered light is at the same wavelength (or color) as ---- this is called **Rayleigh Scatter.**
- However a small amount of light (typically 0.0000001%) is scattered at different wavelengths (or colors), which depend on the chemical structure of the analyte – this is **called Raman Scatter.**

Important Applications

The following are some important areas which use Raman spectroscopy to great effect.

Pharmaceutical Agents and Cosmetic Products

- The distribution of a compound within a tablet
- The concentration of an API(Active Pharmaceutical Agent)
- Testing the content and purity of a powder
- Verifying raw material quality
- Identification of contaminants

Geology and Mineralogy

- Identification of various minerals and precious/semiprecious stones
- Studying the distribution of minerals and phases within a section of rock
- Studying the behavior of minerals under harsh conditions
- Identifying chondrite or achondrite meteorites

Carbon Materials

- Study of single-walled carbon nanotubes
- Testing hard disk drives
- Detection of defects or disorder in carbon materials
- Testing diamond quality and place of origin
- Measuring the electrical properties and the number of layers of 2D materials like graphene

Semiconductors

- Assaying the purity
- Analysis of the composition of an alloy
- Identifying contaminants
- Analyzing defects in a structure
- Microanalysis of photoluminescence

Life Sciences

- Analysis of biocompatibility of a material
- Analysis of nucleic acids
- Study of interactions between drugs and cells
- Diagnosis of disease
- Analysis of individual cells
- Cell sorting applications
- Analyzing the features of biomolecules
- Study of bone structure

Using the Raman effect to detect cancer cells

Scientists at the Stanford Center for Cancer Nanotechnology are pioneering a new way to scan for cancer tumors.

Nanoparticle — Molecular latch

1. Nanoparticles are specifically designed to target cancer cells and latch onto them.

Nanoparticles

2. The nanoparticles are injected into the bloodstream, where they locate and then bind to cancer cells.

Healthy cells

Cancer cell

Laser light

Raman signal

3. When laser light is beamed onto the skin, the nanoparticles reflect a distinctive Raman signal, identifying the presence of the cancer cells.

Source: Chronicle research

The Chronicle

SOLID FUEL DUCTED RAMJET (SFDR)	GS-III SCIENCE & TECHNOLOGY

Context

- Recently, Defence Research and Development Organisation (DRDO) successfully carried out a flight demonstration based on Solid Fuel Ducted Ramjet (SFDR) technology from Integrated Test Range Chandipur off the coast of Odisha.

About

- SFDR is a kind of missile propulsion technology that has been jointly developed by India and Russia.

Aim

- The project aims to develop critical technologies required in the propulsion systems of future Indian long range air-to-air missiles. It aims to enable the long range air-to-air missiles with higher average speeds.

Technology basics

- It is based on a solid fuelled air-breathing ramjet engine.
- Unlike the other solid-propellant rockets, the Ramjet takes up oxygen from the atmosphere during flight without the need of cylinders.
- Thus, it is light in weight and can carry more fuel making it more efficient as it utilises the plenty of Oxygen available in the atmosphere.

Significance

- Successful demonstration of **Solid Fuel based Ducted Ramjet technology** has provided DRDO with a technological advantage which will enable it to develop long range air-to-air missiles.
- At present, such technology is available only with a handful of countries in the world.

Ramjet

- A ramjet is a form of air-breathing jet engine that uses the vehicle's forward motion to compress incoming air for combustion without a rotating compressor.
- Fuel is injected in the combustion chamber where it mixes with the hot compressed air and ignites.
- A ramjet-powered vehicle requires an assisted take-off like a rocket assist to accelerate it to a speed where it begins to produce thrust.
- Ramjets work most efficiently at supersonic speeds around Mach 3 (three times the speed of sound) and **can operate up to speeds of Mach 6.**
- However, the ramjet efficiency starts to drop when the vehicle reaches hypersonic speeds.

NASA — Glenn Research Center

Mach Number

$$\text{ratio} = \frac{\text{Object Speed}}{\text{Speed of Sound}} = \text{Mach Number}$$

Hypersonic Mach > 5.0

Supersonic Mach > 1.0

Transonic Mach = 1.0

Subsonic Mach < 1.0
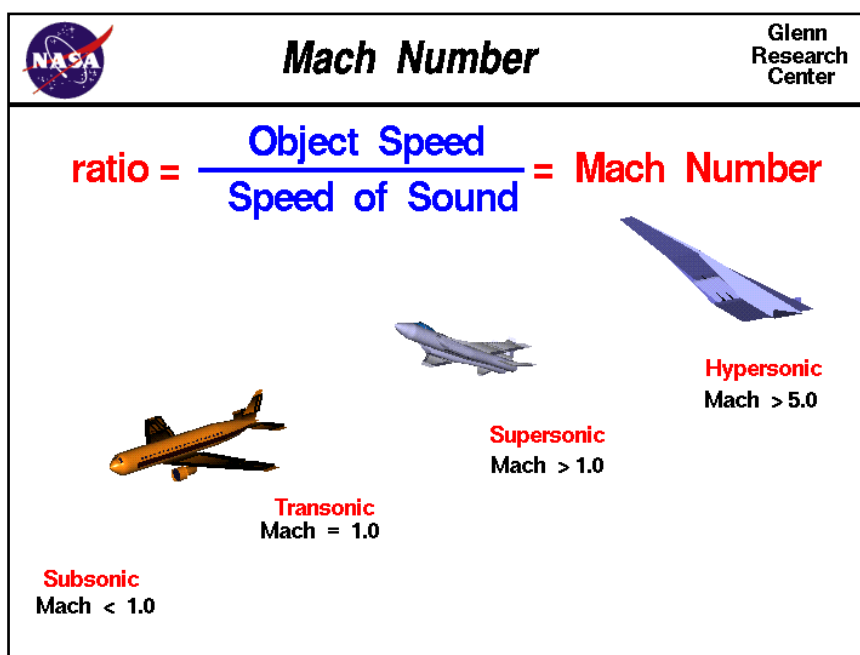
TYPES OF ATMOSPHERIC JET ENGINES

TURBOJET

Turbojets are the oldest and most general purpose jet engines, finding use in a large variety of applications. They are most efficient at supersonic velocities, and are capable of speeds around Mach 3. They were also found on the Concorde and the Tupolev Tu-144.
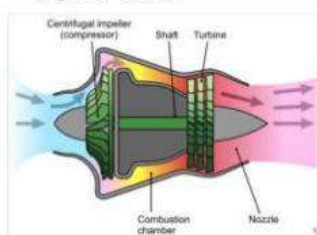
TURBOFAN

A turbofan is essentially a turbojet but with a large ducted fan that provides additional thrust by moving large amount of low velocity air around the main engine. This type of engine is more efficient than turbojets at subsonic speeds. Ex. Boeing 747.

RAMJET

A ramjet is nothing more than a turbojet with all of the rotating parts removed. Ramjets are primarily used with missiles, due to their simple, small, and high-velocity design
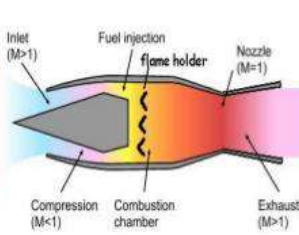
SCRAMJET

A scramjet is identical to a ramjet, but with one difference: combustion occurs with the air moving at supersonic velocities. As a result, scramjets are estimated not to work well below Mach 5, but could possibly reach speeds of Mach 24 (18000 mph).

4/15/2017

VAIBHAV PATHAK ,MECHANICAL , B.TECH 4TH YEAR
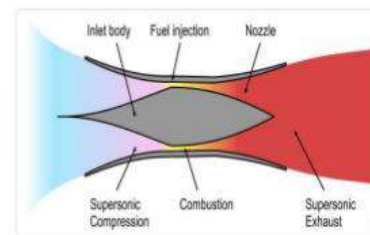
Scramjet

- A scramjet engine is an improvement over the ramjet engine as it efficiently operates at hypersonic speeds and allows supersonic combustion. Thus it is known as Supersonic Combustion Ramjet, or Scramjet.

Dual Mode Ramjet

- A dual mode ramjet (DMRJ) is a type of jet engine where a ramjet transforms into scramjet over Mach 4-8 range, which means it can efficiently operate both in subsonic and supersonic combustor modes.

> The Defence Research and Development Organisation (DRDO) is an agency under the Department of Defence Research and Development in Ministry of Defence.
> It is charged with the military's research and development, headquartered in Delhi.
> It was formed in 1958 by the merger of the Technical Development Establishment and the Directorate of Technical Development and Production of the Indian Ordnance Factories with the Defence Science Organisation.
>
> With a network of 52 laboratories, which are engaged in developing defence technologies covering various fields, like aeronautics, armaments, electronics, land combat engineering, life sciences, materials, missiles, and naval systems.
> DRDO is India's largest and most diverse research organisation.

GM CROPS

GS-III   SCIENCE & TECHNOLOGY

In News

- FSSAI issued an order setting the permissible limit for GMO in imported food crops at 1%
- However, the Coalition for a GM-Free India wrote in a letter to the government that the one per cent threshold for genetically modified organisms (GMO) in food crops imported into India is unacceptable.
- It is an advocacy for zero presence of GMO in food and some other consumables.

GMO

- Genetically modified organisms (GMOs) are living organisms whose genetic material has been artificially manipulated in a laboratory through genetic engineering.
- This creates combinations of plant, animal, bacteria, and virus genes that do not occur in nature or through traditional crossbreeding methods.

GM Crops

- Conventional plant breeding involves crossing species of the same genus to provide the offspring with the desired traits of both parents.
- Genetic engineering aims to transcend the genus barrier by introducing an alien gene in the seeds to get the desired effects.
- The alien gene could be from a plant, an animal or even a soil bacterium.

Genetic engineering

Researchers isolate a gene from an organism that has the trait they want to impart to a plant.

1 Single gene is isolated and modified

2 Many copies of the gene are inserted into plant cells and induced to grow

3 Seeds from mature plants are studied for successful transformation

Cell with desired trait

Isolated target gene

Plant tissue

Plant with new trait

Genetic material

Growth medium

Source: Colorado State University

Sacramento Bee/Scott Flodin
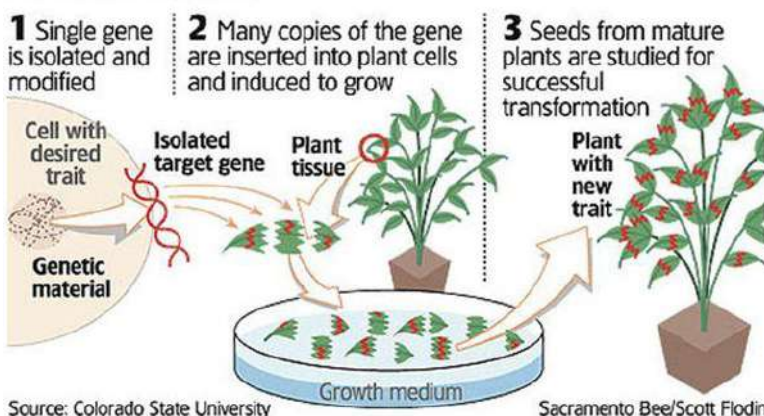
Bt cotton, the only GM crop that is allowed in India, has two alien genes from the soil bacterium *Bacillus thuringiensis* (Bt) that allows the crop to develop a protein toxic to the common pest pink bollworm. Ht Bt, on the other, cotton is derived with the insertion of an additional gene, from another soil bacterium, which allows the plant to resist the common herbicide glyphosate.

GMO arguments

✓ 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

Potential negative effects on the environment

- **Genes can end up in unexpected places:** Through "gene escape" they can pass on to other members of the same species and perhaps other species. Problems could result if, for example, herbicide-resistance genes got into weeds.

- **Genes can mutate with harmful effect:** It is not yet known whether artificial insertion of genes could destabilize an organism, encouraging mutations, or whether the inserted gene itself will keep stable in the plant over generations.
- **"Sleeper" genes could be accidentally switched on and active genes could become "silent":** Organisms contain genes that are activated under certain conditions -- for example, under attack from pathogens or severe weather. When a new gene is inserted, a "promoter" gene is also inserted to switch it on. This could activate a "sleeper" gene in inappropriate circumstances. This is especially relevant in long-lived organisms - such as trees. Sometimes the expression of genes is even "silenced" as a result of unknown interactions with the inserted gene.
- **Interaction with wild and native populations:** GMOs could compete or breed with wild species. Farmed fish, in particular, may do this. GM crops could pose a threat to crop biodiversity, especially if grown in areas that are centres of origin of that crop. In addition, GM crops could compete with and substitute traditional farmers' varieties and wild relatives that have been bred, or evolved, to cope with local stresses.
- For example, local varieties in Latin America permitted the recovery from the catastrophic potato blight in Ireland in the 1840s. Today such plants often help improve climate tolerance and disease resistance. If genetically modified crop varieties substitute them, they could be lost.
- **Impact on birds, insects and soil biota:** Nobody quite knows the impact of horizontal flow of GM pollen to bees' gut or of novel gene sequences in plants to fungi and soil and rumen bacteria. Besides, it is feared that widespread use of GM crops could lead to the development of resistance in insect populations exposed to the GM crops.

Potential negative effects on human health

- **Transfer of allergenic genes:** These could be accidentally transferred to other species, causing dangerous reactions in people with allergies. For example, an allergenic Brazil-nut gene was transferred into a transgenic soybean variety. Its presence was discovered during the testing phase, however, and the soybean was not released.
- **Mixing of GM products in the food chain:** Unauthorized GM products have appeared in the food chain. For example, the GM maize variety Starlink, intended only for animal feed, was accidentally used in products for human consumption. Although there was no evidence that Starlink maize was dangerous to humans, strict processing controls may be required to avoid such future.
- **Transfer of antibiotic resistance:** Genes that confer antibiotic resistance are inserted into GMOs as "markers" to indicate that the process of gene transfer has succeeded. Concerns have been expressed about the possibility that these "marker genes" could confer resistance to antibiotics. This approach is now being replaced with the use of marker genes that avoid medical or environmental hazards.

Potential socio-economic effects

- **Loss of farmers' access to plant material:** Biotechnology research is carried out predominantly by the private sector and there are concerns about market dominance in the agricultural sector by a few powerful companies. This could have a negative impact on small-scale farmers all over the world.
- **Intellectual property rights could slow research:** The proprietary nature of biotechnology products and processes may prevent their access for public-sector research. This might have a stronger negative impact in developing countries where no private research initiatives are in place.
- **Impact of "terminator" technologies:** Although these are still under development and have not yet been commercialized. However, if applied they would, prevent a crop from being grown the following year from its own seed. This means that farmers could not save seeds for planting the next season. Some believe that this technology, also known as the **Technology Protection System**, could have the advantage of preventing out-crossing of GM seeds.

Case Studies

GM crops have bred super weeds

- Since the late 1990s, US farmers had widely adopted GM cotton engineered to tolerate the herbicide glyphosate.

- In 2004, herbicide-resistant amaranth was found in one county in Georgia; by 2011, it had spread to 76 countries.

Monarch Butterflies (Cornell University Study)

- Bt corn is a genetically modified maize that incorporates an insecticide producing gene from the bacterium *Bacillus thuringiensis*

- This insecticide is lethal to certain types of larvae, particularly the European corn borer which would otherwise eat the crop.

- However, concerns have been raised that the spread of Bt corn may also be impacting the survival rates of monarch butterflies.

Area of genetically modified (GM) crops worldwide in 2019, by
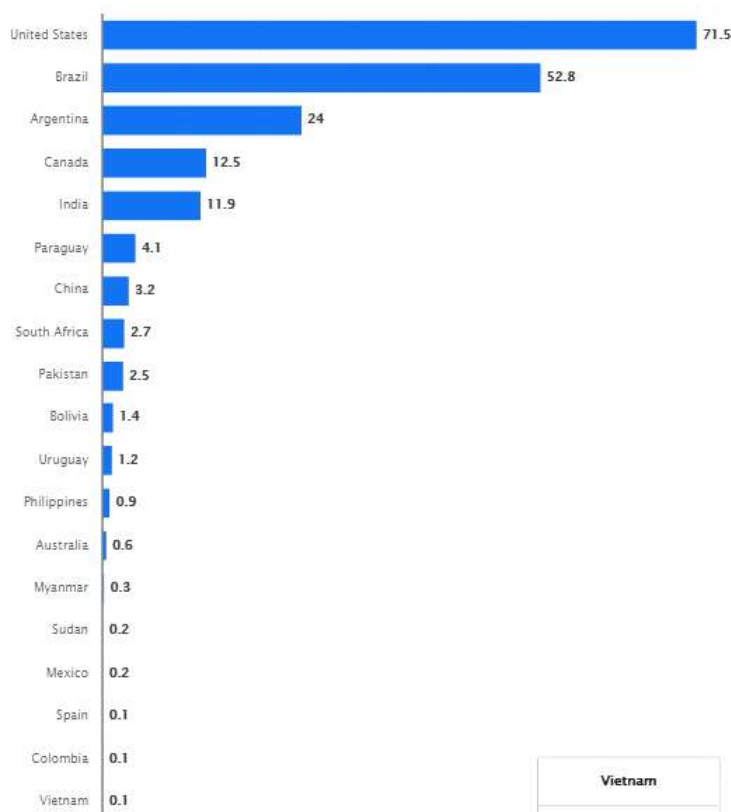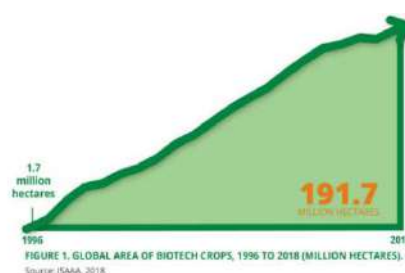
country (in million hectares)

FIGURE 1. GLOBAL AREA OF BIOTECH CROPS, 1996 TO 2018 (MILLION HECTARES).
Source: ISAAA, 2018

FIGURE 2. DISTRIBUTION OF BIOTECH CROPS IN DEVELOPING AND INDUSTRIAL COUNTRIES IN 2018
Source: ISAAA, 2018

FIGURE 3. GLOBAL ADOPTION RATES (%) FOR TOP 4 BIOTECH CROPS (MILLION HECTARES)
Source: ISAAA, 2018
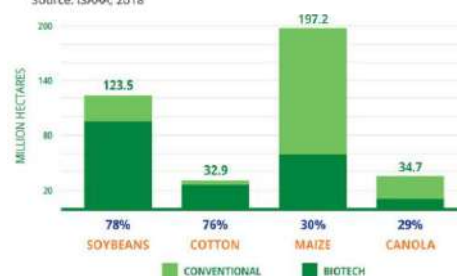
Merits of GM Crops in a nutshell

Crops

- Increased crop yields
- Reduced costs for food or drug production
- Reduced need for pesticides
- Enhanced nutrient composition
- Resistance to pests, diseases and herbicides
- Allowing plants to grow in conditions where they might not otherwise flourish
- Increased shelf life and hence there is less fear of foods getting spoiled quickly
- Increased stress tolerance
- Reduced maturation time
- New Products and growing techniques

Animals

- Increased resistance, productivity, hardiness and feed efficiency
- Better yield of meat, eggs and milk
- Decrease susceptibility to disease in animals

Environment

- Environment friendly bio-herbicides and bio-insecticides
- Conservation of soil, water and energy
- Bio-processing of forestry products

Society

- Greater food security and medical benefits to the world's growing population

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INTERNATIONAL EXPERIENCES

United States
The annual total national farm income benefit from HT soybean has dramatically risen from $5 million in 1996, to approximately $159.8 million in 2016.

Canada
HT canola has boosted the total canola production in Canada by almost 11% in 2016.
The additional increase in farm income by HT maize farmers in 2016 was $23.7 million.
Canada is estimated to have enhanced farm income from biotech crops by $8.03 billion in the period 1996 to 2016.

Spain
Bt maize adoption in Spain in 2016 resulted in yield increases of 6.3% on average.
Farmers also experienced savings on pesticide use by $7.09/ha.

Australia
For 2016, Australian farmers planting IR cotton have significant cost savings of about $223.05/ha despite the high cost of technology.

CASE OF INDIA

Studies on the impact of BT cotton were conducted from 1998 to 2013. The results showed that yield increased by about 31% and insecticide spraying reduced by 39%, which translates to 88% increase in profitability.
Also, Cotton yield more than doubled in the first decade since its introduction in 2002, according to **the Economic Survey 2011-12**—by which point it accounted for 90% of cotton acreage.
Qaim and Khouser (2013) conducted a study from 2002 to 2008 to investigate the effect of Bt cotton on farmers' family income and food security. According to the findings, the adoption of BT cotton has significantly improved calorie consumption and dietary quality, leading to increased family income. The technology reduced food insecurity by 15-20% among cotton-producing households.

GM technology increased crop yields by 22%, reduced chemical pesticides by 37% and increased farmer profits by 68%, with better results in developing countries than in developed ones - University of Gottingen, Germany study.
Millions of farmers growing BT cotton are experiencing reduced incidences of pesticide poisoning,

---

Legal position on genetically modified crops in India

- In India, the Genetic Engineering Appraisal Committee (GEAC) is the apex body that allows for commercial release of GM crops.
- In 2002, the GEAC had allowed the commercial release of Bt cotton.
- More than 95 per cent of the country's cotton area has since then come under Bt cotton.
- Use of the unapproved GM variant can attract a jail term of 5 years and fine of Rs 1 lakh under the Environmental Protection Act , 1989.

Imported Food

- The task of regulating GMO levels in imported consumables was initially with Genetic Engineering Appraisal Committee (GEAC) under the Union environment ministry.
- Its role in this was diluted with the enactment of the Food Safety and Standards Act, 2006 and FSSAI was asked to take over approvals of imported goods.
- In 2018, after years of confusion and contradictory government orders around which body was capable of taking up the task, the FSSAI rolled out the procedure of framing regulations for imported foods.

- The recent FSSAI order of 1% was an addition to this developing regulatory framework.

Farmers' rooting for GM crops

- In the case of cotton, farmers cite the high cost of weeding, which goes down considerably if they grow Ht BT cotton and use glyphosate against weeds.
- Brinjal growers in Haryana have rooted for Bt brinjal as it reduces the cost of production by cutting down on the use of pesticides.
- Unauthorised crops are widely used. Haryana has reported farmers growing Bt brinjal in pockets which had caused a major agitation there.
- In June 2019, in a movement led by Shetkari Sanghatana in Akola district of Maharashtra, more than 1,000 farmers defied the government and sowed Ht Bt cotton.
- The Sanghatana in 2020 announced that will undertake large-scale sowing of unapproved GM crops like maize, Ht BT cotton, soyabean and brinjal across Maharashtra.

Way Ahead

- Long-lasting effect of GM crops is yet to be studied and before commercialization.
- There is a large scale public dialogue on the future of food and farming and a shift in the Government's own frames of reference regarding these technologies.
- Government needs to clarify its own thinking about the precautionary principle, so that it can act as a better guide to policy making.
- There is a clear need to communicate the potential benefits, risks and practices of genetically engineered crops to all stakeholders of society.
- Additionally, efforts need to be made to provide a framework to arrive at appropriate science based conclusions regarding safety of such products.
- Taking the proposed Biotechnology Regulatory Authority of India (BRAI) Bill further will help adequately address many issues concerned with GE crops.

QUASAR

GS-III SCIENCE & TECHNOLOGY

Context

- Astronomers have discovered the most distant 'radio-loud' quasar with the help of European Southern Observatory's Very Large Telescope. It has been named as P172+18.
- It took 13 billion years for the quasar's light to reach earth.
- This quasar was when the universe was just around 780 million years old.

Quasars
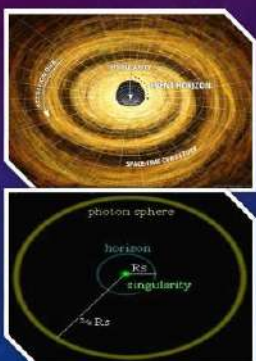
- Quasars are very luminous objects in faraway galaxies that **emit jets at radio frequencies.**
- They are only found in galaxies that have **super massive blackholes** which power these bright discs.
  - ✓ Radio waves are a type of electromagnetic radiation best-known for their use in communication technologies, such as television, mobile phones and radios.

The luminous glow of a quasar is powered by the accumulation of matter into a giant black hole at the center of a galaxy.

Supermassive black hole

Viewed as a radio galaxy from this angle

Accretion disk composed of swirling hot gas

Viewed as a quasar from this angle

Doughnut-shaped dust cloud

Supersonic particle jets produce radio waves
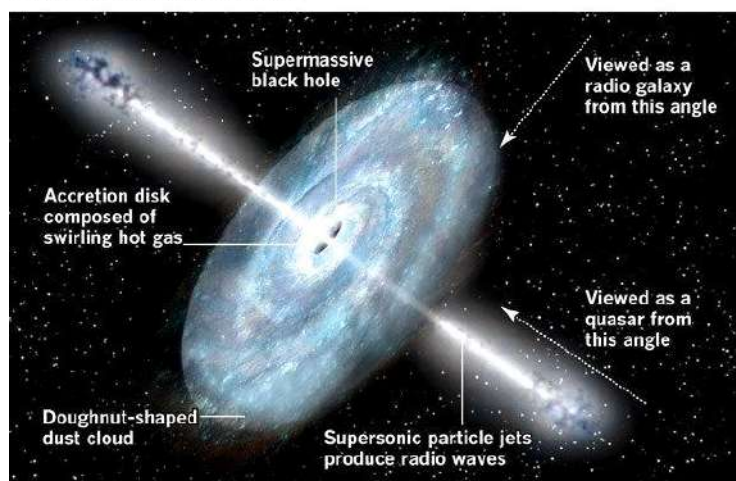
STRUCTURE OF BLACK HOLES:

- **Singularity:**
  The point where whole mass of a black hole is concentrated.
- **Photon Sphere:**
  The outer edge where light bends but is still escapable.
- **Event Horizon:**
  It is a "point of no return" around a black hole.
- **Accretion Disk:**
  It is a disk of gases, dust, stars and planets that fall into the orbit of a black hole.

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.

THE ELECTROMAGNETIC SPECTRUM

| Penetrates Earth Atmosphere? | Y | | N | | Y | | N | | |

Wavelength (meters)	Radio	Microwave	Infrared	Visible	Ultraviolet	X-ray	Gamma Ray
	10^3	10^{-2}	10^{-5}	$.5 \times 10^{-6}$	10^{-8}	10^{-10}	10^{-12}
About the size of...	Buildings	Humans	Honey Bee	Pinpoint	Protozoans	Molecules	Atoms	Atomic Nuclei
Frequency (Hz)	10^4	10^8	10^{12}	10^{15}	10^{16}	10^{18}	10^{20}
Temperature of bodies emitting the wavelength (K)		1 K	100 K	10,000 K	10 Million K	

- So, most active galaxies have a supermassive black hole at the centre which sucks in surrounding objects.
- Quasars are formed by the energy emitted by materials spiralling around a blackhole right before being sucked into it.

Why do some quasars give off radio waves?

- The electrons near the center of the quasar can be accelerated to speeds near the speed of light.
- In the presence a magnetic field (which is present in these same regions), the electrons move along helical paths (paths that look like a stretched out slinky), and as a result, they emit radio waves.

The Recent Discovery

- P172+18, emitted wavelengths which had a redshift of 6.8.
- Only three other 'radio-loud' sources with redshift greater than six have been discovered so far and the most distant one had a redshift of 6.18.
- The higher the redshift of the radio wavelength, the farther away is the source.
- And 90 per cent of them do not emit strong radio waves, making this newly-discovered one special.

✓ Within Einstein's general theory of relativity there is an effect known as "gravitational redshift," in which light becomes redder because of the influence of gravity; the wavelength of a photon, or light particle, gets longer and appears redder as the wavelength climbs farther away from a gravitational well.

✓ So, light appears redder (that is, at a lower frequency) to an observer, compared to the point it was emitted.

ASTEROID	GS-III SCIENCE & TECHNOLOGY

Context

- Near-Earth asteroid 2001 FO32 made the closest approach of Earth on 21 March.

What are asteroids?

- Asteroids are essentially remnants of the primitive building blocks that created the terrestrial planets in our solar system.

- Asteroids have not changed very much since the time they were formed, making them cosmic time capsules that can reveal how planets like our own world formed.

- In addition, asteroids are thought to contain organic molecules like amino acids—the basis for proteins and DNA—leading to speculation that a meteorite from an asteroid could have seeded the early Earth with the building blocks of life.

The four largest asteroids

| Ceres | Vesta | Pallas | Hygiea |
| 939 km | 525 km | 512 km | 434 km |
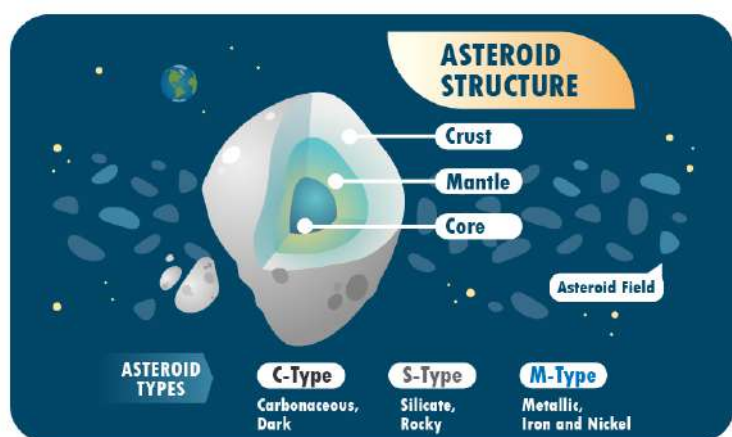
GENOME MAPPING IN THE INDIAN OCEAN

GS-III *SCIENCE & TECHNOLOGY*

In News

- Researchers from the National Institute of Oceanography (NIO) have initiated a project for mapping the genetic diversity of organisms and the effect of micronutrients and trace metals on them in the Indian Ocean**.**
- They will spend the next 90 days in vessel Sindhu Sadhna traversing over 10,000 nautical miles in the Indian Ocean.

Aim of the project

- To know the biochemistry and therefore the response of the ocean to global climate change, nutrient stress, and increasing pollution.
- Just like gene mapping is carried out on blood samples collected from humans, the scientists will map these in the bacteria, microbes found in the ocean.

> **Genome**
> A genome is the complete set of genetic information in an organism. It provides all of the information the organism requires to function. In living organisms, the genome is stored in long molecules of DNA called chromosomes. Small sections of DNA, called genes, code for the RNA and protein molecules required by the organism.
> Genome mapping means figuring out the location of a specific gene on a particular region of the chromosome and also determining the location of and relative distances between other genes on that chromosome.

Significance

As scientists will understand the internal working of the ecosystem of the Indian Ocean

- The study will help in recognising the stress factors that control the changes in RNA and DNA in ocean microbes.
- How they respond to a lack or excess of minerals and metals present in the water?
- What will be the impact on climate change and food cycles?
- Genome of the ocean will allow commercial biotechnology applications from anticancer treatments and industrial enzymes to antiviral molecules.
- The ocean consists of various micronutrients like nitrates, sulphates, and silicates, minerals like iron ore and zinc, and trace metals like cadmium or copper. Therefore, the genome mapping will show the presence of which of these microbes have adapted to and also their reaction to carbon dioxide.
- This in fact will help in identifying which part of the ocean has a greater concentration of which mineral or element.
- With the help of this, scientists will use these as tracers and tackle the causative factors for excess or lack of certain minerals or elements so that they can suggest some possible solutions for their mitigation.

The National Institute of Oceanography, is one of 37 constituent laboratories of the CSIR. It is an autonomous research organization in India to undertake scientific research and studies of special oceanographic features of the Northern Indian Ocean.

BAIKAL-GVD

GS-III   SCIENCE & TECHNOLOGY

In News

- Russian scientists have deployed a giant telescope called Baikal- GVD into Lake Baikal in southern Siberia to search for the tiniest known particles in the universe.

About

- The telescope, Baikal-GVD, is designed to search for neutrinos.

Neutrinos

- Neutrinos are nearly mass less subatomic particles with no electrical charge.
- Neutrinos are everywhere, but they interact so weakly with the forces around them that they're hugely challenging to detect.
- That's why scientists are looking under Lake Baikal, which, at 5,577 feet (1,700 meters) deep, is the deepest lake on Earth.
- Neutrino detectors are typically built underground to shield them from cosmic rays and other sources of interference.

Quick facts about neutrinos

- Trillions of the harmless particle stream through you every second, night or day.
- They are the second most abundant particle in the universe (after particles of light called photons).
- Neutrinos rarely interact with anything—a light-year of lead would stop only about half of the neutrinos coming from the sun.
- Neutrinos interact only through two of the four known forces: the weak force and gravity.
- So far, scientists have discovered three flavors of neutrinos: electron (ve), muon (vμ), and tau (vτ).
- They oscillate, or change flavor, as they travel.
- Their masses are very tiny, but not yet known.
- Their speed is very close to the speed of light, but also not known exactly.
- They could be the reason that matter exists in the universe.
- Neutrinos are created in many processes in nature. They are produced in the nuclear reactions in the sun, particle decays in the Earth, and the explosions of stars. They are also produced by particle accelerators and in nuclear power plants.

Lake Baikal

- Lake Baikal is a rift lake located in southern Siberia, Russia.
  - ✓ A rift lake is a lake formed as a result of subsidence related to movement on faults within a rift zone, an area of extensional tectonics in the continental crust.
- It is the largest freshwater lake by volume in the world, containing 22 to 23% of the world's fresh surface water.

Siberia and Lake Baikal

- With a maximum depth of 1,642 m (5,387 ft), Baikal is the world's deepest lake.
- It is among the world's clearest lakes and is the world's oldest lake, at 25–30 million years.
- It is the seventh-largest lake in the world by surface area.
- It is also home to Buryat tribes, who raise goats, camels, cattle, sheep, and horses on the eastern side of the lake.
- UNESCO declared Lake Baikal a World Heritage Site in 1996.

DIATOM TEST	GS-III SCIENCE & TECHNOLOGY

Context

- The Maharashtra (ATS) relied on a forensic test known as diatom tests for leads in the alleged murder case of Mansukh Hiran. A look at what a diatom test is and when it is used.

What are Diatoms?

- Diatoms are **photosynthesizing algae** which are found in almost every aquatic environment including fresh and marine waters, soils, in fact, almost anywhere moist.

Diatom Test

- The most frequent use of diatoms in forensic science is the diagnosis of death due to drowning.
- The basic principle of diatom test in drowning is based on the inference that diatoms are present in medium where drowning took place and the inhaled water enters the alveolar spaces of lungs and penetrates from the alveoli into the blood circulation.
- Thus microscopic unicellular algae called diatoms get transported to different organs of body including the brain, kidneys, lungs and bone marrow by blood circulation.
- If a person is dead when is thrown in the water, then there is no circulation and there is no transport of diatom cells to various organs.
- Thus diatoms found inside the body of drowned victim may serve as conclusive evidence to support the diagnosis of death. It can be ascertained whether the drowning is ante-mortem or post-mortem.

ILLEGAL INFLUX FROM MYANMAR IN NORTHEASTERN STATES / *GS-III   SECURITY & DEFENSE*

Context

- Ministry of Home Affairs (MHA) has written to the Chief Secretaries of Nagaland, Manipur, Mizoram and Arunachal Pradesh to "take appropriate action as per law to check illegal influx from Myanmar into India.

More about news

- Directive comes weeks after the military coup and subsequent crackdown in the neighbouring country led to several persons crossing over into India.
- More than a dozen foreign nationals including policemen and women from Myanmar have fled to neighbouring Mizoram fearing a military crackdown.
- India and Myanmar share 1,643 km border and people on either side have familial ties.
- A **Free Movement Regime (FMR)** exists between India and Myanmar under which every member of the hill tribes, who is either a citizen of India or a citizen of Myanmar and who is resident of any area within 16 km on either side of the Indo-Myanmar Border (IMB) can cross the border **with a border pass (with one-year validity) issued by the competent authority and can stay up to two weeks per visit.**
- Letter to Chief Secretaries says **States have no power to grant refugee status to any foreigner.**
- India is **not a signatory to the United Nations Refugee Convention of 1951 and its 1967 Protocol.**

About Manipur

- Manipur is a state in northeastern India, bounded by the Indian states of Nagaland to the north, Mizoram to the south and Assam to the west.
- It also borders two regions of **Myanmar**, Sagaing Region to the east and Chin State to the south.
- The Inner Line Permit (ILP) regime was extended to Manipur in 2019.

Illegal immigrantion in India

- An illegal immigrant in India is a foreigner who has entered India either without valid documents or who initially had a valid document, but has overstayed beyond the permitted time, as per the general provisions of the Citizenship Act as amended in 2003.
- Such persons are not eligible for citizenship by registration or naturalisation. They are also liable to be imprisoned for 2–8 years and fined.
- An exception was made in 2015 for minority communities of Bangladesh, Pakistan and Afghanistan who were compelled to seek shelter in India due to religious persecution or fear of religious persecution.
- They are **not classified as illegal migrants and remain eligible for citizenship.**

Present legal scenario

- According to Indian law, **illegal immigrants are not refugees.**
- **India has signed neither the 1951 United Nations Refugee Convention nor its 1967 Protocol,** which has 140 signatories, an overwhelming majority of the world's 190-odd nations.
- Thus, impediment to expulsion of migrants does not apply in India. **However, India continues to host a large population of refugees.**

Why won't India sign the Convention or the Protocol?

- The United Nations High Commissioner for Refugees (UNHCR) won't officially say why, but the reasons are chiefly security-related.
- The line of argument is that **borders in South Asia are extremely porous** and any conflict can **result in a mass movement of people**.
- This can have two results: first, a strain on local infrastructure and resources in countries that are poorly equipped to deal with sudden spikes in population.
- Second, it can upset the demographic balance, a tinderbox in South Asia.
- India retains a degree of scepticism about the UNHCR. This apparently flows from the Bangladesh war of 1971.
- India is home to diverse groups of refugees. India already does its duty, so where's the need to sign this piece of paper? It mostly doesn't even take UN money to look after the refugees.

Associated concerns

- Entry of illegal migrants into India is important as they **impose pressure on citizens, available resources and pose a security threat**, especially in sensitive areas such as J&K, northeastern states and West Bengal.
- Illegal migrants **create fear psychosis and identity crisis** in the mind of the native tribes of north-eastern States.
- Cases and litigation filled by Illegal migrants to avoid deportation or giving them right to reside on humanitarian grounds **burdens the judiciary.**
- Illegal migrants are mostly associated with smugglings of banned drugs, cattles, women and children thus adds economic pressure on Indian populace
- Northeastern states are mainly hilly areas and are more prone to natural disaster, illegal migrants create burden on limited available resources and aggravate environment degradation.

Way forward

- There is need to sensitize the law enforcement and intelligence agencies for taking appropriate prompt steps for identifying illegal migrants, their restrictions to specific locations as per provisions of law, capturing their biographic and biometric particulars, cancellation of fake Indian documents and legal proceedings including initiation of deportation proceedings as per provisions of law.
- Government should consider the idea of appointing a **National Immigration Commission** to frame a National Migration Policy and a National Refugee Policy.
- Necessary steps should be made for **effective management of border, check post either through personal patrolling or through technology.**
- **Bilateral effort** should be made with the Government of the neighboring countries to prevent the spreading of cross border terrorism and insurgency.

| SIPRI REPORT | *GS-III SECURITY & DEFENSE* |

Context

- India's arms imports decreased by 33% between 2011–15 and 2016–20 according to a report from **Swedish think tank Stockholm International Peace Research Institute (SIPRI).**

Key highlights of the report

- Arms imports decreased by 33% between 2011–15 and 2016–20 while India continues to remain the second largest arms importer after Saudi Arabia,
- The overall drop in arms imports between 2011–15 and 2016–20 seems to be mainly due to its complex and lengthy procurement processes.
- **Russia was the largest arms supplier** in both years.

- However, Russia's deliveries dropped by 53% between the two periods and its share of Indian arms imports fell from 70 to 49%.
- The **U.S. was the second largest arms supplier to India** in 2011–15 but in 2016–20 India's arms imports from the U.S. were 46% lower than in the previous five-year period, making the U.S. the fourth largest supplier in 2016–20.
- **France and Israel** were the second and third largest arms suppliers in 2016–20.
- India's arms imports from France increased by 709% while those from Israel rose by 82%.
- Arms imports by Pakistan between 2011–15 and 2016–20 decreased by 23%.
- China accounted for 61% of its imports in 2011–15 and for 74% in 2016–20.
- As part of efforts to boost defence imports and promote domestic manufacturing, the Defence Ministry had last year **notified a list of 101 items on the negative import list.**

A PUSH FOR INDIGENISATION

MILITARY EXPENDITURE
- India world's 3rd largest military spender after US & China
- India's defence budget this year is **$66 billion** (₹ 4.78 lakh cr)
- US is **$730 billion**. China's officially pegged at **$209 billion** (under-reports actual figure)

ARMS DEALS
- India world's second-largest arms importer after Saudi Arabia
- Spent over **$80 billion** in arms deals in last **15 years**
- US has bagged Indian deals worth over **$21 billion** just since **2007**

- Russia, largest supplier since 1960s, got **$5.43 billion** deal for S-400 air defence missile systems (2018) & **$3 billion** lease of Akula-1 nuclear-powered submarine (2019)
- France got **7.8 billion Euro** deal for **36 Rafale fighter**s in 2016
- Israel supplies **$1 billion** worth of arms every year

WHAT IS INDIA DOING?
- Defence Acquisition Procedure-2020 & other initiatives focus on boosting indigenous production capabilities & reducing arms imports
- Govt will reserve ₹ 70,221 cr

- **(63%)** of defence capital outlay this year for domestic industry
- Will soon notify 2nd negative arms import list. 1st in **Aug 2020** progressively bans acquisition of 101 weapon systems from **Dec 2020** to **Dec 2025**
- New buy (Global-Manufacture in India) category to encourage foreign companies to set up production facilities here
- Hiked FDI limit to **74%** from earlier 49% in defence production through automatic clearance route
- Push for indigenous Tejas fighters, Arjun tanks etc

INS KARANJ
GS-III   SECURITY & DEFENSE

Context
- Indian Navy's **third stealth Kalvari class Submarine INS Karanj** has been commissioned at the Naval Dockyard Mumbai.

Background
- Six Scorpene Class submarines are being built in India by the **Mazagon Dock Shipbuilders Limited (MDL)** Mumbai, under collaboration with M/s Naval Group, **France.**
- INS Karanj would form part of the Western Naval Command's Submarine fleet and would be another potent part of the Command's arsenal.
- It follows the launch of the first two Scorpene submarines — INS Kalavari and INS Khanderi.
- INS Kalvari, the first to be launched, was commissioned in December 2017.
- INS Khanderi, which was launched in January 2017, is currently undergoing deep dive trails and is expected to be commissioned later this year.
- Remaining three submarines are — **Vela, Vagir and Vagsheer** that are in various stages of outfitting.

Kalvari class Submarines
- These are one of the most advanced conventional submarines in the world.

- These platforms are equipped with the latest technologies in the world.
- More deadly and stealthier than their predecessors, these submarines are equipped with potent weapons and sensors to **neutralise any threat above or below the sea surface.**
- Project – 75 also marks a critical milestone in the Yard's continued importance in the field of Defence Production.

Adding muscle

The deal to build six Scorpene submarines at Mazagon Dock Limited, Mumbai, was signed with DCNS, France in October, 2005

TYPE
Scorpene is a conventional diesel-electric attack submarine weighing about **1,600** tonnes

Crew **43**

- The submarine's search periscopes are equipped with infrared-low light level cameras and laser range finders

ARMOURY
- SM 39 EXOCET missiles
- Heavyweight wire-guided surface
- Underwater target torpedoes and mines
- Mobile C303/S anti-torpedo decoys

KEY FEATURES
- Overall length of 67.5 metres
- Height of 12.3 metres
- 360 battery cells (each weighing 750 kg) power the extremely silent permanently magnetised propulsion motor
- The stealth is further enhanced through the mounting of equipment inside the pressure hull on shock absorbing cradles
- Two 1,250 kW MAN diesel engines for rapidly charging batteries

Karanj, the third Scorpene class submarine, being launched in Mumbai on Wednesday.

COMPILED BY DINAKAR PERI

What is project 75?

STRATEGIC PARTNERSHIP

Depleting underwater strength

➤ India requires 18 diesel-electric subs, 6 nuclear-powered attack subs (SSNs) & 4 nuclear-powered subs with nuclear-tipped missiles (SSBNs)

➤ But has only 2 new Scorpene & 13 old conventional subs. Also 1 SSBN (INS Arihant) & 1 SSN (INS Chakra)

➤ 4 more Scorpene subs, being built at MDL under ₹ 23,652 crore Project-75, to be delivered by 2021-22

➤ 3 more SSBNs, after INS Arihant, being built at Vizag for ₹ 90,000 crore

➤ India to get 2nd SSN on 10-year lease from Russia under $1.5 billion deal. First one, INS Chakra, came in 2012 for $900 million

Project-75-India

➤ Project for 6 stealth diesel-electric submarines for around ₹ 50,000 crore first got 'acceptance of necessity' in Nov 2007

➤ Govt promulgated strategic partnership model in May 2017

➤ 2 Indian shipyards (L&T and MDL) & 5 foreign companies (Russian Rubin Design Bureau, French Naval Group-DCNS, German ThyssenKrupp Marine Systems, Spanish Navantia & South Korean Daewoo) now shortlisted

➤ Will take around 2 years for contract to be inked

➤ Will thereafter take 7 to 8 years for the first submarine to roll out

Strategic importance

- India's currently operating submarines are ageing.
- As per the basic principles of submarine deployment and minimum requirement for India to create a strategic deterrence, there is a specific number of submarines that India needs to have in active service.

AIR INDEPENDENT PROPULSION (AIP) SYSTEM / *GS-III   SECURITY & DEFENSE*

Context
- Defence Research and Development Organisation (DRDO) has achieved an important milestone in the development of Air Independent Propulsion (AIP) System by proving the land-based prototype.
- The system is being developed by Naval Materials Research Laboratory (NMRL) of **DRDO.**
- AIP has a **force multiplier effect** on lethality of a diesel electric submarine as it **enhances the submerged endurance of the boat**, several folds.
- Fuel cell-based AIP has merits in performance compared to other technologies.
- While there are different types of AIP systems being pursued internationally, **fuel cell-based AIP of NMRL is unique as the hydrogen is generated onboard.**
- The technology has been successfully developed with the support of industry partners L&T and Thermax.
- It has now reached the stage of maturity for fitment into target vessels.

What is the Air Independent Propulsion (AIP) technology used in submarines?
- Submarines are essentially of two types: **conventional and nuclear**.
- Conventional submarines use a **diesel-electric engine**, and must surface daily for oxygen for fuel combustion. If **fitted with an Air Independent Propulsion (AIP) system**, the sub needs to take in oxygen **only once a week.**
- While many naval powers, including India, have acquired nuclear-powered submarines for deep-sea operations, conventional diesel-electric variants are considered useful for coastal defence.
- Because diesel-electric submarines require to come to the surface frequently to charge their batteries, their underwater endurance time is less.
- 'Air-independent' propulsion technology helps to make the diesel generator less dependent on surface air.
- In a **fuel cell AIP**, an electrolytic fuel cell releases energy by combining hydrogen and oxygen, with **only water as the waste product**.

SOLID FUEL DUCTED RAMJET / *GS-III   SECURITY & DEFENSE*

Context
- DRDO conducts successful flight test of Solid Fuel Ducted Ramjet
- Defence Research and Development Organisation (DRDO) successfully carried out a flight demonstration based on Solid Fuel Ducted Ramjet (SFDR) technology from Integrated Test Range Chandipur off the coast of Odisha.

Significance of this
- Successful demonstration of Solid Fuel based Ducted Ramjet technology has provided DRDO with a technological advantage which will enable it to develop long range air-to-air missiles.
- At present, such technology is available only with a handful of countries in the world.

About Solid Fuel Ducted Ramjet (SFDR)
- It is a missile propulsion system currently being developed by the Defence Research and Development Organisation of India.
- The project aims to develop critical technologies required in the propulsion systems of future Indian long range air-to-air missiles.
- The system utilises a **solid fuelled air-breathing ramjet engine.**
- This kind of propulsion system drastically **enhances the range with higher average speed.**
- The missiles, which use such system are also **able to carry larger payload due to absence of an oxidiser.**
- Unlike solid-propellant rocket, the Ramjet **takes up oxygen from the atmosphere during flight.**

- Officially, the technology is being developed to power future Indian air-to-air missiles. However, the technology can also be applied to surface-to-air missiles.

Inlet (M>1) | Fuel injection | Flame holder | Nozzle (M=1) | Compression (M<1) | Combustion chamber | Exhaust (M>1)
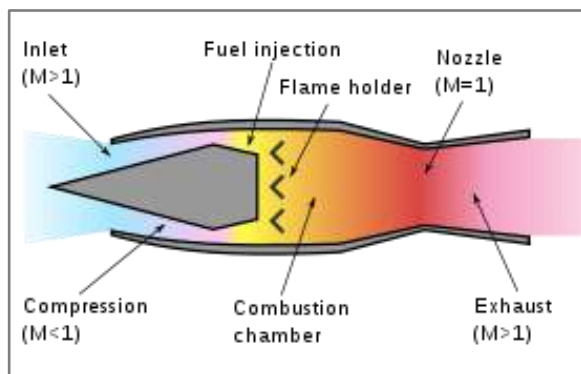
Ramjet engine

- A ramjet, sometimes referred to as a flying stovepipe or an athodyd (aero thermodynamic duct), is a form of airbreathing jet engine that uses the engine's forward motion to compress incoming air **without an axial compressor or a centrifugal compressor.**
- Because ramjets cannot produce thrust at zero airspeed, they **cannot move an aircraft from a standstill.**
- A ramjet-powered vehicle, therefore, requires an assisted take-off like a rocket assist to accelerate it to a speed where it begins to produce thrust.
- Ramjets work most efficiently at supersonic speeds around Mach 3.
- This type of engine can operate up to speeds of Mach 6.
- Ramjets can be particularly useful in applications requiring a small and simple mechanism for high-speed use, such as missiles.

CYBER CRIME VOLUNTEERS PROGRAMME

GS-III   SECURITY & DEFENSE

Context

- The Ministry of Home Affairs' (MHA) controversial "cyber crime volunteers" programme targets to rope in around 500 persons to flag unlawful content on the Internet for "improvement in the cyber-crime ecosystem of India".
- The programme will include 200 "**cyber awareness promoters**" and 50 "cyber experts", according to the output outcome monitoring framework of the MHA's budget 2021-22.
- Under the "Cyber-crime Ecosystem Management Unit" MHA aims to hold regular consultation with "government bodies, academia, NGOs, private bodies, technical companies etc."
- The National Cybercrime Ecosystem Management Unit is part of the Indian Cybercrime Coordination Centre (I4C) scheme launched in 2020.
- The project was approved in October 2018 at an estimated cost of ₹415.86 crore.
- The I4C scheme that includes other components also has been allocated ₹69.80 crore in the budget.

National Cyber Research and Innovation scheme

- Under this scheme, ₹9 crore will be provided to institutions to solve the problems of law enforcement agencies.
- MHA through its grievance portal, cybercrime.gov.in, aims to raise the "cyber crime volunteers" group.
- It asks "good samaritans" to register as volunteers to help "law enforcement agencies in identifying, reporting and removing illegal/unlawful online content".
- The content has been categorised as the following — against sovereignty and integrity, against defence of India, against security of the State, against friendly relations with foreign States, content aimed at disturbing public order, disturbing communal harmony and child sex abuse material.
- The volunteers will have to submit photograph, name and address proof to be enlisted as a volunteer.
- The description on portal says "individuals who are willing to volunteer in any other area that can help in fighting cybercrime" are also welcome.

- The terms and conditions for enrolment say the volunteer is strictly prohibited from creating social media account in the name of this programme or issue any statement or express opinions on public platforms on behalf of this programme.
- It says volunteers shall maintain strict confidentiality of task assigned or carried out by him/her.
- It said volunteer shall be de-registered in case of violation or breach of any of the conditions and the **State nodal officers reserve the right to take legal action.**

Cyber Crime Coordination Centre (I4C)

- Indian Cyber Crime Coordination Centre (I4C) has been established under Ministry of Home affairs (MHA) to act as a nodal point at National level in the fight against cybercrime.
- It aims to provide a platform to deal with cybercrimes in a coordinated and comprehensive manner.
- One of the important objectives of I4C is to create ecosystem that brings together academia, industry, public and government in prevention, detection, investigation and prosecution of cybercrimes.
- I4C has envisaged the Cyber Crime Volunteers Program to bring together citizens with passion to serve the nation on a single platform and contribute in fight against cybercrime in the country.
- Good Samaritans are welcome to register as Cyber Crime Volunteers in the role of Unlawful Content Flaggers for facilitating law enforcement agencies in identifying, reporting and removal of illegal / unlawful online content.

Concerns

- The Internet Freedom Foundation (IFF), a digital liberties organisation, has written to the MHA that the scheme will lead to a "**culture of surveillance and constant suspicion in society creating potential social distrust**".
- Secondly, there is no information available on how the Ministry will ensure that programme is **not misused by certain elements to extract misguided personal or political vendettas.**
- Thirdly, there is **no process in place for withdrawal of complaints once submitted**.
- MHA has failed to clearly define unlawful content and content which would relate to "anti-national" activities, this could allow the volunteers to exercise far more discretion than is necessary and report on citizens who are well within their rights to post content which is critical of the State.

MAN-ANIMAL CONFLICT	GS-III ENVIRONMENT & ECOLOGY

Context

- **The Khadi and Village Industries Commission (KVIC)** launched the Project RE-HAB (Reducing Elephant-Human Attacks using Bees) to **create "bee fences" to thwart elephant attacks in human habitations using honeybees.**

Aim

- Through this initiative, authorities intend to **mitigate human-elephant conflict** in Karnataka and other region.

Need

- Between 2015 and 2020, nearly 2,500 people have lost their lives in elephant attacks across India.

Project Re-Hab

- Project RE-HAB is a **sub-mission of KVIC's National Honey Mission.**
- This project entails installing bee boxes along the periphery of the forest and the villages with the belief that the **elephants will not venture anywhere close to the bees** and thus avoid transgressing into human landscape.
- This idea stems from the **elephants' proven fear of the bees.**
- The selected spots are located on the periphery of **Nagarahole National Park and Tiger Reserve, known as conflict zones.**
- The total cost of the project is ₹15 lakh.
- The bee boxes are set up in the passage ways of human-elephant conflict zones **to block the entrance of elephants to human habitations.**
- The boxes are connected with a string so that when elephants attempt to pass through, a tug causes the bees to swarm the elephant herds and dissuade them from progressing further.
- Bee boxes have been placed on the ground as well as hung from the trees.
- High resolution, night vision cameras have been installed at strategic points to record the impact of bees on elephants and their behaviour in these zones.
- The biggest advantage of Project RE-HAB is that it **dissuades elephants without causing any harm to them.**
- Besides being extremely **cost-effective** as compared to various other measures such as digging trenches or erecting fences.

National Beekeeping & Honey Mission (NBHM)

- It aims to achieve the goal of '**Sweet Revolution**' as part of Atmanirbhar Bharat Abhiyaan.
- It is being implemented through **National Bee Board** (NBB).
- **Objective of NBHM:** Promote holistic growth of beekeeping industry for income & employment generation for farm and non-farm households, to enhance agriculture/ horticulture production, developing infrastructural facilities, including setting up of Integrated Beekeeping Development Centre (IBDC)s/CoE, honey testing labs, bee disease diagnostic labs, custom hiring centres, Api-therapy centres, nucleus stock, bee breeders, etc. and empowerment of women through beekeeping.

Khadi and Village Industries Commission (KVIC)

- It is a statutory body formed in April 1957 (During 2nd Five Year plan) by the Government of India, under the 'Khadi and Village Industries Commission Act of 1956'.
- It is an apex organisation under the Ministry of Micro, Small and Medium Enterprises, with regard to khadi and village industries within India.

- **Objective:** It seeks to - "plan, promote, facilitate, organise and assist in the establishment and development of khadi and village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary.
- In April 1957, it took over the work of former All India Khadi and Village Industries Board.

Asian Elephant

- It is distributed througout the Indian subcontinent and Southeast Asia, from India in the west, Nepal in the north, Sumatra in the south, and to Borneo in the east.
- The Asian elephant is the **largest living land animal in Asia.**
- Since 1986, the Asian elephant has been listed as **Endangered on the IUCN Red List**.
- Elephant is **National Heritage animal of India**.
- It is primarily threatened by loss of habitat, habitat degradation, fragmentation and poaching.
- The Asian elephant is listed on **CITES Appendix I.**
  - CITES (the Convention on International Trade in Endangered Species of WildFauna and Flora, also known as the Washington Convention) is a multilateral treaty to protect endangered plants and animals.

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.

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

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

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.

SEAWEED-HYPNEA INDICA AND HYPNEA BULLATA

GS-III   ENVIRONMENT & ECOLOGY

Context

- Two new species of seaweed have been discovered by a group of marine biologists.

About new species

- **Hypnea indica** (after India) and **Hypnea bullata** (because of the blisterlike marks on its body – bullate), the seaweeds are part of the genus Hypnea or red seaweeds.
- The study also reports one other species of Hypnea for the first time in Indian coasts, **Hypnea nidifica**.
- While Hypnea indica was discovered **Kanyakumari in Tamil Nadu**, and Hypnea bullata was discovered from Kanyakumari and **Diu island of Daman and Diu**.
- They grow in the **intertidal regions of the coast**, namely the area that is submerged during the high tide and exposed during low tides.
- The genus Hypnea consists of **calcareous, erect, branched red seaweeds.**
- As the two species have been found on the west and south east coasts of India, it suggests good prospects for their cultivation which can be put to good use economically.

Concerns

- Algae with calcareous mineral deposits are **prone for the damage from ocean acidification – an aftermath of climate change.**
- As carbon dioxide in the atmosphere gets dissolved in ocean waters, the seawater becomes more acidic. Algae like Hypnea cannot survive in acidic seawater, hence, the only way to help these species is to reduce atmospheric carbon dioxide levels by adopting sustainable lifestyle choices.

Hypnea indica sp. nov.   *Hypnea bullata* sp. nov.

Seaweeds

- Seaweed, or macroalgae, refers to thousands of species of macroscopic, multicellular, marine algae.

Application of seaweeds

- **Food industry:** Species of Hypnea contain the biomolecule carrageenan, which is widely used in the food industry.
- **Medicine and herbs:** Alginates are used in **wound dressings** (see alginate dressing), and **dental moulds.** In microbiology, agar is used as a culture medium. Carrageenans, alginates and agaroses, with other macroalgal polysaccharides, have **biomedicine applications**.
- **Ecological role:** Seaweed species such as kelps provide essential nursery **habitat for fisheries** and other marine species and thus **protect food sources**; other species, such as planktonic algae, play a vital role in **capturing carbon**, producing up to 90% of Earth's oxygen. Seaweeds are used as a potential climate change mitigation strategy for **biosequestration of carbondioxide** and reducing local **ocean acidification.**
- **Nutrition industry:** It source material for various chemical uses (such as Carrageenan), cattle feeds and **fertilizers.**
- Seaweed is under consideration as a **potential source of bioethanol.**
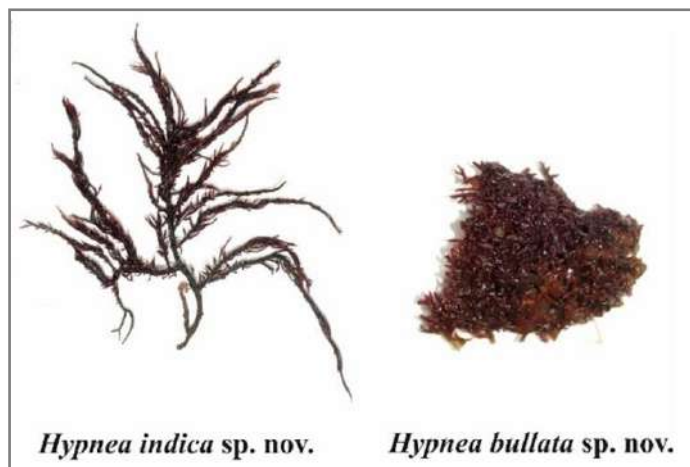
SEAWEEDS mission

- Out of the global seaweed production of ~ 32 million tons fresh weight valued around 12 billion US dollars. **China produces ~57 %,** Indonesia ~28% followed by South Korea, whereas **India is having a mere share of ~0.01-0.02%.**
- By an estimate, if cultivation is done in ≈10 million hectares or 5% of the EEZ area of India, it can provide employment to ~ 50 million people; set up new seaweed industry; contribute to national GDP; **abates algal blooms**.

TIFAC Initiatives

- Looking at the immense latent and untapped potential of seaweeds in India, TIFAC had brought out a report on Seaweeds in 2018, which besides highlighting the huge potential also drew out a road map for implementations of the recommendations.

The Mission envisages the following activities

- Establishing model demonstration farms over one hectare for cultivation of economically important seaweeds in nearshore and onshore along the Indian coast
- Kappaphycus all over Indian coast
- Gracilaria dura in Gujarat
- Gracilariaverrucosa in Chilka lake (Odhisa)
- Ulva linza or Ulva proliferainChilka lake (Odhisa)
- Ulva lactuca or Ulva fasciata or Ulva indica all over India coast

Proposed Demonstration Sites

- Gujarat / Tamil Nadu / Andhara Pradesh / Odisha / Karnataka
- **Onshore cultivation** for (i) Seedling supply facility (ii) Seaweed cultivation for processing
- Establishment and demonstration of processing technologies/recipes for edible seaweeds in line with consumer acceptability or cultural food habits
- Dried flakes, Dried powder, Dried sheets or processed dried sheets with additional flavour meeting the acceptance/perceptions of people

Implementing Organisation

- TIFAC

Stakeholder/ Supporting agencies

- CSIR labs (CSMCRI, CFTRI, etc) ICAR labs (CMFRI, CIFT, etc.) and State Fisheries Departments
- TIFAC's role would be to network and orchestrating the operations, demonstrating farming, nucleating value addition products, support policy changes and advice on regulatory issues, market control, etc.

Potential

- Scope for attracting overseas investments in Indian seaweed sector
- Got potentials to contribute to the 'AatmaNirbhar Bharat Abhiyaan

INDIA'S FIRST INTER-STATE TIGER RELOCATION PROJECT / *GS-III ENVIRONMENT & ECOLOGY*

Context

- Five-year-old tigress Sundari spent 28 months in captivity in Satkosia Tiger Reserve, Odisha and relocated to Madhya Pradesh.

More about the news

- Sundari was shifted as part of India's first inter-state translocationproject in 2018 from Madhya Pradesh to Odisha — returned home.

What was the Tiger Relocation Project?

- The tiger relocation project was initiated in 2018 wherein two big cats, a male (Mahavir) from **Kanha Tiger Reserve** and a female (Sundari) from **Bandhavgarh** from Madhya Pradesh were relocated to **Satkosia Tiger Reserve** in Odisha, to shore up the tiger population in the state.
- Sundari was brought to Satkosia a week after Mahavir's arrival.
- The relocation was meant to serve **two purposes** —
  o reducing tiger population in areas with excess tigers to majorly **reduce territorial disputes**
  o to **reintroduce tigers** in areas where the **population** has considerably **reduced due to various reasons.**
- The project was estimated with a **budget of Rs 19 crore** and was started under the project of "augmentation and recovery of tiger population in Satkosia tiger reserve".
- Six tigers (three pairs) from different reserves of Madhya Pradesh were to be sent to Odisha under the project.
- Of the allotted budget, Rs 8 crore has been spent by NTCA so far.

How were Mahavir and Sundari chosen for the project?

- Both the big cats were selected for the translocation project as per the NTCA guidelines and in collaboration with the Wildlife Institute of India and the Government of India.
- Two key factors were considered for choosing the animal
- dispersing young animal which is to find a new and

- an adult transient, which was yet to establish any territory.

What is the Satkosia Tiger Reserve and why was it chosen?

- Satkosia Tiger Reserve spreads across four districts and has as its core area 523 sq km.
- According to NTCA, Satkosia falls under reserves where "**there is a potential for increasing tiger populations".**
- Declared as a Tiger Reserve in 2007, Satkosia had a population of 12 tigers then.
- The numbers reduced to two in 2018. The purpose of the relocation was to repopulate tigers in the reserve areas.

What was the outcome of the project?

- The project ran into trouble within weeks of initiation.
- The arrival of the tigers was followed by severe protests by villagers living on the fringes of the reserve and the matter eventually snowballing into a poll issue with assembly and general elections due in 2019.
- Forest department officials were attacked and their offices burnt down by irate villagers.
- This reaction was the outcome of displacing tribals from Raigoda in the core area to Saruali on the outskirts of the reserve.
- The villagers feared the big cats would endanger their livelihoods, lives and livestocks.
- They also alleged that they were not consulted or informed prior to the translocation.
- Within months of the translocation, Mahavir was poached. His carcass was found a week after his death.
- In September, a woman was allegedly mauled to death by Sundari and another person was killed in October. Subsequently, the project was suspended by NTCA.

What factors contributed to the likely failure of the project?

- The major reason which contributed to the failure of the project was the lack of confidence and trust building between the forest department and the villagers.
- While Mahavir had settled down after initial exploration of the forest area, Sundari was venturing into human habitation led to the human-animal conflict.
- The translocation was done in haste. The field staff and tiger reserve management were not prepared. Capacity for tiger monitoring was poor.
- The local communities were not taken into confidence nor conveyed the benefits from tourism that tigers could bring them.
- Protection was not up to the mark and the only undisturbed, prey rich habitat was already occupied by the old resident tigress causing Sundari to occupy human dominated, disturbed areas.

Royal Bengal Tiger

- It forms a specific population of the *Pantheratigris tigris* subspecies that is **native to the Indian subcontinent.**
- **Threats:** poaching, loss and fragmentation of habitat.
- **IUCN Status:** Endangered.
- Protected under **schedule 1** of Wildlife Protection Act.

Project Tiger

- This tiger conservation programme launched in April **1973** by the Government of India during Prime Minister **Indira Gandhi's tenure**.
- **Aim:** Ensuring a viable population of Bengal tigers in their natural habitats, protecting them from extinction, and preserving areas of biological importance as a natural heritage forever.
- From 9 tiger reserves since its formative years, the Project Tiger coverage has increased to **50** at present, spread out in 18 of our tiger range states.
- The tiger reserves are constituted on a **core/buffer strategy**.
  - **Core areas** have the **legal status of a national park or a sanctuary**.
  - Whereas, **buffer or peripheral** areas are a mix of forest and non-forest land, managed as a **multiple use area**.

- The government has set up a **Tiger Protection Force** to combat poachers and funded relocation of villagers to minimize human-tiger conflicts.

National Tiger Conservation Authority

- It was established in 2005 following a recommendation of the Tiger Task Force, to reorganise management of Project Tiger and the many Tiger Reserves in India. It is the overarching body for conservation of tigers in India.

Structure of NTCA

- Environment Minister is the Chairman of the NTCA.
- Below chairman are eight experts or professionals having qualifications and experience in wildlife conservation and welfare of people including tribals, apart from three Members of Parliament (1 Rajya Sabha, 2 Lok Sabha).
- The Inspector General of Forests, in charge of project Tiger, serves as ex-officio Member Secretary.

Functions

- Its main administrative function is **to approve the Tiger Conservation Plan prepared by the State Governments** and then evaluate and assess various aspects of sustainable ecology and disallow any ecologically unsustainable land use such as, mining, industry and other projects within the tiger reserves.
- As per the WLPA, every State Government has the authority to notify an area as a tiger reserve.
- However, the Tiger Conservation Plans sent by state government need to be approved by the NTCA first.
- Alternatively, Central Government via NTCA may advise the state governments to forward a proposal for creation of Tiger Reserves.

Other Functions of NTCA are as follows

- Regulation and standardization of tourism activities
- Provide for management focus and measures for addressing conflicts of men and wild animals.
- Provide information on protection measures.
- Ensure that the tiger reserves and areas linking one protected area or tiger reserve with another protected area or tiger reserve are not diverted for ecologically unsustainable uses, except in public interest and with the approval of the National Board for Wild Life and on the advice of the Tiger Conservation Authority.
- Facilitate and support the tiger reserve management in the State.
- Ensure critical support including scientific, information technology and legal support for better implementation of the tiger conservation plan.

Tiger Census: The Tiger Estimation Report 2018
Key findings:

- **2967 tigers** are present in India.
- **Highest number** of tigers have found in **Madhya Pradesh (526), after that Karnataka has 524 and Uttarakhand is accommodating 442 tigers.**
- In five years, the number of protected areas increased from 692 to over 860, community reserves from 43 to over 100.
- While the 2014 census pegged the total number of striped big cats in the country at 2,226, the 2010 census put the figure at 1,706 and the 2006 version at 1,411, indicating that tiger numbers have been on the up.
- While **Pench Tiger Reserve in Madhya Pradesh** recorded the **highest number of tiger**s, Sathyamangalam Tiger Reserve in Tamil Nadu registered the "maximum improvement" since 2014.
- **Chhattisgarh and Mizoram** saw a **decline** in their tiger numbers while tiger numbers in Odisha remained constant.

GREAT INDIAN BUSTARD

GS-III ENVIRONMENT & ECOLOGY

Context

- The Supreme Court intervene on behalf of the **critically endangered Great Indian Bustards** over the birds falling dead after colliding with power lines running through their dwindling natural habitats in Gujarat and Rajasthan.

More about news:

- A Bench led by Chief Justice of India Sharad A. Bobde will examine on a priority basis whether overhead power cables can be replaced with underground ones to save **one of the heaviest flying birds on the planet.**
- Attorney General, appearing for the Power Ministry, submitted that <u>only low voltage lines can go underground but not the high voltage ones.</u>
- The court found that an alternative mechanism — to install **flight bird divertors** — to guide the birds away from the power lines would end **costing more than installing and maintaining underground lines.**

Need

- As per a report by the Wildlife Institute of India, **only 150** Great Indian Bustards are left in India.
- The bird has disappeared from 90% of its original range.
- Great Indian Bustard habitats need to be declared as **conservation reserves**
- The mega flauna with largest wing span are on the "brink of extinction.
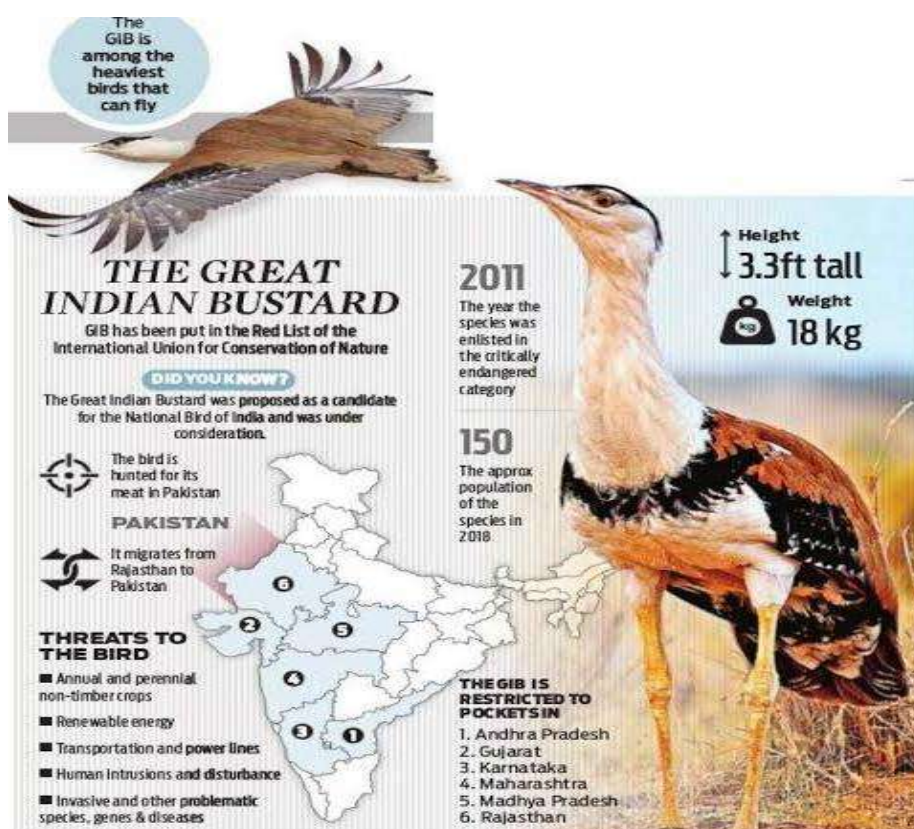
Great Indian Bustard (GIB):

- GIB is one of the most **critically threatened species** in India, with less than 150 birds left in the wild.
- GIBs are **one of the heaviest flying birds** in India.
- Experts say only two districts in Rajasthan — Jaisalmer and Barmer — have a breeding GIB population in the wild.
- The bird can also be found in very small numbers in Gujarat, Madhya Pradesh, Karnataka, Maharashtra and Andhra Pradesh.

'GREGARIOUS BAMBOO FLOWERING' THREAT TO WILDLIFE

GS-III ENVIRONMENT & ECOLOGY

Context

- The 'gregarious flowering of bamboo' inside the **Wayanad Wildlife Sanctuary (WWS**) and the nearby **Mudumalai Tiger Reserv**e and Gudalur forest division in Tamil Nadu may pose a threat to wildlife in the **Nilgiri biosphere**, a major tiger and elephant habitat.
- The bamboo groves in the Wayanad forest are the mainstay of herbivores in the Nilgiri biosphere during summer.

- With the advent of the season, migration of wild animals starts from the adjacent sanctuaries in Karnataka and Tamil Nadu to Wayanad thanks to shortage of fodder and water.
- The gregarious flowering may adversely affect migration, especially by elephants, wild gaur, and other lower herbivores owing to the **mass destruction of bamboo groves after the flowering.**
- Bamboo groves, which grow in more than 500 hectares of the sanctuary, have fully bloomed, a **phenomenon said to occur once in the life cycle of bamboo plants.**

About Thorny bamboo (Bamboosa Bambos)

- It is a **monocarpic** (flowering only once) plant belonging to the Poaceae family (grass family).
- Its **flowering cycle varies from 40 to 60 years.**
- Profuse natural regeneration occurs from seeds after gregarious flowering.
- Seeds have **no dormancy**, and it helps germination under favourable conditions soon after seed fall.
- But protection from fire and grazing is essential for proper establishment of seedlings.
- Farmers living near the sanctuary fear that the destruction of bamboo groves may worsen the increasing man-animal conflict.

> **Wayanad Wildlife Sanctuary**
> - It is an animal sanctuary in Wayanad, **Kerala**
> - It is now an integral part of the **Nilgiri Biosphere Reserve.**
> - It is bounded by protected area network of **Nagarhole and Bandipur of Karnataka in the northeast,** and on the southeast by **Mudumalai of Tamil Nadu.**
> - It is one of the safest havens for different speciesof vultures like **the White-rumped Vultures and the Red-headed Vultures.**
>
> **Mudumalai Tiger Reserve**
> - It lies on the northwestern side of the Nilgiri Hills (Blue Mountains) in Tamil Nadu.
> - It shares its boundaries with the states of Karnataka and Kerala.
>
> **Nilgiri biosphere**
> - It is an International Biosphere Reserve in the Western Ghats and Nilgiri Hills ranges of South India.
> - The Nilgiri Sub-Cluster is a part of the Western Ghats, which was declared a **World Heritage Site by UNESCO in 2012.**
> - It is the **largest protected forest area** in India, spreading across Tamil Nadu, Karnataka and Kerala.
> - It includes the Aralam, Mudumalai, Mukurthi, Nagarhole, Bandipur and Silent Valley national parks, as well as the Wayanad, Karimpuzha, and Sathyamangalam wildlife sanctuaries.

SEABUCKTHORN

GS-III ENVIRONMENT & ECOLOGY

Context

- The Himachal Pradesh government has decided to start planting seabuckthorn in the cold desert areas of the state.

What is seabuckthorn?

- It's a shrub, which produces an **orange-yellow coloured edible berry**.
- In India, it is **found above the tree line in the Himalayan** region, generally in dry areas such as the **cold deserts of Ladakh and Spiti**.
- In Himachal Pradesh, it is locally called **chharma and grows in the wild in Lahaul and Spiti and parts of Kinnaur.**

- According to the Seabuckthorn Association of India, around 15,000 hectares in **Himachal, Ladakh, Uttarakhand, Sikkim and Arunachal Pradesh** are covered by this plant.

What are the ecological, medicinal and economical benefits of the seabuckthorn plant?

- As a folk medicine, seabuckthorn has been widely used for treating stomach, heart and skin problems.
- Its fruit and leaves are rich in vitamins, carotenoids and omega fatty acids, among other substances.
- It can help troops in acclimatising to high-altitude.
- It is an important source of fuelwood and fodder.
- It is a soil-binding plant, which prevents soil-erosion, checks siltation in rivers and helps preserve floral biodiversity.
- It is used in making juices, jams, nutritional capsules etc.

What is the latest project?

- The seabuckthorn association wants the forest departments of various Himalayan states/UTs to plant seabuckthorn on **arid and marginal lands using compensatory afforestation or CAMPA funds.**

ABOUT CAMPA FUND

➤ The Campa fund is a national-level corpus fund where the compensation amount collected from user agencies like industries when forestland is diverted for non-forest purposes is deposited

➤ Fund is to be utilized for compensatory afforestation activities, protection of forests, forest-related infrastructure development, assisted natural regeneration of forests, etc.

INDEPENDENT ENVIRONMENT REGULATOR   *GS-III   ENVIRONMENT & ECOLOGY*

Context

- The Supreme Court asked the government to explain why it had not set up an "independent environment regulator" to oversee green clearances.
- Supreme court had ordered the setting up of a national environment regulatory body to ensure independent oversight of green clearances way back in July 2011 in Lafarge Umiam Mining Private Limited v. Union of India, commonly known as the **'Lafarge mining case'.**
- According to the SC order, the regulator will
  o **carry out independent, objective and transparent appraisal and approval of projects for environmental clearances.**
  o **monitor the implementation of the conditions laid down in the clearances and impose penalties on polluters.**
  o **ensure the National Forest Policy, 1988 is duly implemented.**

Why there is a need of setting up such body?

- Problems with the way environment and forest clearances are granted.
- **Poor Environment Impact Assessment (EIA) reports** and **bad decisions of the Forest Advisory Committee**, which recommends diversion of forestland for developmental projects.
- **Conflict of interest** in the way an EIA report is prepared and forest area is identified, demarcated and finally diverted for non-forest uses.
- There are **too many clearances for the same thing**; and none of them seem to be working for the environment or for protecting the rights of communities.
- In the court's view, therefore, an independent national regulator is the solution to the problem.

Way ahead

- There is a need of
  - o **second-generation reform for environmental regulation**, which will safeguard environment and community rights as well as reduce time and transaction costs for the industry.
  - o reducing multiplicity, remove archaic laws and streamline regulatory procedures.
  - o settingup a national regulator that can consolidate all clearances — environment, forests, wildlife and coastal to fully understand impact of decisions taken.
  - o giving enough power and resources to this regulator to do proper post-clearance monitoring and assessment and also impose fines and sanctions.
  - o making regulator must be transparent and accountable and promote deepening of public assessment, participation and scrutiny.

DEVARA KAADU

GS-III ENVIRONMENT & ECOLOGY

Context

- A boy was killed and his grandfather a plantation worker seriously injured in a tiger attack, which was later traced to a sacred grove or devara kaadu.

Sacred groves of India

- These are forest fragments of varying sizes, which are **communally protected**.
- They usually have a **significant religious connotation** for the protecting community.
- **Hunting and logging** are usually **strictly prohibited** within these patches.
- Other forms of forest usage like honey collection and deadwood collection are sometimes allowed on a sustainable basis.
- Sacred groves **did not enjoy protection via federal legislation in India**.
- However, the introduction of the protected area category **community reserves under the Wild Life (Protection) Amendment Act, 2002** has introduced legislation for providing government protection to community held lands, which could include sacred groves.
- Indian sacred groves are often associated **with temples, monasteries, shrines or with burial grounds.**
- Sacred groves find their mentions in **Hindu, Jain and Buddhist texts**.

Uses of Sacred groves

- **Traditional uses:** It act as a **repository for various Ayurvedic medicines**. Source of replenishable resources like fruits and honey. The vegetation cover helps reduce soil erosion and prevents desertification, as in Rajasthan. Help in recharging aquifers as well.
- **Modern uses:** They have become **biodiversity hotspots**, as various species seek refuge in the areas due to progressive habitat destruction, and hunting. They harbor great **genetic diversity**. In urban landscapes it act as **"lungs" to the city** as well, providing much needed vegetation cover.

Threats to the sacred groves

- The threats vary from one region to the other and even from one grove to the other. But the common threats identified are:
- **Disappearance of the traditional belief systems**, which were fundamental to the concept of sacred groves. These systems and their rituals are now considered mere superstition.
- Sacred groves in many parts of our country have been destroyed due to **rapid urbanization and developmental interventions** such as roads, railways tracks, dams including commercial forestry.
- **Encroachment** has led to the shrinkage of some of the largest groves in the country.

- Many groves are suffering due to 'Sanskritisation' or the transformation of the primitive forms of nature worship into formal temple worship.
- **Invasion by exotic weeds** such as Eupatorium odoratum, Lantana camara and Prosopis juliflora is a serious threat to some groves.
- Pressures due to increasing **livestock and fuelwood collection**.

List of Sacred Groves

Sl.No.	State	Local term for Sacred Groves	No. of documented sacred groves
1	**Andhra Pradesh**	Pavithravana	580
2	**ArunachalPradesh**	Gumpa Forests (Sacred Groves attached to Buddhist monestries)	101
3	**Goa**	Deorai, Pann	55
4	**Jharkhand**	Sarana	29
5	**Kerala**	Kavu, Sara Kavu	299
6	**Maharashtra**	Devrai, Devrahati, Devgudi	1559
7	**Manipur**	Gamkhap, Mauhak (sacred bamboo reserves)	166
8	**Meghalaya**	Ki Law Lyngdoh, Ki Law Kyntang, Ki Law Niam	101
9	**Puducherry**	Kovil Kadu	108
10	**Rajasthan**	Orans, Kenkris, Jogmaya	255
11	**Tamil Nadu**	Swami shola, Koilkadu	527
12	**UttaraKhand**	Deo Bhumi, Bugyal (sacred alpine meadows)	18
13	**West Bengal**	Garamthan, Harithan, Jahera, Sabitrithan, Santalburithan	

FLEX ENGINE VEHICLES   *GS-III   ENVIRONMENT & ECOLOGY*

Context
- Road Transport, Highways and Shipping Minister asks automakers to build indigenous flex engine vehiclesfor using alternative fuelsuch as ethanol.

Need
- With ethanol beginning to be easily available in the country and over 70 per cent of gasoline consumption being done by two-wheelers, there is a need to develop indigenous technology for flex fuel vehicles.
- This is to bring **down the dependency petrol and diesel and thereby cut down the amount of fuel imports.**
- Introducing flex fuel for two-wheelers will take off the burden from the petrol and will result in a **much balanced demand.**

Flex engine vehicles
- A flexible-fuel vehicle (FFV) or dual-fuel vehicle is an alternative fuel vehicle with an internal combustion engine designed to run on more than one fuel, usually gasoline blended with either ethanol or methanol fuel, and both fuels are stored in the same common tank.
- These engines can run on **both petrol as well as ethanol mixed petrol.**
- Technically speaking the Petrol engine, which can run CNG is too a flex fuel engine.
- A specifically developed flex fuel engine will have a **wider band of acceptance of fuels**.
- Added ethanol mixed fuel makes the mixture a bit less flammable and the combustion product is different.

- The Flex fuel concept is feasible for cars as they have space to run the ECM as well as there is room for error with not so high revving engines.

Flex Fuel

- Flex Fuel is **Ethanol** and there are special control modules which decide different air fuel mix to ignite this mixture.

Current developments

- Currently there are fuel bikes that run on ethanol.
- The downside with these bikes is that they could cost more than their petrol counterparts.
- Also right now, if you have an ethanol fuel pump close-by, only then it is feasible to have an ethanol bike.
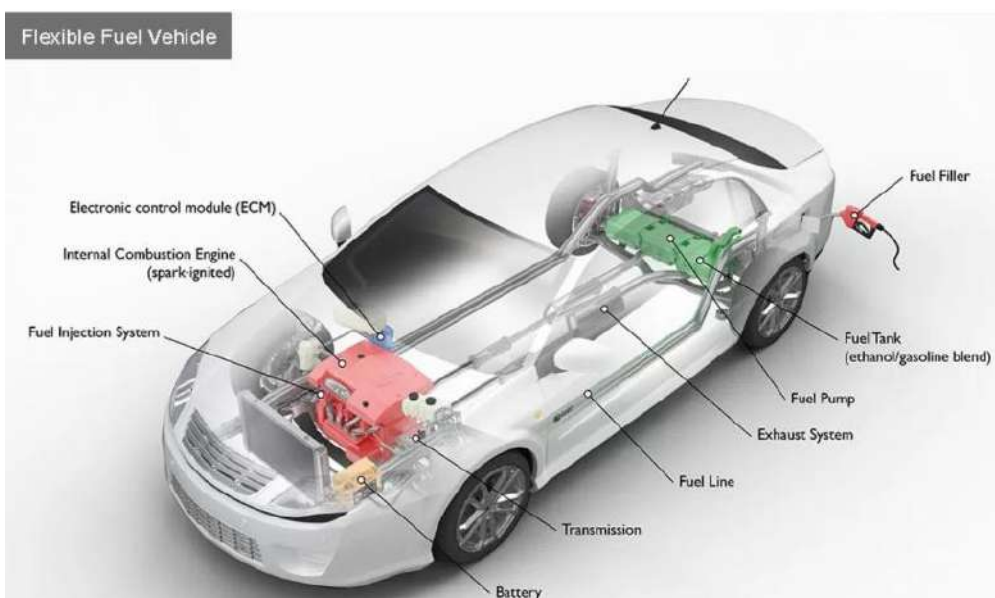
HIMALAYAN SEROW

GS-III ENVIRONMENT & ECOLOGY

Context

- Himalayan serow spotted in Assam.It augurs well for the health of **Manas Tiger Reserve.**
- A Himalayan mammal, somewhere between a goat and an antelope, has been confirmed as the newest creature to be spotted in Assam.

About Himalayan serow

- A Himalayan serow is described as resembling a cross between a goat, a donkey, a cow, and a pig.
- It's a medium-sized mammal with a large head, thick neck, short limbs, long, mule-like ears, and a coat of dark hair.
- There are several species of serows, and all of them are found in Asia.
- It is restricted to the Himalayan region. Taxonomically, it is a subspecies of the mainland serow (Capricornis sumatraensis).
- Himalayan serows are herbivores, and are typically found at altitudes between 2,000 metres and 4,000 metres (6,500 to 13,000 feet).
- They are known to be found in eastern, central, and western Himalayas, but not in the Trans Himalayan region.
- Previously assessed as 'near threatened', the Himalayan serow is now been categorised as 'vulnerable' in the IUCN Red List of Threatened Species.
- It is listed under Schedule I of the Wildlife Protection Act, 1972, which provides absolute protection.

Manas National Park or Manas Wildlife Sanctuary

- It is a national park, UNESCO Natural World Heritage site, a Project Tiger reserve, an elephant reserve and a biosphere reserve in Assam, India.
- Located in the Himalayan foothills, it is contiguous with the Royal Manas National Park in Bhutan.

- The park is known for its rare and endangered endemic wildlife such as the Assam roofed turtle, hispid hare, golden langur and pygmy hog.
- Manas is famous for its population of the wild water buffalo.
- The Manas river is a major tributary of Brahmaputra River, which passes through the heart of the national park.

THE ETHICAL AND MORAL ISSUES IN "MARRY YOUR RAPIST" CONVENTION

GS-IV ETHICS

Context

- A Supreme Court bench headed by Chief Justice of India (CJI) SA Bobde asked a rape accused whether he was ready to marry the complainant, attracting criticism from some lawyers.

Rape and Sanction to marriages

- Rape is sexual assault or intercourse without consent.
- The offence becomes all the more serious if the victim happens to be a minor as she can't give valid consent.
- But often victims are coerced to marry their violators **due to fear of stigma, pressure from family and society.** Unfortunately, courts end up giving sanction to such marriages.

Marry-your-rapist law/Convention

- A marry-your-rapist law or Rule is a rule under which a man who commits rape, sexual assault, abduction or other similar act is exonerated if he marries his female victim.
- The "marry-your-rapist" law is a **legal way for the accused to avoid prosecution or punishment.**
- This practice has existed in a number of legal systems in history, and continues to exist in some societies today in various forms.
- Since the late 20th century, laws of this type have been increasingly challenged and repealed in a number of countries.
- In India, the **marry-your-rapist-to-get-out-of-jail-free card is not recognized under any law. Yet, it continues formally within courts** and informally within families and village councils.

> In 2017, a World Bank Group report claimed there were 12 countries left with marry-your-rapist laws: Angola, Bahrain, Equatorial Guinea, Eritrea, Iraq, Jordan (repealed in August 2017), Lebanon (repealed July 2017), Libya, Palestine, the Philippines, Syria and Tunisia (repealed in July 2017).

Some instances

- In 2017, in a Madras High Court judgment (Madurai Bench), the accused was granted bail after impregnating a minor girl as he said he was willing to marry the victim once she attains majority.
- In 2020, Orissa High Court granted bail to a rape accused, arrested under a Protection of Children from Sexual Offences (POCSO) case, for marrying the girl he had raped, now that was an adult.
- Madhya Pradesh High Court's 2020 order granting bail to a molestation accused on the condition that he would request the victim to tie him a 'rakhi'.
- There are several such examples from across India.
- National Crime Records Bureau (NCRB) data from 2018 records 10,553 cases under the 'known persons on promise to marry the victim' rape cases.

Ethical issues
There are a number of Disturbing Questions in the first place

- Does rape-an act of crime cease to exist if the marriage occurs?
- Does marriage then become a gateway through which we legitimize rape?
- Does the gaze of the Hon'ble court that calls the man a rapist before marriage, escape him if he marries the victim?
- What does then justice look like for a survivor of rape when the very accused instead of being penalized is let go stating marriage as a compromise?
- How are we sure that the man will not turn violent again?
- How are we sure that the only way he wishes to escape conviction is to marry the victim?
- What if he abandons her later?

- Wouldn't the society now questioning the "falsity" of her rape case, accuse her of again filing a false case of domestic violence?
- Are we somewhere losing sight in our safety plans and threat perception for the survivor?

In a nutshell, these conventions:

- Deny justice to survivors
- Signal that rape is not a serious crime and can be talked or bargained away
- Allow women to be traded as possessions between families
- Take away the survivor's control of her choices and future and risk her continued abuse
- Perpetuate a mindset that places the stigma and shame around rape on the survivor rather than the perpetrator
- Exploit the situation of those with few resources, especially in relation to those with greater societal power
- In many cases marriage is a rescue ploy for convicted or accused rapists to evade punishment.

Violates Constitutional Rights

- **Article 14 :** Equality before law
- **Article 15:** prohibits discrimination on grounds of religion, race, caste, sex or place of birth
- **Section 376 (2) (f):** Rape of a woman who is under twelve years of age. **Punishment:** Rigorous imprisonment for a term which shall not be less than ten years
- **Section.376 Subsection 2- e**- Rape of a woman, knowing her to be pregnant. **Punishment:** Rigorous imprisonment for a term which shall not be less than ten years.
- **Criminal Law (Amendment) Act, 2018** which for the first time put death penalty as a possible punishment for rape of a girl under 12 years; the minimum punishment is 20 years in jail.

Ignores recommendations

- **Justice Verma Committee:** Recommended to provide for quicker trial and enhanced punishment for criminals accused of committing sexual assault against women.
- **Malimath Committee:** The trial of rape cases should be done with most expeditiously, within four months, and with a high degree of sensitivity.

Sanction by the Court of Law: A grave Concern

- Sanction to such marriages by court is rooted in a patriarchal society.
- The patriarchy adheres to control female sexuality and uphold the family honour.
- This patriarchal wisdom calls for protecting the daughter's virginity.
- In the case of rape, marriage, or even promise of marriage provides reinstating the lost family honour that is in the woman's body.
- The family forcing the victim to marry the rapist is a reflection of the same patriarchy.
- By not criminalising the rapist, the court provides an option to escape conviction through marriage.
- This tactic takes advantage of cultural issues around rape, where raped women are, to this day, looked upon as **Zinda lash – living dead.**
- The question is -- How a judgment, which by getting the woman married assumes, will save her honour especially in case of rape.
- What then becomes the difference between a Caste Panchayat that functions with cultural notions and the Law of the Land.

Judges are not the 'other' but part of this very patriarchal society. And "Marriage" as relief is a wrong moral notion, bringing back the honour to the woman and her family.

> Judges are part of the same society as we are and that society is patriarchal. Objectivity is the greatest myth in law and some judges bring their beliefs about ideal family, ideal woman, ideal victim, into the reasoning table"

JHUMA SEN,
Prof Jindal Global Law School & Co-founder Indian Feminist Judgment Project
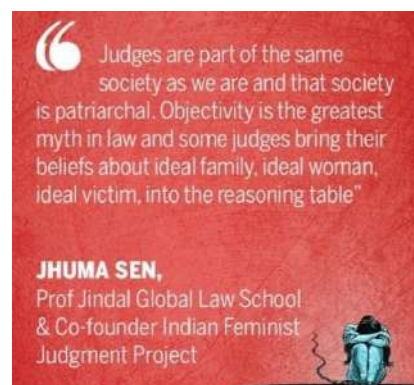
When Judiciary falls into the Patriarchal Trap!

- Justice Neena Krishna Bansal once remarked: "It becomes very difficult for us as judges to strike a balance between the social reality and the legal binding."
- A "rapist degrades and defiles the soul of a helpless female" and inflicts a "serious blow to the supreme honour of a woman, and offends both, her esteem and her dignity" (Supreme Court in **Deepak Gulati vs state of Haryana**, 2013).
- "The victim of rape grows with traumatic experience and an unforgettable shame haunted by the memory of the disaster forcing her to a state of terrifying melancholia," noted the Delhi High Court in Rohit Bansal vs State (2015).
- In 2015, the Madras High Court, in a highly criticised order, granted bail to a convicted rapist and advised a "compromise" between him and his unmarried victim, who had subsequently become pregnant.

Silver Lining

- In a 2013 case **(Shimbhu & Anr vs State Of Haryana)**, the Supreme Court itself had come down heavily against the practice of "Marry your Rapist" convention.
- There could be no compromise, ruled Justice Dipak Misra as, "Dignity of a woman is a part of her non-perishable and immortal self and no one should ever think of painting it in clay." **(State of M.P. vs Madanlal, 2015) –** Supreme Court.

When survivor wants to marry the accused

- A question that usually follows is what if the survivor herself wants to marry the accused, especially in cases of POCSO or promise to marry.
- Patriarchal societies **stigmatize rape to the extent that a woman loses her 'honour' and purpose of life if she is raped.** Even the courts are not immune to the idea of the 'fallen' rape survivor.
- Hence, the initial reaction of the survivor lies in the idea that marriage to the rapist will give her social acceptance.
- The **survivor herself wants her honour back in a patriarchal society**.
- A patriarchal society and family that now knows she has had sexual relations. Her **gendered conditioning** assigns the act of coitus, loss of virginity as a traverse to an eventual marriage.
- It's high time thatthe agency and autonomy of the woman is put at the centre of all interventions and judgments.

Time to think!

When instead of penalising the accused, the hon'ble court provides them bail, caveat as marriage.. What does justice look like for the rape survivor?

Justice that walks through the institution of marriage..

Justice, that views children born out of rape as an outcast and hence legitimized only through marriage…

Justice, that writes in the voice of patriarchy. Justice, that adheres to the language of the oppressor…

Conclusion

- The bottom line is that rape is the worst form of crime that violates a woman's body, mind and soul. It is a violent act.
- And it does not matter if the victim did not cry for help, was asleep or protested with a feeble "no."
- Violence should always be non-negotiable for the court of law.
- A civilized society has certain non-negotiables which can't be tinkered with.
- The perpetrator has to be awarded deterrent punishment.
- He can't be incentivized by giving legal sanction to his gruesome act by allowing such marriages.
- Indian judiciary which has time and again restored public trust by ushering "Justice" needs to frame strict laws against such "marriage arrangements" and break patriarchy.

In its own Words Supreme Court had said: "*Male chauvinism has no room in a civilized society and the "obnoxious" act of even eve-teasing affects justice and the rights of a woman.*"

EMOTIONAL INTELLIGENCE

Context
- Early childhood is the best time for children to develop "social skills" and "emotional intelligence"- Experts.

What is Emotional Intelligence?
- Emotional intelligence (EI) refers to the ability to perceive, control, and evaluate emotions.
- In a nutshell, Emotional Intelligence is the ability to:
- ✓ Recognize, understand and manage our own emotions and;
- ✓ Recognize, understand and influence the emotions of others.

The Four Branches of Emotional Intelligence
- Salovey and Mayer proposed a model that identified four different factors of emotional intelligence:
1. **Perceiving Emotions**: The first step in understanding emotions is to accurately perceive them. In many cases, this might involve understanding nonverbal signals such as body language and facial expressions.
2. **Reasoning with Emotions:** The next step involves using emotions to promote thinking and cognitive activity. Emotions help prioritize what we pay attention and react to; we respond emotionally to things that garner our attention.

Daniel Goleman's Emotional Intelligence Quadrant

	Recognition/Awareness	
Self-Awareness		**Social Awareness**
Emotional self-awareness Accurate self-assessment Self-confidence		Empathy Organizational Awareness Service
Self-Management		**Relationship Management**
Emotional Self-Control Transparency Adaptability Achievement Initiative Optimism		Influence Inspirational Leadership Developing Others Change catalyst Building bonds Conflict Management Teamwork & Collaboration
	Regulation/Control	

3. **Understanding Emotions:** The emotions that we perceive can carry a wide variety of meanings. If someone is expressing angry emotions, the observer must interpret the cause of their anger and what it might mean.
4. **Managing Emotions:** The ability to manage emotions effectively is a key part of emotional intelligence. Regulating emotions, responding appropriately and responding to the emotions of others are all important aspect of emotional management.
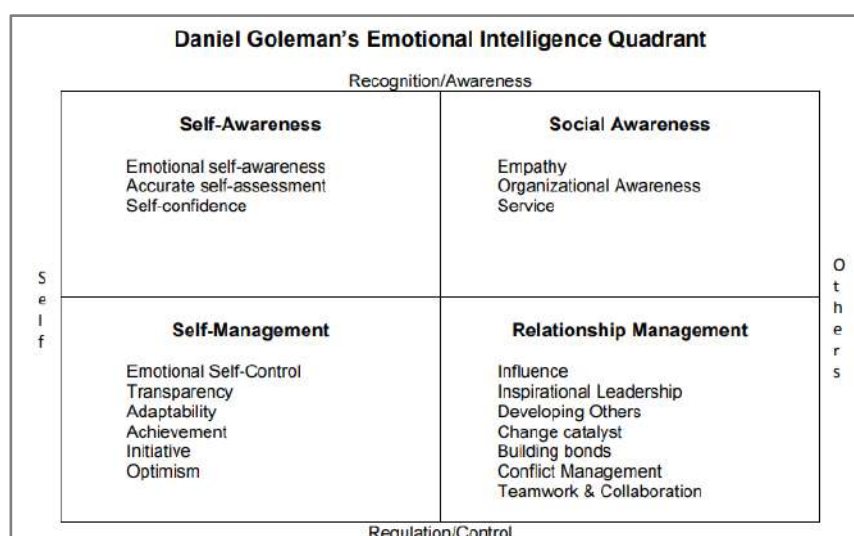
A Brief History of Emotional Intelligence

1930s – Edward Thorndike describes the concept of "social intelligence" as the ability to get along with other people.

1940s – David Wechsler suggests that affective components of intelligence may be essential to success in life.

1950s – Humanistic psychologists such as Abraham Maslow describe how people can build emotional strength.

1975 – Howard Gardner publishes The Shattered Mind, which introduces the concept of multiple intelligences.

1985 – Wayne Payne introduces the term emotional intelligence in his doctoral dissertation entitled "A study of emotion: developing emotional intelligence; self-integration; relating to fear, pain and desire.

1987 – In an article published in Mensa Magazine, Keith Beasley uses the term "emotional quotient." It has been suggested that this is the first published use of the term.

1990 – Psychologists Peter Salovey and John Mayer publish their landmark article, "Emotional Intelligence," in the journal Imagination, Cognition, and Personality.

1995 – The concept of emotional intelligence is popularized after publication of psychologist and New York Times science writer Daniel Goleman's book Emotional Intelligence**: Why It Can Matter More Than IQ.**

Comparison chart

	EQ	IQ
Stands for	Emotional Quotient (aka emotional intelligence)	Intelligence Quotient
Definition	Emotional quotient (EQ) or emotional intelligence is the ability to identify, assess, and control the emotions of oneself, of others, and of groups.	An intelligence quotient (IQ) is a score derived from one of several standardized tests designed to assess intelligence.
Abilities	Identify, evaluate, control and express emotions ones own emotions; perceive, and assess others' emotions; use emotions to facilitate thinking, understand emotional meanings.	Ability to learn, understand and apply information to skills, logical reasoning, word comprehension, math skills, abstract and spatial thinking, filter irrelevant information.
In the workplace	Teamwork, leadership, successful relations, service orientation, initiative, collaboration.	Success with challenging tasks, ability to analyze and connect the dots, research and development.
Identifies	Leaders, team-players, individuals who best work alone, individuals with social challenges.	Highly capable or gifted individuals, individuals with mental challenges and special needs.
Origin	1985, Wayne Payne's doctoral thesis "A Study of Emotion: Developing Emotional Intelligence" Popular use came in Daniel Goleman's 1995 book "Emotional Intelligence - Why it can matter more than IQ"	1883, English statistician Francis Galton's paper "Inquiries into Human Faculty and Its Development" First application came in French psychologist Alfred Binet's 1905 test to assess school children in France.
Popular Tests	Mayer-Salovey-Caruso Test (emotion-based problem-solving tasks); Daniel Goleman model Score (based on emotional competencies).	Stanford-Binet test; Wechsler; Woodcock-Johnson Tests of Cognitive Abilities.

Importance of Emotional Intelligence in Civil Services

- **Better decision making:** Biological evidence suggests that decision-making is neurologically impossible without being informed by emotions. So, EI furthers neutrality and impartiality when there is conflict of interest.
- **Better Communication:** Emotionally intelligent people listen to other people and know how to communicate effectively (Goleman 1997). Hence, an emotionally intelligent Civil Servant manages to execute policies effectively through better communication with public at large. Empathy and integrity takes precedence over personal biases when one is emotionally sorted out.
- **Better coordination with subordinates-** The quality of EI makes a public servant more aware and compassionate. Ego, pride or other negative emotions fail to creep in such personalities.
- **Management of disruptive emotions-** A civil servant while working in high pressure environment often becomes subject to political pressure, life threats etc. Only a public servant who is Emotionally Intelligent would be able to handle such pressures without succumbing to anger, depression or compromise.
- **Better execution of Policies-** According to a research working with colleagues who aren't self-aware can cut a team's success in half and, lead to increased stress and decreased motivation.
- **Fosters Leadership-** Self-awareness is at the core of everything. It describes the ability to not only understand one's strengths and weaknesses, but to recognize emotions and the effect they have on herself (public servant) and her team's performance.
- **More efficient administration:** Because Emotional intelligence helps to -
  - ✓ respond to situations very flexibly.
  - ✓ take advantage of the right time and right place.
  - ✓ make sense of ambiguous or contradictory messages.
  - ✓ recognize the importance of different elements of a situation.

- ✓ find similarities between situations despite differences that may separate them.
- ✓ draw distinctions between situations despite similarities that may link them.
- ✓ synthesize new concepts by taking old concepts and combining them in new ways.
- ✓ develop ideas that are novel.
- **Build Trust with people:** Emotionally intelligent people listen to other people's emotions and can empathize with them. Emotionally intelligent people act ethically and build trust through integrity and reliability.
- **Better negotiations:** Emotionally intelligent people can negotiate and resolve disagreements. This characteristic is the heart of public service.
- **Leading by Listening**: To build stocks of social capital, one of the most important skills a public administrator needs is the ability to listen -- to self and others
- **Better Governance**: All public service is people service. Relationships are at the heart of governance. To the extent that public administration mirrors the hearts and minds of people, it is governance. EI helps in building relationships with people and ensures better implementation of public schemes.
- **"360 degree Leadership"** -- public administrators with high enough levels of emotional intelligence :
  - ✓ **Lead up --** build social capital with political superiors and elected officials;
  - ✓ **Lead down --** build social capital with lower-level staff;
  - ✓ **Lead across --** build social capital with peers;
  - ✓ **Lead out --** build social capital with stakeholders outside ministry --NGOs, academics, media, citizens etc

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Neuroscientific research shows some stunning differences between the classical bureaucratic assessment of emotions and current scientific understanding (Cooper and Sawaf, 1997,):

Traditional Perception on emotions	Modern neuroscience on emotions
Make us inefficient	Make us effective
Sign of weakness	Sign of strength
Interfere with good judgement	Essential to good judgement
Distract us	Motivate us
Obstruct, or slow down, reasoning	Enhance, or speed up, reasoning
Arbitrary and tyrannical	Build trust and connection
Weaken neutrality	Activate ethical values
Inhibit the flow of objective data	Provide vital information and feedback
Complicate planning	Spark creativity and innovation
Undermine management	Enhance leadership

Hence, for public administrators, management of emotions and leadership skills are not mutually exclusive.

Closing Thoughts on EI in Public Service

- Evidence from evolutionary biology and neuroscience shows that EI have primacy over IQ for building group intelligence and social capital.
- Without the guidance of emotions we cannot be intelligent. Without the guidance of emotions we cannot be rational.
- People who are high in emotional intelligence know how to listen to their emotions and regulate their intensity so they are not hijacked by them.
- Emotionally intelligence people know how to deploy their strengths and compensate for their weaknesses.
- Thus, emotionally intelligent behavior is a prerequisite for building bridges of mutual understanding and trust in the space between people -- in **"administrative space."**
- **"Emotional Intelligence" is the very marker that distinguishes routine management from outstanding leadership and the marker that distinguishes dead organizations from living organizations** (Ashkanansy, Hartel, Zerbe, 2000).

- To promote effective and efficient governance, large stocks of social capital are needed to fill the gaps of mistrust in every ministry, in every department, in every office, and in every nook and cranny in administrative space.

Promoting EI in children
- As adults, our life is largely influenced by what we experienced in our childhood. The increasing rates of distress in adults is deeply rooted in the imprints we received as children, around how to express feelings and emotions.
- According to recent research people with strong social-emotional skills are better able to cope with everyday challenges and benefit academically, professionally, and socially.
- And early childhood is the best time for children to develop "social skills" and "emotional intelligence".

Social and Emotional Learning in schools
- Our modern environment is motivated by instant gratification and hence a student's attention span is getting shorter and shorter.
- There is academic competition at the global level, peer pressure, cyber-bullying, embarrassing childhood moments to vulnerable moments of failure or rejection.
- Thus, coaching children to manage negative emotions is vital.
- The discussion around incorporating **Social and Emotional Learning (SEL) in schools** is at all-time high.
- From effective problem-solving to self-discipline, from impulse control to emotion management and more, SEL provides a foundation for positive, long-term effect on kids, adults and communities.
- Learning to deal with the pain of loss or failure or the sting of rejection can be one of the most vital skills that is taught through SEL.
- Overcoming these things each time it happens helps the mind build resilience in the same way that vaccines help the body become resilient towards viruses.
- As they navigate their teen and early adulthood years, this will help them develop a strong mind capable of overcoming setbacks as well as a productive mind that can find inspiration and happiness.
- Our education system should adopt SEL systems.

Role of parents
- Fine parenting lies in comprehending the emotional source of a problematic behavior in children.
- When a child's emotion rushes high with unbearable feelings or meltdowns in trivial situations or "crying over little things", this is where a child's "emotional intelligence" needs to be worked upon.
- These include:
  - ✓ Teaching the child importance of empathy and not sympathy
  - ✓ Giving space to children
  - ✓ Encouraging children to play with children of mixed age. This gives the child exposure to real life scenarios like handling your boss and team members.
  - ✓ Allowing children to take charge of their lives.
  - ✓ Being a pillar of unconditional support, love and respect for the child.
- Also, 'Gender-neutral parenting will help children develop higher emotional intelligence.'
- Children who conform and become captive to restrictive gender rules only cultivate the qualities and skills acceptable to their gender.
- As a result, they can grow up emotionally stunted and can lose out on wholesome development.

Conclusion
- Good mental health allows children to think clearly, develop socially and learn new skills.
- It helps them to develop self-confidence, high self-esteem and a healthy emotional outlook on life.
- After all, children who will one day develop into adults are the future of our society and country.

1. There is huge farmers' protest in one state which has turn violent. There are instances of stone-pelting, burning vehicles, etc. The police try to control protesters but it is not able to do so without resorting to lathi-charge and firing. Five to six people die in the police firing which further drifts the situation and protest spreads to other parts of the state. The home minister of the state government has taken stand that people have not died due to police firing rather due to some unsocial elements in the crowed who wanted to create trouble. This stand has further made protester extremely unhappy with the behavior of the government. There is a huge pressure on the administration to take action against the police responsible for death of 5-6 persons otherwise situation may go out of control.

    Suppose you are the District Magistrate where this incident has taken place then discuss your response to following questions:

    a) What you will say to media if it seeks clarity on whether people died in police firing?

    b) What are the ethical issues involved in the case study?

    c) How the post firing situation should be tackled effectively?

2. An international soft drink company has a signature soft drink that it sells all over the world. In India, the version of the soft drink complies with Indian food and health regulations, but is less healthy than the drink sold in the European market where the law is stricter. The soft drink company is obeying the law in India, but it is selling an inferior, less healthy product in a developing country.

    a) What are the issues of integrity, ethics and law posed in the case study?

    b) What options does the soft drink company and the government of India have, and what should they do and why?

3. A woman is sexually harassed by a top-level senior executive in a large company. She sues the company, and during settlement discussions she is offered an extremely large monetary settlement. In the agreement, the woman is required to confirm that the executive did nothing wrong, and after the agreement is signed the woman is prohibited from discussing anything about the incident publicly. Before the date scheduled to sign the settlement agreement, the woman's lawyer mentions that she has heard the executive has done this before, and the settlement amount is very large because the company probably had a legal obligation to dismiss the executive previously. The company however wants to keep the executive because he is a big money maker for the company.

    a) What are the issues of integrity, ethics and law posed in the case study?

    b) What options does the woman have, and what should she do and why?

SHEIKH MUJIBUR RAHMAN

Context

- Recently, The Gandhi Peace Prize for the year 2020 was conferred on Bangabandhu Sheikh Mujibur Rahman.

About Gandhi Peace Prize

- The Gandhi Peace Prize is an annual award instituted by government of India since 1995, the 125th birth anniversary commemoration year of Mahatma Gandhi.
- **Eligibility:** The award is open to all people regardless of nationality, race, language, caste, creed or sex.
- **Jury:** The jury for Gandhi Peace Prize is chaired by Prime Minister Narendra Modi and comprises of two ex-officio members, namely the Chief Justice of India and the Leader of the single largest Opposition party in the Lok Sabha.
- **Conferred by:** Ministry of Culture

Sheikh Mujibur Rahman

- Sheikh Mujibur Rahman was is called the "Father of the Nation" in Bangladesh.
- He is considered to be the driving force behind the independence of Bangladesh.
- He became a leading figure in and eventually the leader of the Awami League, founded in 1949 as an East Pakistan–based political party in Pakistan.
- Mujib is credited as an important figure in efforts to gain political autonomy for East Pakistan and later as the central figure behind the Bangladesh Liberation Movement and the Bangladesh Liberation War in 1971.
- His daughter Sheikh Hasina is the current leader of the Awami League and also the Prime Minister of Bangladesh.

ACHARYA NAGARJUNA

Context

- Acharya Nagarjuna University(ANU) will introduce foreign language courses for students looking for a promising career overseas.

About

- Nāgārjuna was an Indian Mahāyāna Buddhist thinker, scholar-saint and philosopher.
- He articulated the doctrine of emptiness (shunyata) and is traditionally regarded as the founder of the Madhyamika ("Middle Way") school, an important tradition of Mahayana Buddhist philosophy.
- His Mūlamadhyamakakārikā ("Fundamental Verses on the Middle Way") is the most important text on the Madhyamaka philosophy of emptiness.
- Nagarjuna defined emptiness in terms of the doctrine of pratitya-samutpada ("dependent origination"), which holds that things are not self-arisen but produced in dependence on causes and conditions.
- Nagarjuna employs the doctrine of the two truths, paramartha satya ("ultimate truth") and samvriti satya ("conventional truth"), explaining that everything that exists is ultimately empty of any intrinsic nature but does exist conventionally.
- He emphasized the idea of the bodhisattva, or one who seeks to become a Buddha; in several of his works
- Mūlamadhyamakakārikā inspired a large number of commentaries in Sanskrit, Chinese, Tibetan, Korean and Japanese and continues to be studied today.

Other Important works

- Bhavasamkranti

- Dharmadhatustava (Hymn to the Dharmadhatu), uncertain authorship, according to Ruegg, it shows traces of later Mahayana and Tantrik thought.
- Salistambakarikas
- A commentary on the Dashabhumikasutra.
- Mahayanavimsika (uncertain authorship as per Ruegg)
- Ekaslokasastra (Taisho 1573)
- Isvarakartrtvanirakrtih (A refutation of God/Isvara)

LAXMAN NAYAK

GS-IV PEOPLE IN NEWS

Context
- Recently, the Prime Minister Modi highlighted the role of Laxman Nayak in India's freedom struggle.

Contribution
- Laxman Nayak was a tribal civil rights activist of South Odisha. He belonged to Bhumia tribe.
- A social-reformer in the real sense, he proactively pursued the tribals in his region to help them get rid of their deep-rooted superstitions.
- Influenced by Mahatma Gandhi, he went on to join the freedom movement.
- He became the leader of mission in the Congress campaign in the Koraput Sub-division during the first ever election in 1936.
- As part of the Quit India Movement, which began in August 1942, Nayak took charge of organising several programmes in these areas.
- An unprecedented mass awakening was created due to the surge of tribal movement in the region.
- His companionship with Chandra Kutia taught him the technique of guerilla warfare.
- Due to Laxman Naik's personality Congress movement in Malkangiri gained ground.
- About two hundred people in Matili alone were enrolled as subscribing members of Congress between 1941 and 1942.

SUBHASH PALEKAR

GS-IV PEOPLE IN NEWS

Context
- Born on 2 February 1949

About
- He was an Indian agriculturist who practiced ZBNF (Zero Budget Natural Farming).

ZBNF
- Zero Budget Natural Farming (ZBNF) is a farming practice that believes in natural growth of crops without adding any fertilizers and pesticides or any other foriegn elements. The word Zero Budget refers to the zero net cost of production of all crops (inter crops, border crops, multi crops). The inputs used for seed treatments and other inocluations are locally available in the form of cowdung and cow urine.

Grassroots peasant movement originated from **Karnataka** and spread to states in south India with efforts of **Subhash Palekar** and farmer associations

WHAT LED TO ZERO BUDGET FARMING

1 Neoliberalization of the Indian economy

2 Privatized seeds, inputs, and inaccessible markets

3 High cost & interest rates, volatile prices of crops

4 Farmers get trapped in vicious cycle of debt

HOW IT HELPS
Promises to end a reliance on loans and drastically cut production costs

Zero budget farming is 'natural farming' (without chemicals) without using any credit, and without spending any money on purchased inputs

The Four Elements Of Zero Budget Natural Farming

BEEJAMRUTHAM Seed treatment with cow dung and urine based formulations

JEEVAMRUTHAM Ensuring soil fertility through cow dung, and cow urine based concoctions

MULCHING Trees, cover crops, and crop residues

WAAPHASA Water vapour condensation for better soil moisture

The Four Wheels ("chakras") of Zero Budget Natural Farming		
	Jeevamrutham: a fermented microbial culture derived primarily from cow dung and urine, jaggery, pulse flour and uncontaminated soil	**Benefits:** Stimulate microbial activity to make nutrients plant-available; protect against pathogens; increase soil carbon.
	Beejamrutham: microbial coating of seed/seedlings, is based on cow dung and urine and lime.	**Benefits:** protects young roots from fungus and seed-borne or soil-borne diseases.
	Acchadana - Mulching: the process of covering the top soil with cover crops and crop residues	**Benefits:** produces "humus", conserves topsoil, increase water retention, encourage soil fauna and supply the soil with essential nutrients, control weeds.
	Whaphasa: soil aeration, a result of jivamrita and acchadana - represents the changes in water management brought about by improved soil structure and humus content	**Benefits:** increase water availability, water use efficiency; increase resilience to droughts.

Principles of ZBNF

- No external inputs.
- Local seeds.
- Microbial Seed treatment,
- Microbial inoculant for soil health,
- Cover crops for biomass mulching and bio-mass incorporation for creating a suitable micro-climate for maximum beneficial microbial activity.
- Mixed cropping.
- Integration of trees into the farm.

Advantages of Zero Budget Natural Farming

- Zero budget natural farming reduces the initial cost of farmers.
- Farmer's income automatically increases.
- The soil ecosystem improves.
- Cow dung adds soil value. It is full of nutrients value and available locally.
- Bacteria of cow dung decompose the organic matter in soil and make soil for the plants.
- It required less electricity and water.
- ZBNF improves the productivity of the soil.
- It decreases the disease attack risk on the crop.
- In Zero Budget Farming we use utilizing less chemical fertilizer, farming production quality improves.

Disadvantages of Zero Budget Natural Farming

- This farming method used in some parts of India.
- The type of farming being debated, and there is not much scientific research under evaluation.
- It is highly sustainable farming.

- This farming technique used in negligible areas.

Unique Points of Zero Budget Natural Farming

- Sustainable growth.
- Cost-free Farming.
- Chemical-free food.
- It consumes the least electricity and the least water.
- No extra labor required.
- Saves farmer's life from suicide cases.

Zero Budget Natural Farming Success Stories

- The first success story of ZBNF is **Mr. Annadurai from Musiri Trichy, Tamilnadu**, a paddy farmer. He practices ZBNF on 2 acres of land, and he gets a good share of yield per acre. he gained the confidence to spread it 10 acres.
- The success story of ZBNF is **Mr. Kudankavil, who lives in Idukki**. He practiced ZBNF in their field. And he got a high yield and better price. Mr. Kudankavil says if you follow Mr. Palekar's guidelines, you will get the best results.
- **Mr. T Suryanarayana from East Godavari district**. He is a ZBNF farmer who cultivates paddy and oil palm. He got a good yield of oil palm and paddy.
- In this way, zero budget natural farming is an excellent farming technique for Indian farmers for farming with high productivity at a low cost.

Zero Budget Natural Farming V/S Organic Farming

	ZBNF	Organic Farming
1.	No external fertilizers are used in ZBNF.	Organic fertilizers such as compost, cow dung, and vermicompost are used in organic farming.
2.	There is no tilling and no mixing. It requires natural ecosystems.	It requires basic agro methods like tilling, plowing, mixing, etc.
3.	It is low-cost farming due to the local biodiversity.	It is expensive due to the need for bulk manures.

UIGHURS

GS-IV PEOPLE IN NEWS

Context

- China is facing mounting criticism from around the world over its treatment of the mostly Muslim Uighur population in the north-western region of Xinjiang.

Who are the Uighurs?

- Uighurs are a Turkic ethnic group originating from and culturally affiliated with the general region of Central and East Asia.
- The Uyghurs are recognized as native to the Xinjiang Uyghur Autonomous Region in Northwest China.
- The Uyghurs have traditionally inhabited a series of oases scattered across the Taklamakan Desert within the Tarim Basin. 80% of Xinjiang's Uyghurs still live in the Tarim Basin.
- These oases have historically existed as independent states or were controlled by many civilizations including China, the Mongols, the Tibetans and various Turkic polities.
- The Uyghurs gradually started to become Islamized in the 10th century and most Uyghurs identified as Muslims by the 16th century.

- The Uighurs speak their own language, similar to Turkish.
- Recent decades saw a mass migration of Han Chinese (China's ethnic majority) to Xinjiang, and the Uighurs feel their culture and livelihoods are under threat.

BHAGAT SINGH

Context
- Birth Anniversary

Contribution

BRAVE HEARTS OF INDIAN FREEDOM MOVEMENT

BHAGAT SINGH (1907 – 1931)

ORGANIZATIONS ASSOCIATED WITH:
- Naujawan Bharat Sabha
- Hindustan Socialist Republican Association
- Kirti Kisan Party

KEY CONTRIBUTIONS IN FREEDOM MOVEMENT
- Organised Punjab Naujawan Bharat Sabha in 1926
- Re-organised Hindustan Republic Association
- Threw two bombs in the Legislative Assembly chamber in Delhi

Read more about Bhagat Singh in Modern History Spectrum Book

SWAMI CHIDBHAVANANDA

Context
- Recently, Prime Minister Narendra Modi launched the Kindle version of Swami Chidbhavananda's 'Bhagavad Gita'.

About
- Swami Chidbhavananda is the founder of Sri Ramakrishna Tapovanam Ashram at Thirupparaithurai, Tiruchirapalli in Tamil Nadu.
- He has authored 186 books and all genres of literary composition.
- His scholarly work on the Gita is one of the most extensive books on the subject.
- Tamil version of the Gita with his commentaries was published in 1951, followed by the English in 1965.

AYYA VAIKUNDA SWAMIKAL

Context
- Prime Minister, Shri Narendra Modi paid his respects to Ayya Vaikunda Swamikal on his birth anniversary.

About

- Ayya Vaikundar(1809-1851), was a great humanist and social thinker.
- He is remembered as the first well known social reformer in India who critiqued the caste discrimination and religious hierarchy and fought against the practice of untouchability.
- He is considered as the pioneer of such revolutionary movements in India.
- Ayya Vaikundar not only preached his views but practicalised among low caste poor people.
- His exhortation **'ONE CASTE, ONE RELIGION, ONE CLAN, ONE WORLD, ONE GOD"** is world famous.
- He was against idol worship . He did not allow the portraitores to draw his figure.
- No evidence of any picture or any of his human figure are kept to prove his visual identity. So that he still remains as in the form of absolute wisdom.
- His theory and practice like 'samathva samajam' , 'sama panthi bhojan' , 'thottu namam podunkal' were much enough to cultivate a thought of equality and unity in Indian minds.
- He is remembered forefather of Nadar community.
- Though he was directly against creating any form of organised religion or belief, his teachings forms the basis of Ayyavazhi belief.

LACHIT BORPHUKAN

GS-IV PEOPLE IN NEWS

Context

- Lachit Borphukan was a commander in the Ahom kingdom, located in present-day Assam.
- He is known for his leadership in the 1671 **Battle of Saraighat** where he beat the Mughals.
- He excelled in the art Guerrilla Warfare.

Battle of Saraighat

- The Battle of Saraighat was a naval battle fought in 1671 between the Mughal Empire (led by the Kachwaha king, Raja Ramsingh I), and the Ahom Kingdom (led by Lachit Borphukan) on the Brahmaputra river at Saraighat.
- Although weaker, the Ahom Army defeated the Mughal Army by brilliant uses of the terrain, clever diplomatic negotiations to buy time, guerrilla tactics, psychological warfare, military intelligence and by exploiting the sole weakness of the Mughal forces—its navy.
- The Battle of Saraighat was the last battle in the last major attempt by the Mughals to extend their empire into Assam.
- Though the Mughals managed to regain Guwahati briefly later after a Borphukan deserted it, the Ahoms wrested control in the Battle of Itakhuli in 1682 and maintained it till the end of their rule.
  - ✓ The Battle of Itakhuli was fought in 1682 between the Ahom Kingdom and the Mughal Empire. The Ahoms pushed back Mughal control to the west of the Manas river for good.
  - ✓ With this win, the Ahoms recovered Sarkar Kamrup from the Mughals.

SHORT NEWS ARTICLES

CULTURE & HISTORY

Saras Aajeevika Mela 2021

Context

- Recently, the 2021 Saras Aajeevika Mela was inaugurated.

About

- The **Ministry of Rural Development (MoRD)** has started the initiative of Saras Ajeevika Mela 2021, in association with Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM).
- **Objective:** To bring the rural women Self Help Groups (SHGs), which are formed with the help and support of DAY-NRLM, under one platform.
- The platform provides the SHG Women to showcase their skills and sell their products, which eventually helps them to build their linkages with bulk buyers.
- Through the event, the rural SHG women are exposed at the vital national level that in turn help them to understand the demand and taste of the urban customers.
- The event is organized by **'Council for Advancement of People's Action and Rural Technology (CAPART)'** which is the marketing arm of the ministry.
- Under the event, workshops are conducted for the rural SHG women that help them to boost their knowledge and sharpen their skills in book keeping, product design, GST, packaging, communication skills and marketing or e-marketing.

Akshya Patra

Context

- On International Women's Day, the Minister of State for Culture and Tourism inaugurated the All-Women's Art Exhibition titled 'Akshya Patra'.

About

- The exhibition showcased more than 250 artworks from over 12 countries.
- The multi-dimensional art show, exhibited contemporary, tribal, international, and Avante Garde art practices worldwide.

International Women's Day

- It is all about celebrating the social, political, economic and cultural achievements of women around the world.
- It calls to arms all the women of the world to come together to fight against gender disparity and establish themselves as the invaluable members of society that they are.
- Theme for International Women's Day 2021 is **'Choose To Challenge'.**
- The day calls to --
  - ✓ celebrate women's achievements
  - ✓ raise awareness about women's equality
  - ✓ lobby for accelerated gender parity
  - ✓ fundraise for female-focused charities

Sabar Tribe

Context

- With basic survival at stake, the vulnerable Sabar tribe of Lalgarh have little stomach for elections.

About

- The Sabar people are one of the **Adivasi of Munda ethnic group trib**e who live mainly in Odisha and West Bengal.

- During the colonial period, they were classed as one of **the 'criminal tribes' under Criminal Tribes Act 1871**, and suffer from social stigma and ostracism in modern times.
- **Also known as Saora**, the Sabar tribe finds mention in the Hindu epic Mahabharata.
- The **Sabar speak Bengali as their main language.**
- Sabar lack experience in agriculture, and rely on the forests for their livelihood.
- Their main sources of food are hunting and gathering in the forests.
- The Sabar people practice **Hinduism heavily mixed with animism.**
- Sabar belong to the **PVTG (Particularly vulnerable tribal group (PVTG)**

Particularly vulnerable tribal group (PVTG) (earlier: Primitive tribal group) is a government of India classification created with the purpose of enabling improvement in the conditions of certain communities with particularly low development indices.

During the **fourth Five Year Plan** a sub-category was created within Scheduled Tribes to identify groups that considered being at a lower level of development. This was created **based on the Dhebar Commission report** and other studies. This sub-category was named "Primitive tribal group".

Government of India follows the following criteria for identification of PVTGs.

- ✓ Pre-agricultural level of technology
- ✓ Low level of literacy
- ✓ Economic backwardness
- ✓ A declining or stagnant population.

Accordingly 75 PTVGs have been identified in the country. Among the 75 listed PVTG's the highest number are found in Odisha (13), followed by Andhra Pradesh (12).

Bir Chilarai Divas

Context

- 512th Bir Chilarai Divas would be observed all over Assam.

About

- To honor the courageous and heroic deeds of the Great General of Assam, Chilarai's Birth Anniversary is observed as Bir Chilarai Divas every year.

Bir Chilarai-The 'Kite Prince' of Assam

- Shukladhwaja or more popularly Bir Chilaray (1510-1571 AD) was a great general of the **Koch Royal Dynasty** of Assam.
- By his bravery and heroism, he played a crucial role in expanding the great empire of his elder brother, Maharaja Nara Narayan.

Koch Kingdom

- The Koch was a dynasty that ruled mainly the regions of what is now considered as Assam and Bengal.
- It is named after the Koch community that emerged as the dominant ruling house in the **Kamata kingdom** in 1257 CE. Kamata Kingdom is also sometimes called as **Kamarupa-Kamata.**
- The first of the Koch kings, Viswa Singha and then his sons, Nara Narayan as the subsequent king and Chilarai as the general, soon occupied the western portion of the erstwhile Kamarupa Kingdom as well as some regions of south Assam.
- The dynasty forked into two major branches that controlled Koch Bihar and Koch Hajo.
- Koch Bihar became a vassal of the Mughals, whereas Koch Hajo came under Ahom control and was subsequently absorbed.
- Koch Bihar became a princely state during British rule and was absorbed after Indian independence.
- The third branch of this dynasty at Khaspur disappeared into the Kachari kingdom.
- **Capital:** Kamatapura, Chikana
- **Common languages**: Rajbanshi, Assamese, Sanskrit (for religious and court usage)

Dandi March

Context

- Prime Minister Narendra Modi flagged off a commemorative 'Dandi March' on March 12 to launch the celebrations of the 75th year of Independence. He launched the **"Azadi Ka Amrit Mahotsav"** celebrations.

About

- The Dandi March or Salt March was part of Mahatma Gandhi's non-violent protest against the British monopoly on production of salt.
- Led by Gandhi, 78 people started the 24-day march on March 12 and reached Dandi on April 5, 1930.
- After making salt at Dandi, Gandhi headed to Dharasana Salt Works, 40 km south, but was arrested on May 5.

Note: To know more about Dandi March: Read Modern History Spectrum Book

Bhaona

Context

- More than five centuries after saint-reformer Srimanta Sankaradeva created Bhaona, a dramatic form of entertainment to convey spiritualism in the Vaishnav mould, the Congress in Assam has tweaked it for a political statement against the Citizenship (Amendment) Act and National Register of Citizens.

About Bhaona

- It is a traditional form of entertainment, with religious messages, prevalent is Assam, India.
- It is a creation of Mahapurusha Srimanta Sankardeva, written in the early sixteenth century.
- The plays of bhaona are popularly known as Ankiya Nats and their staging is known as bhaona.
- Bhaona is generally staged at xatras and namghars in Assam.
- There are some special characteristics of Bhaona like the plays, dialogues, costumes, ornaments, entry and foot-steps of the characters. These characteristics helps to differentiate Bhaona from other plays.
- The bhaonas are written in the Assamese and Brajavali languages.

Different characters

- A Sutradhar in Assamese Bhaona
- **Sutradhar or Sutradhari:** He is an integral part of bhaona; he recites slokas, sings, dances and explains in prose what is what at every stage of Bhaona.
- **Bhaoriya :** The actors performing characters as per script.
- **Gayan :** The singers.
- **Bayan :** They plays khol, Taal etc. from the beginning to the end of bhaona.

Types of Bhaona

- Baresahariya Bhaona
- Mukha Bhaona
- Boka Bhaona

Shigmotsav

Context

- With Covid-19 cases rising, Goa is set to see Shigmo celebrations toned down.

About

- Shigmo, or Shigmotsav, is the celebration of a **'rich, golden harvest of paddy'** by the tribal communities of Goa.
- Agricultural communities including the **Kunbis, Gawdas and Velips** celebrate the festival that also marks the onset of spring.
- The festival begins with Naman, the invocation of local folk deities on the village maand, or the village stage, to the beats of percussion instruments like **the ghumat, dhol, mhadle and tashe by men.**
- This is called the romta mell that moves from one village to

another.

- The celebration is replete with traditional, colourful costumes, mythological installations, painted faces and colourful costumes.
- Folk dances like **Ghodemodini** (a dance of equestrian warriors), **Gopha and Phugadi** are among the many performed by the participating communities.
- Float parades organized by government during these times attract tourists both domestic and international.

GEOGRAPHY

Nag River

Context

- The Nag River Pollution Abatement Project has been approved.
- It will be implemented by the **National River Conservation Directorate.**

The River

- The Nag River flows through the city of Nagpur in Maharashtra.
- The river originates in **Ambazari Lake, Lava hills near Wadi.**
- The river serves as drainage for Nagpur and as a result its ecosystem is heavily polluted by urban waste from the city.
- It is a **part of the Kanhan-Pench river system.**
- The confluence point of the Nag and Pioli rivers is near Pawangaon.
- The confluence point of Nag and Pora river is near Titur, and the confluence point of Nag and Kanhan River is near Sawangi village.

National River Conservation Directorate

- The National River Conservation Directorate (NRCD) is under the Ministry of Environment, Forests and Climate Change.
- It is implementing the Centrally Sponsored Schemes of National River Conservation Plan (NRCP) and National Plan for Conservation of Aquatic Ecosystems' (NPCA) for conservation of rivers, lakes and wetlands in the country.
- NRCD is only providing financial assistance under the National River Conservation Plan to the State Governments/ local bodies to set up infrastructure for pollution abatement of rivers in identified polluted river stretches.

Maitri Setu

Context

- Prime Minister Narendra Modi recently inaugurated 'Maitri Setu' between India and Bangladesh via video conferencing.

About

- The Maitri Setu also called The Gateway of Northeast, is an economically crucial bridge built over the Feni River to link with Tripura in India with Bangladesh.
- The construction of the 150-metre bridge between Sabroom and Ramgarh was announced in 2015.
- The bridge provides the only land link between India's eastern states and its western states other than through Assam.

Feni River

- Feni is a river in southeastern Bangladesh and Tripura.

- It is **a trans-boundary river** with an ongoing dispute about water rights.
- The Feni River originates in South Tripura district and flows through Sabroom town and then enters Bangladesh.
- Muhuri River, also called Little Feni, from Noakhali District joins it near its mouth. The river is navigable by small boats as far as Ramgarh, about 80 kilometres (50 mi) upstream.
- Feni drains in Bay of Bengal eventually.

Sanaa

Context

- Recently, a Saudi-led military coalition mounted airstrikes on Yemen's Houthi-controlled capital Sana'a after intercepting a flurry of drones and missiles launched by the Iran-backed rebels.

Sanaa

- Sanaa is the **capital of Yemen.**
- Although the seat of the Yemeni government moved to Aden, the former capital of South Yemen in the aftermath of the Houthi occupation.
- Aden was declared as the temporary capital in 2015.
- At an elevation of 7,500 ft it is also one of the highest capital cities in the world.
- It is next to the Sarawat Mountains considered to be the highest mountains in the country.
- The Old City of Sana'a, is a UNESCO World Heritage Site.

Bhadar Dam

Context

- The Central Water Commission's dam safety organization recommended replacing the sluices of the Bhadar Dam that was damaged in the 2015 flash flood.

About

- Bhadar dam has a gross storage capacity of 188.14 million cubic metres, and it is the second-highest dam in the Saurashtra region after the Shetrunji dam.
- Bhadar dam is on the Bhadar River. On the other hand, Shetrunji dam is on the Shetrunji River.

Bhadar River

- Bhadar River is a river in the Saurashtra peninsula, in Gujarat.
- It flows south from its origin through Jasdan, then turns south-west and generally west until it empties into the Arabian Sea near Porbandar.

Shetrunji River

- Shetrunji River is an eastward-flowing river in Gujarat.
- It rises northeast of the Gir Hills.
- It runs parallel to the Narmada Fault, passes north of Palitana's hills, then through a peninsula, reaches the Gulf of Cambay.
- The Palitana dam was built in 1959 across the river.

Sarasvati River

Context

- The Centre has reconstituted an advisory committee to chalk out a plan for studying the mythical Sarasvati river for the next two years.

Committee

- **Mandate:**
  - ✓ To define the Sarasvati river and its basin
  - ✓ identify special items of geotechnical nature for study of the Sarasvati basin

✓ to identify archaeological sites and areas for multidisciplinary research
✓ to assess their potential for development as centres of education and tourism".

- The committee would continue to be chaired by the **Culture Minister.**
- It will also include officials from the Culture, Tourism, Water Resources, Environment and Forest, Housing and Urban Affairs Ministries; representatives of the Indian Space Research Organisation; officials from the governments of Gujarat, Haryana and Rajasthan; and an ASI official.

About

- The Sarasvati River is a deified river mentioned in the Rig Veda and later Vedic and post-Vedic texts.
- The Nadistuti hymn in the Rigveda (10.75) mentions the Sarasvati between the Yamuna in the east and the Sutlej in the west.
- The river, which had originated from **Kapal tirith in the Himalayas in the west of Kailash, was** flowing southward to Mansarovar and then taking a turn towards west.
- Since the late 19th-century, scholars have proposed to identify the Rig Vedic Saraswati river with the Ghaggar-Hakra River system, which flows through northwestern India and eastern Pakistan, between the Yamuna and the Sutlej, and ends in the Thar desert.

> The Archaeological Survey of India is an Indian government agency attached to the Ministry of Culture that is responsible for archaeological research and the conservation and preservation of cultural monuments in the country. It was founded in 1861 by Alexander Cunningham who also became its first Director-General.

Eritrea

Context

- Eritrea will withdraw troops from Ethiopia almost five months after a conflict started in the Tigray region, Ethiopia's prime minister has said.

About

- Eritrea is a country in Eastern Africa, with its capital at Asmara.
- It is **bordered by Ethiopia in the south, Sudan in the west, and Djibouti in the southeast.**
- The northeastern and eastern parts of Eritrea have an extensive coastline along the Red Sea.
- The nation **includes the Dahlak Archipelago** and several of the **Hanish Islands.**
- Eritrea is a multi-ethnic country with nine recognized ethnic groups in its population. Eritrea has nine national languages.
- **Religion:** Christianity (63%), Islam (36%), Other (<1%)
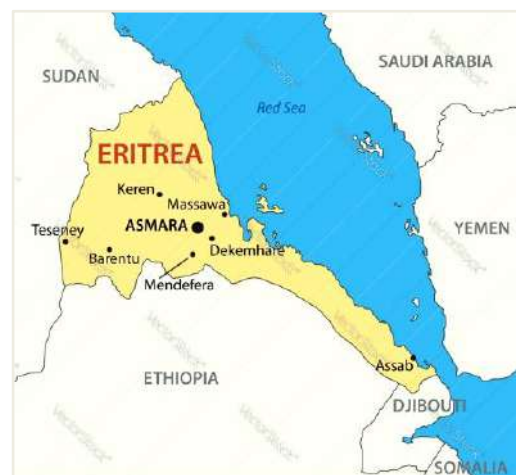
POLITY

Freedom in the World Report

Context

- Release of the Freedom in the world report by the freedom house.

Details

- Democracy and pluralism are under assault.
- The unchecked **brutality of autocratic regimes and the ethical decay of democratic powers are combining to make the world increasingly hostile to fresh demands** for better governance.
- The latest report noted that "the countries experiencing deterioration outnumbered those with improvements by the largest margin recorded since the negative trend began in 2006".

- Authoritarian actors grew bolder during 2020 as major democracies turned inward, contributing **to a 15th consecutive year of decline in global freedom.**
- Freedom House has **demoted India from "free" to "partly free",** and flagged the sustained erosion of civil liberties in the country.

About the report

- Published since 1973, 'Freedom in the World' assesses the condition of political rights and civil liberties around the world.
- It is an annual report.
- It monitors censorship, intimidation and violence against journalists, and public access to information to assess freedom in a country.

About Freedom house

- **Freedom House** is a U.S.-based, non-free, U.S. government-funded non-profit non-governmental organization (NGO).
- It conducts research and advocacy on democracy, political freedom, and human rights.
- Freedom House was founded in October 1941, and Wendell Willkie and Eleanor Roosevelt served as its first honorary chairpersons.

IN MANY COUNTRIES, PROMISE BELIED: REPORT

ALGERIA
Authorities stepped up their campaign against pro-democracy protesters

BELARUS
Alexander Lukashenko retained power, threw thousands in jail

INDIA
Government has cracked down on dissent, report says, driving the country into the 'partly free' category

VENEZUELA
Nicolas Maduro's regime has tried to undercut the legitimacy of the democratic opposition through fraudulent elections.

ETHIOPIA
Nascent democratic reforms were disrupted by disrupted by a civil conflict in the Tigray region, where terrible human rights abuses have been reported.

HONG KONG
Beijing imposed harsh new restrictions on the territory to smother the wave of street protests.

Central Bureau of Investigation (CBI) director

Context:

- A writ petition has been filed in the Supreme Court seeking the appointment of a regular CBI Director.

About Central Bureau of Investigation

Establishment

- The Central Bureau of Investigation (CBI) was set up in 1963 by a resolution of the Ministry of Home Affairs. Later, it was transferred to the Ministry of Personnel and now it enjoys the status of an attached office.
- The Special Police Establishment (which looked into vigilance cases) setup in 1941 was also merged with the CBI.
- The establishment of the CBI was **recommended by the Santhanam Committee on Prevention of Corruption (1962–**1964).
- The **CBI is not a statutory body. It derives** its powers from the Delhi Special Police Establishment Act, 1946.

Functions

- The CBI is the main investigating agency of the Central Government.
- It plays an important role in the prevention of corruption and maintaining integrity in administration.
- It also provides assistance to the Central Vigilance Commission and Lokpal.

Composition of CBI

- The CBI is headed by a Director.
- The Director of CBI has been provided security of two-year tenure in office by the CVC Act, 2003.
- The Central Government shall appoint the Director of CBI on the recommendation of a three-member committee consisting of the **Prime Minister as Chairperson, the Leader of Opposition in the Lok Sabha and the Chief Justice of India or Judge of the Supreme** Court nominated by him.

No Confidence Motion

Context

- The no-confidence motion moved by the Congress against the Bharatiya Janta Party-Jannayak Janta Party coalition government in Haryana was defeated by 55 votes to 32.

What is a no-confidence motion?

- A government can function only when it has **majority support in the Lok Sabha.**
- The party can remain in power when it **shows its strength through a floor test** which is primarily taken to know whether the executive enjoys the confidence of the legislature.
- If any member of the House feels that the **government in power does not have a majority then he/she can move a no-confidence motion**.
- If the motion is accepted, then the party in power has to **prove its majority in the House.**
- The member **need not give a reason for moving** the no-confidence motion.

Procedure for it

- A no-confidence motion can be **moved by any member of the House**. It can be moved only in the Lok Sabha and **not Rajya Sabha**.
- Rule 198 of the **Rules of Procedure and conduct of Lok Sabha** specifies the procedure for moving a no-confidence motion.
- The member has to give a **written notice of the motion before 10 am** which will be read out by the Speaker in the House.
- A **minimum of 50 members have to accept the motion** and accordingly, the **Speaker will announce the date for discussion** for the motion.
- The allotted date has to be **within 10 days from the day the motion is accepted**. Otherwise, the motion fails and the member who moved the motion will be informed about it.
- If the government is not able to prove its majority in the House, then the government of the day has to resign.

Appointment of Chief Justice of India

Context

- Chief Justice of India (CJI) Sharad A. Bobde has recommended **Justice N.V. Ramana, the senior-most judge of the Supreme Court**, as the next top judge.

Details

- Justice Ramana is now set to take over as the 48th Chief Justice of India from April 24.
- The Centre had recently asked Chief Justice Bobde, who is retiring on April 23, to initiate the transition process to the top judicial office.

About CJI

- The chief justice of India is the **chief judge of the Supreme Court** of India as well as the **highest-ranking officer** of the Indian federal judiciary.
- **Article 145 of the Constitution of India and the Supreme Court Rules of Procedure of 1966**: The chief justice allocates all work to the other judges who are bound to refer the matter back to him or her in any case where they require it to be looked into by a larger bench of more judges.

Appointment

- **Appointment:** The chief justice of India is appointed by the President of India on the basis of nomination by other judges of supreme-court.

Removal

- Removal [Article 124(4)]: A Judge of the Supreme Court shall not be removed from his office except by an order of the President passed after an address by each House of Parliament supported by a majority of the total membership of that House and by a majority of not less than two-thirds of the members of that House present and voting has been presented to the President in the same session for such removal on the ground of proved misbehaviour or incapacity.

GOVERNANCE

Overseas Citizen of India

Context

- People of Indian origin and the Indian diaspora having Overseas Citizens of India (OCI) cards will not have to carry their old, expired passports for travel to India, as was required earlier.

About OCI:

- Person of Indian origin are of certain categories who migrated from India and acquired citizenship of foreign country, other than Pakistan and Bangladesh, are eligible to be granted an OCI as long as their home countries allow dual citizenship in some form or the other under local laws.

Benefit of OCI Card

- Hassle free travel to their home motherland.
- They will bring economic value and benefit to Indian economy.
- Contribute to the development process.
- The OCI card provides overseas citizens of India permission to live and work in India for an indefinite period of time.

Benefits Not Included with OCI Card

- They do not get a passport.
- They do not have voting rights.
- They cannot be candidate for Lok sabha / Rajya sabha/legislative assembly/council.
- They cannot hold employment in GOI
- They cannot acquire agricultural land or plantation in India.

PIO V/s OCI

- OCI is exempted from registration with Indian Police authorities for any length of stay in India.
- A PIO card holder is required to register with local police authorities for any stay exceeding than 180 days in India on a single visit.
- OCI is entitled to a lifelong visa free travel to India. For PIO card holder it is limited to 15 years.

SOCIAL JUSTICE

Sugamya Bharat App

- Government has recently launched ―Sugamya Bharat App‖ and a handbook entitled ―Access – The Photo Digest‖ through video conference.
- This Crowdsourcing Mobile Application is a mean for sensitising and enhancing accessibility in the 3 pillars of the Accessible India Campaign i.e.
  - Built environment.
  - Transportation sector.
  - ICT ecosystem in India.
- The app provides for five main features, 4 of which are directly related to enhancing accessibility, while the fifth is a special feature meant only for Divyangjan for COVID related issues.
- The accessibility related features are:
  - Registration of complaints of inaccessibility across the 3 broad pillars of the Sugamya Bharat Abhiyaan.
  - **Positive feedback of examples and best practices worth emulating** being shared by people as jan-bhagidhari; Departmental updates.
  - **Guidelines and circulars related** to accessibility.
- It is a simple to use Mobile App with an easy registration process, requiring only 3 mandatory fields, namely, Name, Mobile number and Email-id.

Swayam Platform

Context

- Students may take up to 40% of the total courses in a semester in a programme through **Swayam (Study Webs of Active Learning for Young Aspiring Minds)**.

Swayam

- Swayam is the country's national Massive Open Online Course (MOOCs)
- SWAYAM has been developed cooperatively by MHRD (Ministry of Human Resource Development) and AICTE (All India Council for Technical Education) with the help of Microsoft and is equipped for facilitating 2,000 courses.
- SWAYAM operates MOOCs learning resources in different ways and structures. Learning in SWAYAM has four parts/quadrants: e-Tutorial, e-Content, discussion forums, assessment.

Swayam Prabha

- It is an education learning platform initiated by the Ministry of Human Resource Development (MHRD) available 24x7 through 34 DTH channels.
- This initiative provides an educational program on Television on multiple time zones.

About University Grant Commission

Introduction

- U.G.C was inaugurated by Maulana Abul Kalam Azad on December 28th 1953.
- Became a statutory body in November 1956.
- Six regional centres at Pune, Hyderabad, Bengaluru, Kolkata, Guwahati and Bhopal.

Role

- This is the national body for the coordination, determination and the maintenance of standards of university education. '
- UGC serves as a vital link between the union and state governments and the institutions of higher learning.
- Provides grants to the university and colleges.
- UGC also advice union and state governments on the measures necessary for the improvement of university education.
- It also forms regulation such as those on the minimum standards of instruction and qualification of teachers.

WHO report on Gender Violence

Context

- One in 3 women – about 736 million individuals – are subjected to physical or sexual violence by an intimate partner or sexual violence from a non-partner in their lifetimes.

Details

- This violence **starts early – 1 in 4 young women (aged 15-24 years)** who have been in a relationship will have already experienced violence by an intimate partner by the time they reach their mid-twenties.
- Violence **disproportionately affects women living in low- and lower-middle-income countries**.
- The regions of **Oceania, Southern Asia and Sub-Saharan Africa have the highest prevalence rates of intimate partner** violence among women aged 15-49.
- **Younger women are at highest risk** for recent violence. Among those who have been in a relationship, the highest rates (16%) of intimate partner violence in the past 12 months occurred among young women aged between 15 and 24.

About the report

- The report, 'Global, regional and national estimates for intimate partner violence against women and global and regional estimates for non-partner sexual violence against women' was prepared by WHO and the UNDP-UNFPA-UNICEF-WHO-World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP)for the United Nations Inter-Agency Working Group on Violence Against Women Estimation and Data.

- The report presents **data from the largest ever study of the prevalence of violence against women, conducted by WHO on behalf of a special working** group of the United Nations. Based on data from 2000 to 2018, it updates previous estimates released in 2013.
- The estimates presented in the **report are based on data from 161 countries and areas for intimate partner violence and 137 for non-partner sexual violence, obtained through** a comprehensive review of all available prevalence data from studies conducted between 2000 and 2018.

Janaushadhi Scheme

Context

- Urging people to **buy affordable medicines from Janaushadhi Kendras**, Prime Minister Narendra Modi inaugurated the **7,500th Janaushadhi Kendra** at NEIGRIHMS, Shillong.

About the scheme

- Pradhan Mantri Bharatiya Janaushadhi Pariyojana (PMBJP) is a campaign launched by the **Department of Pharmaceuticals**.
- It aims to provide **quality medicines at affordable prices** to the masses through special kendras known as Pradhan Mantri Bharatiya Janaushadhi Pariyojana Kendra.
- **Pradhan Mantri Bharatiya Janaushadhi Pariyojana Kendra** (PMBJPK) has been set up to provide generic drugs, which are available at lesser prices but are equivalent in quality and efficacy as expensive branded drugs.
- **BPPI (Bureau of Pharma Public Sector Undertakings of India)** has been established under the Department of Pharmaceuticals, Govt. of India, with the support of all the CPSUs for coordinating procurement, supply and marketing of generic drugs through Pradhan Mantri Bharatiya Janaushadhi Pariyojana Kendra.
- In addition to medicines and surgical items supplied by BPPI, Jan Aushadhi stores also sell allied medical products commonly sold in chemist shops so as to improve the viability of running the Jan Aushadhi store.
- OTC (Over-the-counter) products can be purchased by any individual without a prescription. A prescription from a registered medical practitioner is necessary for the purchase of scheduled drugs.

Opening of Jan Aushadhi Store

- State Governments or any organization / reputed NGOs / Trusts / Private hospitals / Charitable institutions / Doctors / Unemployed pharmacist/ individual entrepreneurs are eligible to apply for new Jan Aushadhi stores.

About BPPI (Bureau of Pharma Public Sector Undertakings of India)

- A Bureau of Pharma PSUs of India (BPPI) has been established on the 1st of December 2008 **comprising all the Pharma CPSUs under the Department of Pharmaceuticals.**
- The Bureau will **bring about effective collaboration and cooperation in furthering** the working and resources of these organizations.

Functions of it

- Co-ordinate marketing of the generic drugs through the Jan Aushadhi stores.
- Co-ordinate supply of medicines in the State from their own plants, other Pharma PSUs of Central & State Governments and Private Sector.
- Coordinate with Hospitals in preparation of formulary.
- Monitor proper running of Jan Aushadhi stores with the help of other CPSUs.
- Provide medicines as per rates decided in the joint Forum/Core Committee.
- Monitor activities of the Jan Aushadhi stores in the areas allocated to them.

HEALTH

Pradhan MantriSwasthyaSurakshaNidhi (PMSSN)

Why in News

- Government has **approved the Pradhan MantriSwasthyaSurakshaNidhi (PMSSN**) as a single non-lapsable reserve fund for share of Health from the proceeds of Health and Education Cess levied under Section 136-b of Finance Act, 2007.

Salient features

- A non-lapsable reserve fund for Health in the Public Account;
- Proceeds of share of health in the Health and Education Cess will be credited into PMSSN;
- Accruals into the PMSSN will be utilized for the flagship schemes of the Ministry of Health & Family Welfare namely,
    o Ayushman Bharat - Pradhan Mantri Jan ArogyaYojana (AB-PMJAY)
    o Ayushman Bharat - Health and Wellness Centres (AB-HWCs)
    o National Health Mission
- Emergency & disaster preparedness and responses during health emergencies
- Any future programme/scheme that targets to achieve progress towards SDGs and the targets set out in the National Health Policy (NHP) 2017.
- Administration and maintenance of the PMSSN is entrusted to Ministry of Health & Family Welfare; and
- In any financial year, the expenditure on such schemes of the MoHFW would be initially incurred from the PMSSN and thereafter, from Gross Budgetary Support (GBS).

Benefits

- The major benefit will be: enhanced access to universal & affordable health care through availability of earmarked resources, while ensuring that the amount does not lapse at the end of financial year.

UK Variant of Covid

Context

- According to a study by scientists at the National Institute of Virology, Pune, the **UK variant (B.1.1.7) of the coronavirus** did not appear to be more transmissible than the variant of the virus most common in India.

Details

- The study was based on tests on Syrian hamsters, a commonly employed laboratory animal, and is yet to be formally peer-reviewed.
- 1.1.7, **the variant of the coronavirus has mutations that enable it to spread more readily among people and was** linked to a sharp spike in cases in the United Kingdom.
- Health authorities in Punjab said about 80% of the cases of recent tranche of coronavirus positive samples were of the B.1.1.7 variety.
- To establish how quickly the strain spread, **NIV scientists infected two groups of nine hamsters, with one group given the B.1.1.7 and the other the dominant SARS-CoV-2 strain** in India.

National Institute of Virology

- The National Institute of Virology, Pune is an Indian virology research institute, and one of the translational science cells part of **Indian Council of Medical Research (ICMR)**.
- It was previously known as **'Virus Research Center'** and was founded in collaboration with the **Rockefeller Foundation**.
- It has been designated as a **WHO H5** reference laboratory for **SE Asia region**.
- The Virus Research Center (VRC), Pune came into existence in **1952** under the joint auspices of the **ICMR** and the **Rockefeller Foundation**, as a part of the global programme of investigations on the arthropod-borne group of viruses.

Origin of the Coronavirus as per WHO

News

- A joint WHO-China study on the origins of COVID-19 says that **transmission of the virus from bats to humans** through **another animal** is the most likely scenario .

Details

- The report, which is expected to be made public soon, is being closely watched as it could help scientists prevent future pandemics — but it's also **extremely sensitive since China bristles at any suggestion** that it is to blame for the current one.
- The report is based largely on a visit by a WHO team of international experts to Wuhan, the Chinese city where COVID-19 was first detected.
- The researchers listed **four scenarios in order of likelihood** for the emergence of the new coronavirus.
- Topping the list was transmission from bats through another animal, which they said was likely to be very likely.
- The draft report is inconclusive on whether the outbreak started at a Wuhan seafood market.

About WHO

- World Health Organization is established in 7th April 1948.
- It is a **specialized, non-political, health agency of United Nation with headquarter of Geneva, Switzerlan**d.
- It is **responsible for providing leadership on global health matt**ers.
- Every year 7th April, is celebrated as "World Health Day".

World Health Assembly

- It is the Supreme governing body of the organization.
- It meets annually generally in the month of May and in headquarter Geneva.
- Main functions of assembly are:
- To determine international health policy and program
- To review the work of past year.
- To approve the budget.
- To elect member state to designate a person to serve for 3 year on executive board.

Double Mutant Covid 19 Virus

Context

- A new double mutant coronavirus variant has been detected in several Indian states, triggering fear that India's "second wave" could be more dangerous than the first.

What is a double mutant variant?

- An analysis of samples collected from the western state of Maharashtra shows a rise in E484Q and L452R mutations since December.
- Double mutation happens when two mutated variants of a virus come together to form a third variant.
- The L452R variant was first found in the US, whereas the E484Q variant is indigenous.
- This double mutant could be a major reason behind the upsurge in Covid cases, but we need to wait for test results to determine if it is the case.

Concerns about possible reinfections

- Scientists say the emergence of Covid variants in India was not unexpected.
- Health experts worry that the double mutation could allow the virus to escape the body's immune system, making itself more resistant to antibodies.
- There is also a possibility that it can reinfect patients who have already recovered from Covid-19.

- The virus might also be able to defend itself against the vaccines currently in use.

Vaccine to UNPKF

- United Nations Peacekeeping Force (UNPKF) worldwide has been provided 2 Lakh Covid vaccine by India..
- It was AstraZeneca Covishield vaccines produced by the Serum Institute of India (SII) in Pune.

About UN Peacekeeping

- It brings together the General Assembly, the Security Council, the Secretariat, troop and police contributors and the host governments in a combined effort to maintain international peace and security.
- UN peacekeepers provide security and the political and peacebuilding support to help countries make the difficult, early transition from conflict to peace.
- UN Peacekeeping is guided by three basic principles:
  o Consent of the parties;
  o Impartiality;
  o Non-use of force except in self-defence and defence of the mandate.

India TB Report

Context

- According to the India TB report released by the Health Ministry in 2020, there were 18.05 tuberculosis notifications, which was a **fall of 24% from 2019 due to the disruptions** caused by the pandemic.

Details

- The report said between January and February 2020, the notifications were on an upward trajectory, with 6% more cases reported in the same period in 2019.
- As a result of the lockdown, **notifications in the public sector fell by 38% and 44% in the private sector** in April and May.
- As per the report over 95% of all cases reported were initiated on treatment in 2020 and the treatment success rate for patients reported in 2019 was 82% (83% among patients in the public sector and 79% in the private).
- The report said 20,892 (42%) of patients were initiated on a shorter MDR-TB regimen at the time of diagnosis.

About TB in India

- India accounts for about a quarter of the global TB burden. In 2019 the estimated TB incidence was 2,640,000.
- In 2019 an estimated 9,700 HIV positive people died due to TB disease , and an estimated 440,000 HIV negative people died. 2. There are some more TB statistics for India.
- India is also the country with the second highest number (after South Africa) of estimated HIV associated TB cases.
- There are many reasons why people in India seek care from the private sector. These include:
  o poor knowledge of TB;
  o poor knowledge of services available through the national public program;
  o the convenience of services in the private sector;
  o a desire for confidentiality;
  o a desire for personalized care.

TB Facts

- Tuberculosis (TB) is caused by a bacterium called **Mycobacterium tuberculosis**.
- The bacteria **usually attack the lungs**, but TB bacteria can attack any part of the body such as the **kidney, spine, and brain**.
- Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: **latent TB infection (LTBI)** and **TB disease**.
- If not treated properly, TB disease can be **fatal**.

PM AtmaNirbharSwasth Bharat Yojana

Context

- Scheme was announced during Budget 2021.

Objectives under the Scheme

- Developing capacities of health systems and institutions across the continuum of care at all levels viz. primary, secondary and tertiary
- Preparing health systems in responding effectively to the current and future pandemics/disasters.
- The PMASBY targets to build an IT enabled disease surveillance system by developing a network of surveillance laboratories at block, district, regional and national levels, in Metropolitan areas & strengthening health units at the Points of Entry, for effectively detecting, investigating, preventing and combating Public Health Emergencies and Disease Outbreaks.
- Increased investments are also targeted to support research on COVID-19 and other infectious diseases, including biomedical research to generate evidence to inform short-term and medium-term response to COVID-19 like pandemics
- Develop core capacity to deliver the One Health Approach to prevent, detect, and respond to infectious disease outbreaks in animals and humans.

Major Interventions under the Scheme

- Support for 17,788 rural Health and Wellness Centres in 10 High Focus States
- Establishing 11,024 urban Health and Wellness Centres in all the States.
- Setting up of Integrated Public Health Labs in all districts and 3382 Block Public Health Units in11 High Focus states;
- Establishing Critical Care Hospital Blocks in 602 districts and 12 Central Institutions;
- Strengthening of the National Centre for Disease Control (NCDC), its 5 regional branches and 20 metropolitan health surveillance units;
- Expansion of the Integrated Health Information Portal to all States/UTs to connect all public health labs;
- Operationalisation of 17 new Public Health Units and strengthening of 33 existing Public Health Units at Points of Entry, that is at 32 Airports, 11 Seaports and 7 landcrossings;
- Setting up of 15 Health Emergency Operation Centres and 2 mobile hospitals; and
- Setting up of a national institution for One Health, a Regional Research Platform for WHO South East Asia Region, 9 Bio-Safety Level III laboratories and 4 regionalNational Institutes for Virology.

POLICY

Pradhan Mantri Awas Yojana

Context

- Less than 6% of houses sanctioned under the Centre's flagship rural housing scheme in 2020-21 have reached completion so far this year, with COVID-19 stalling progress.
- However, some States such as Odisha and Jharkhand used the scheme to provide employment opportunities for migrant workers who returned to their villages during the crisis.

About Housing for all

- The mission started in 2015 and will be attained in seven years i.e., during 2015 – 2022.
- Pradhan Mantri Awas Yojna will bring a 'Pucca house' for every family in urban cities with water connection, toilet facilities, 24x7 electricity supply and complete access.

Objective

- Affordable homes with water connection, toilet facilities, 24x7 electricity supply and complete access.
- 2 crore houses to be built across nation's length and breadth
- Targeting the Lower Income Groups (LIG) and Economically Weaker Section of our society (EWS), basically the urban poor by the year 2022.

- 2 million non-slum urban poor households are proposed to be covered under the Mission.

Implementation

- will work by providing central assistance to Urban Local Bodies (ULBs) as well as other employed agencies through States/UTs for:
- Building onsite Rehabilitation of the existing slum- inhabitants by commencing private participation for using poor land area as a resource.
- By providing Credit Linked Subsidy
- Initiating Affordable Housing in Partnership
- Granting Subsidy to the beneficiary for individual house construction/enhancement.

Unique Land Parcel Identification Number (ULPIN) scheme

Context

- The Centre plans to issue a **14-digit identification** number to every plot of land in the country within a year.
- It will subsequently **integrate its land records database with revenue court records** and **bank record**s, as well as **Aadhaar numbers on a voluntary basis**.

Unique Land Parcel Identification Number (ULPIN) scheme

- It has been launched in 10 States this year and will be rolled out across the country by March 2022.
- It is described as **"the Aadhaar for land"** — a number that would uniquely identify every surveyed parcel of land and prevent land fraud, especially in rural India, where land records are outdated and disputed.
- The identification will be based on the **longitude and latitude of the land parcel**, and is dependent on **detailed surveys and geo-referenced cadastral maps**.

Need for the Scheme

- About 70 percent of land in developing nations is undocumented.
- It has left more than a quarter of the world's population vulnerable to disputes, evictions, and encroachment.

Benefits

- It will help in tackling the corruption and Land disputes.
- It is part of a push to digitalize India's land records that began in 2008 and was scheduled to be completed by the end of March this year.
- It will empower ordinary people by allowing them to access information online.
- It will lead to greater efficiency in land administration and increased prosperity.

Challenges

- It could exclude rural and indigenous people who do not hold titles, and further marginalize those without internet access.
- Issue also arises from frequent cases of mismatched IDs, or a lack of registration in the system.
- Land has not been surveyed in last one century and has gone into bifurcation creating issues of ownerships.
- Without addressing legacy issues can seriously undermine citizen trust and may lead to more disputes.

Way Forward

- Government must undertake a detailed survey of the existing land records.
- Community participation must be sought while assigning the digital ID.

Anti –Defection Law for the Nominated Member

Context

- Nominated MP Swapan Dasgupta resigned from Rajya Sabha, a year before completion of his term under anti-defection law because of his contest in West Bengal election.

Nominated members

- During the making of the Constitution, members of the Constituent Assembly felt that Rajya Sabha should have members who **might not win elections but will bring knowledge and expertise to discussions** in the Upper House.

- Nominating members to Rajya Sabha gives an **opportunity to seasoned people who may not be in the thickest of the political fray**, but who might be willing to participate in the debate with an amount of learning.
- It led to Rajya Sabha having **12 nominated members** from different walks of life.
- The broad criterion for their nomination is that **they should have distinguished themselves in fields like literature, science, art, and social service**.
- The President nominates such individuals as **recommended by the Centre**.
- Nominated members have the **same rights and privileges as elected members**, with one notable difference — they cannot vote in the election of the President.

Anti-Defection Law

- It defined three grounds of disqualification of MLAs
- giving up party membership
- going against party whip
- Abstaining from voting.
- The Tenth Schedule, which is popularly known as the Anti-defection Law, was added to the Constitution through the 52nd Constitutional Amendment Act, 1985.
- An independent candidate joins the party after the election.
- A nominated member joins a party six months after becoming an MP/MLA.
- It allowed the formation of a new party or "merger" with other political party if not less than two-thirds of the party's members commit to it.
- The 91st Amendment also barred the appointment of defectors as Ministers until their disqualification period is over or they are re-elected.

Changing/joining a party

- Over the years, courts have decided that changing a party or joining another does not have to be a formal act. It can also be **interpreted through an MP's actions**, on a case-by-case basis.
- In the past, actions like **campaigning for another political party, joining a delegation of elected representatives from another political party to give a representation to the Governor, appearing in political rallies or fighting an election** on the symbol of a political party have been held to constitute defection.

State Election Commissioner

Context

- The Supreme Court held that **independent persons and not bureaucrats** should be appointed State Election Commissioners.

Supreme Court's Stand

- It said that giving government employees the additional charge of State Election Commissioners is a **mockery of the Constitution**.
- It directed that the States should **appoint independent persons as Election Commissioners** all along the length and breadth of the country.
- The independence of Election Commissions **cannot be compromised at any cost**.
- The judgment **criticized the Goa government** for giving its **Law Secretary the additional charge of State Election Commissioner**.
- Under the constitutional mandate, it is the duty of the State to not interfere with the functioning of the State Election Commission.

About State election commission

- Article 243 K:The superintendence, direction and control of the preparation of electoral rolls for, and the conduct of, all elections to the Panchayats is vested in a State Election Commission consisting of a State Election Commissioner to be appointed by the Governor.
- It was brought by 73rd and 74th amendment to conduct the elections for local bodies.
- It is a constitutional body.

- The electoral rolls for local bodies' elections are prepared according to the rules under the provisions of related Acts, guidelines and instructions given by the State Election Commission.
- Terms and conditions of the services is determined by the governor as per the law made by the state legislature.
- Article 243 k (2): the State Election Commissioner shall not be removed from his office except in like manner and on the like ground as a Judge of a High Court and the conditions of service of the State Election Commissioner shall not be varied to his disadvantage after his appointment.

INTERNATIONAL RELATIONS

West Container Terminal (WCT)

Context

- Sri Lanka will **develop the West Container Terminal (WCT) at the Colombo Port** along with India and Japan.

Background

- The decision comes a month after the Rajapaksa government ejected the two partners from a 2019 tripartite agreement to jointly develop the East Container Terminal (ECT), citing resistance to foreign involvement.
- Both India and Japan had expressed displeasure about Colombo "unilaterally" pulling out of the 2019 agreement.

ECT Vs WCT

- In the ECT project, the Sri Lanka Ports Authority (SLPA) was to hold a majority 51%, but in the WCT proposal, India and Japan will be accorded 85% stake.
- Similar approach is the case in the nearby Colombo International Container Terminal (CICT), where China Merchants Port Holdings Company Limited holds 85%, the government said.
- The West Container Terminal has to be **built from scratch** requiring a much higher investment.

- The WCT is **adjacent to the China-run CICT** and just a couple of kilometres away from the **China-backed Port City** being built on reclaimed land, making it a strategically desirable spot for India, whose concerns over China's presence in Sri Lanka are well known.
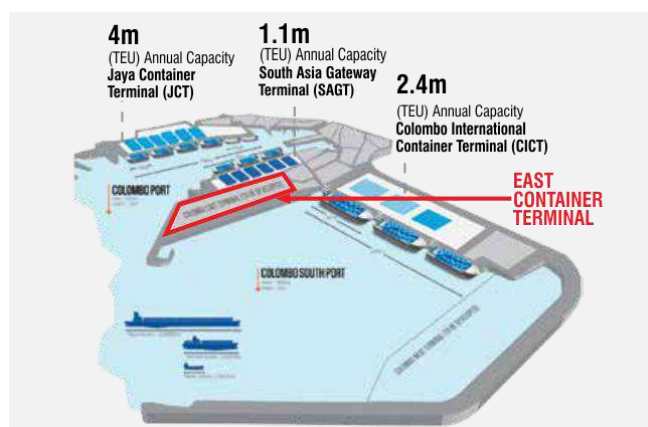
Dams on Brahmaputra

Context

- A draft of **China's new Five-Year Plan (2021-2025)**, which is set to be formally approved has given the green light for the **first dams to be built on the lower reaches of Yarlung Zangbo river** (Brahmaputra is known in Tibet) before it flows into India.

Details

- The draft outline of the **new Five-Year Plan (FYP) for 2025** and long range objectives through the year **2035**, submitted before the **National People's Congress (NPC)**.
- The project is also listed along with the **Sichuan-Tibet railway** and the **national water network.**

- In 2015 China operationalised its **first hydropower project at Zangmu in Tibet**, while three other dams at **Dagu, Jiexu and Jiacha** are being developed, all on the upper and middle reaches of the river.

India's Concern

- India has expressed concerns to China over the **four planned dams on the upper and middle reaches**, though Indian officials have said the dams are **not likely to greatly impact the quantity of the Brahmaputra's flows** in India because they are only storing water for power generation, and the **Brahmaputra is not entirely dependent on upstream flows** with an estimated 35% of its basin in India.

- Dams on the **lower reaches** and at the Great Bend would, however, **raise fresh concerns** because of the location across the **border from Arunachal Pradesh** and the potential impact downstream.

India, Japan Space Ties

Context

- Indian and Japanese space agencies reviewed **cooperation in earth observation, lunar cooperation and satellite navigation**, and also **agreed to explore opportunities** for cooperation in "space situational awareness and professional exchange programme".

Details

- Both agencies signed an Implementing Arrangement for collaborative activities on **rice crop area and air quality monitoring using satellite data.**

- India and Japan are already working on a **joint lunar polar exploration (LUPEX) mission** and the two space agencies have been working on the mission that **aims to send a lander and rover to the Moon's south pole around 2024**.

Other collaborations

- India and Italy decided to explore opportunities in earth observation, space science and robotic and human exploration.

- India and Australia signed an amendment to the MoU which will build on the Comprehensive Strategic Partnership. Both countries are also in discussions for Australia to host vital tracking infrastructure to support the Gaganyaan manned space flight mission.

China Parliament 5-year plan

Context

- China formally approved the outline of its 14th five-year plan (2021-25), which highlights a number of key strategic projects to be pursued as a priority.

Details

- The draft outline of the five-year plan (FYP) and objectives through the **year 2035 were passed by the National People's Congress**, the ceremonial legislature, as it closed its six-day annual session.

1. **Hydropower:**
- Among the key projects is the **building of a hydropower base** on the lower reaches of the Yarlung Zangbo, which refers to the sections of the river in Tibet just before it enters India in Arunachal Pradesh.
- While four dams have been approved on the upper and middle reaches, this is the **first project in the lower reaches of the rive**r.

2. **The Sichuan-Tibet Railway**:
- The FYP highlighted the railway from **Ya'an in Sichuan to Nyingchi in Tibet** as a key infrastructure project. It also called to advance the preparatory work for building a railway line from **Xigaze in Tibet to Gyirong along the Tibet-Nepal border**, which is part of an already agreed plan to build a cross-border railway link connecting China and Nepal.
  - The rail from Ya'an to Nyingchi in Tibet, which **lies just across from Arunachal Pradesh**, is the first segment of a line that will **eventually run to Lhasa** and is the **second major rail link from China's hinterland to Tibet**.
- The FYP also emphasised opening up access to key border highways, including the strategically important **G219 national highway** that runs along the **entire length of the India-China border in Xinjiang and Tibet.**

3. **High-tech industries:**
- Beyond the strategic infrastructure projects, the broader goal of the FYP and the 2035 outline emphasised establishing **China's self-sufficiency in key high-tech industries**.
- While the FYP for the first time **did not outline a growth target**, it listed an annual target to increase R&D spending "**by more than 7% per year".**

Hong Kong's poll system

Context
- China passed sweeping changes for Hong Kong's electoral system that will give Beijing-appointed politicians a greater say in running the Special Administrative Region (SAR).

Details
- It aims to give Beijing-appointed politicians greater power in running the HKSAR's politics, through a newly expanded Election Committee of 1,500 members.
- The move was to ensure that the electoral system should conform to the policy of 'one country, two systems'.
- Currently, only half of the 70 members of Hong Kong's Legislative Council (LegCo) are directly elected and the rest are nominated.
- With this change, the number of LegCo members will be increased to 90, with the additional members also nominated, thereby reducing the share of elected representatives.
- The new electoral system is the second significant change in the administration of the HKSAR since the 2019 protests, with a national security law passed last year that lists penalties for "secession" and "subversion".

UK's Turing Scheme

Context
- The UK launched its own replacement called the Turing scheme to enable UK students to study abroad after it left the European Union's flagship Erasmus scholarship programme after Brexit.
- Named after the celebrated English mathematician and codebreaker Alan Turing, the scheme will enable schools, colleges and universities in the UK to **apply for government funding to allow students to study and work across the globe**, including in India.

What is the UK's Turing Scheme for students?
- The scheme starts in 2021/22, and would enable up to 35,000 students from across the country to study or work across the world from September this year.
- Under the programme, after schools and universities successfully apply for funding for exchanges, university study and work placements, they can invite their students to apply for individual fundings.

- The British government has said that the scheme is aimed towards ensuring social mobility, and targets students from disadvantaged backgrounds and areas from where not many could benefit under the previous Erasmus+ scheme.

How will the scheme impact India?

- The UK's Department for Education (DfE) has confirmed that India, already a top source of international students to the UK, could be among the leading list of countries with which UK universities seek to strike student exchange projects.

Afghan Peace Meet

Context

- Russia hosted a peace conference for Afghanistan, bringing together government representatives and their Taliban adversaries along with international observers in a bid to help jump-start the country's stalled peace process.

Details

- The one-day gathering is the **first of three planned international conferences** ahead of a May 1 deadline for the final withdrawal of U.S. and NATO troops from the country, a date fixed under a year-old agreement between the U.S. and the Taliban.
- Moscow's attempt at mediation comes as talks in Doha between the Afghan government and the Taliban have stalled.
  - Washington and Kabul have been pressing for a ceasefire while the Taliban say they will negotiate it as part of peace talks with the Afghan government.
- The Moscow conference is attended by U.S. peace envoy, head of Afghanistan's National Reconciliation Council, and Taliban co-founder Mullah Abdul Ghani Baradar. Representatives of **Pakistan, Iran, and China** are also participating.

Marib

Context

- Yemen's Iran-backed Houthi rebels have made major advances on **Marib city** after seizing a strategic mountain in clashes that caused dozens of casualties on both sides.

Details

- The Houthis and the internationally recognised government have been locked in a power struggle since 2014, when the rebels seized control of the Yemeni capital **Sanaa**.
- Since last month, the rebels have been **pushing to seize Marib**, the **government's last northern stronghold** and the **capital of an oil-rich region**.
- The Houthi rebels took control of **Mount Hilan** overlooking the city.

Source: Sana'a Centre for Strategic Studies, Apr 2020

Suez Canal

Context

- The Suez Canal, a critical shipping artery that **connects the Mediterranean and Red Seas through Egypt,** has been blocked after a large cargo ship ran aground while passing through, bringing traffic on the busy trade route to a halt.

Details

- Tug boats worked to free a giant container ship stuck in the Suez Canal after it veered off course in a sandstorm, creating huge tailbacks on one of the world's busiest trade routes.
- Egypt's Suez Canal Authority (SCA) was working to refloat the Taiwan-run but Panama-flagged **MV Ever Given**, a 400-metre-long and 59-metre wide vessel, which was lodged at an angle across the waterway.
- Egypt, which heavily depends on revenues from the canal, is now diverting ships to an older channel to minimise disruption to global trade.

About Suez Canal

- A human-made waterway, the Suez Canal is one of the world's most heavily used shipping lanes, carrying over 12% of world trade by volume.
- Built in 1869, it provides a major shortcut for ships moving between Europe and Asia, who before its construction had to sail around Africa to complete the same journey.

Heart of Asia conference

Context

- External Affairs Minister S. Jaishankar said India supports the Intra-Afghan Negotiations (IAN), in a rare direct reference to the Taliban at the 9th Heart of Asia conference in Tajikistan.

Details

- Mr. Jaishankar attended the meet along with Foreign Ministers of 15 countries, including Afghanistan, Pakistan, Turkey, Iran, China, Russia, Saudi Arabia and Central Asian states.
- India has not in the past referred directly to the Taliban, and the government has not opened any public engagement with the militant group.

About Heart of Asia

- The Heart of Asia-Istanbul Process (HoA-IP) was founded on November 2nd, 2011 in **Istanbul, Turkey**.
- The Heart of Asia provides a platform for **sincere and results-oriented regional cooperation** by placing **Afghanistan at its center**, in recognition of the fact that a secure and stable Afghanistan is vital to the prosperity of the Heart of Asia region.
- This platform was established to address the **shared challenges and interests of Afghanistan** and its neighbors and regional partners.
- The Heart of Asia comprises 15 participating countries, 17 supporting countries, and 12 supporting regional and international organizations.

OCI card

Context

- People of Indian origin and the Indian diaspora having Overseas Citizens of India (OCI) cards are now not required to carry their old, expired passports for travel to India.

Details

- The Overseas Citizens of India or OCI card is issued to people of Indian origin globally which gives them **almost all the privileges of an Indian national except for the right to vote**, government service and buying agricultural land.
- The OCI card gives them a **visa free travel to India**.

About Overseas Citizenship of India

- Overseas Citizenship of India (OCI) is a form of permanent residency available to people of Indian origin and their spouses which allows them to live and work in India indefinitely.
- Despite the name, OCI status is not citizenship and does not grant the right to vote in Indian elections or hold public office.
- The Indian government can revoke OCI status in a wide variety of circumstances.
- The OCI scheme was introduced by The Citizenship (Amendment) Act, 2005 in response to demands for dual citizenship by the Indian diaspora.
- It provides Overseas citizens many of the rights available to resident citizens. However, in a notification issued in March 2021, the government of India has dramatically curtailed those rights.
- OCI status is not available to anyone who has ever been a Pakistani or Bangladeshi citizen, or who is a child, grandchild, or great-grandchild of such a person.

Xinjiang Uyghur Autonomous Region

Context

- China's Ambassador to the EU warned against imposing sanctions on Beijing over its actions in the Xinjiang region, as the bloc decides how to respond to the crackdown on the Uighur minority.

Details

- The EU is currently drawing up plans to expand the bloc's global human rights sanctions regime after sanctioning four Russian officials over the jailing of Kremlin critic Alexei Navalny.
- European diplomats said the bloc's 27 Foreign Ministers are expected to agree at a meeting on Monday to add a small number of individuals or entities in China to the blacklist over the treatment of the Uighurs and other Muslim minorities.

Who are the Uighurs?

- There are about 12 million Uighurs, mostly Muslim, living in **north-western China** in the region of **Xinjiang**, officially known as the **Xinjiang Uyghur Autonomous Region (XUAR)**.
- The Uighurs speak their own language, similar to **Turkish**, and see themselves as <u>culturally and ethnically close to Central Asian nations</u>.
- They make up **less than half of the Xinjiang population**.
- In recent decades, there's been a **mass migration of Han Chinese** (China's ethnic majority) to Xinjiang, and the **Uighurs feel their culture and livelihoods are under threat**.

Uighur population in Xinjiang
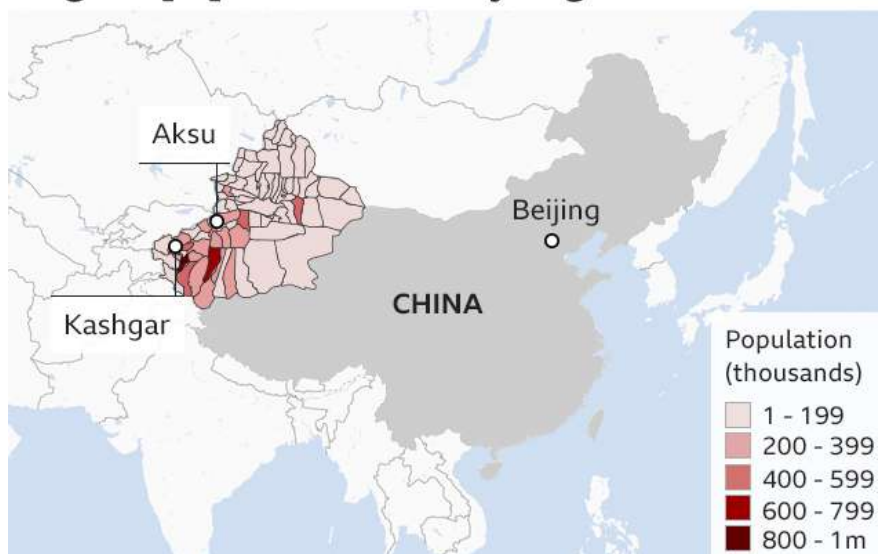
Xinjiang

- Xinjiang lies in the north-west of China and is the country's biggest region.

- Like Tibet, it is autonomous, meaning - in theory - it has some powers of self-governance.
- But in practice, both face major restrictions by the central government.
- It is a mostly desert region, producing about a fifth of the world's cotton.
- It is also rich in oil and natural gas and because of its proximity to Central Asia and Europe is seen by Beijing as an important trade link.
- In the early 20th Century, the Uighurs briefly declared independence, but the region was brought under the complete control of mainland China's new Communist government in 1949.

Chin communities

Context

- Mizoram Chief Minister Zoramthanga held a virtual meeting with Myanmar Foreign Minister-in-exile Zin Mar Aung despite the Centre's reluctance to accommodate people fleeing Myanmar in light of the recent military coup and the crackdown on protesters.

Background

- Mizoram has been reluctant to send back Myanmarese and sought that they be provided political asylum by the Centre.
- The Myanmar areas bordering Mizoram are **inhabited by Chin communities** who are ethnically Mizo brethren with close contact throughout all these years even before India became independent.

Chin communities

- The **Chin Hills**, or the **Indo-Chin hill ranges** as they are often called, are a mountainous region in **north-western Myanmar**.
- At an elevation of 2100-3000 metres, this heavily forested mountain region was the **home of numerous tribes that fall under the Zo umbrella**.
- The Zo people include all the tribes that come under the **Chin-Kuki-Mizo ethnic group** spread across Myanmar, India and Bangladesh including a host of tribes, sub-tribes and clans such as **Chin, Kuki, Mizo, Zomi, Paitei, Hmar, Lushei, Ralte, Pawi, Lai, Mara, Gangte, Thadou** etc.
- Believed to have originated in China, the tribes **migrated through Tibet to settle in Myanmar**, and speak a group of the **Tibeto-Burman languages.**

Bond between the Chin people in India and Myanmar

- While they are separated by a **510-km India-Myanmar border**, they consider themselves "**one people''** despite past conflicts: the Indo-Chin people.
- Besides the **shared ethnicity**, what binds these two peoples together is a shared religion. Mizoram is **predominantly Christian**, as are the Chin people of Buddhist-majority Myanmar.
- Mizoram officials refer to the refugees' status as a **Christian minority seeking asylum** for them, and also the fear of persecution by the junta.
- **Rih Dil in Chin state**, Myanmar, is a **cultural and spiritual lake for the Mizos**, deeply revered in folklore, shaping pre-Christian belief of traditional Mizo views of life after death.

India's policy on asylum seekers

- India is not a signatory to the 1951 United Nations Convention and 1967 Protocol Relating to the Status of Refugees, and it does not currently have a national law on refugees.
- In 2011, the Centre circulated to all states and Union Territories a Standard Operating Procedure to deal with foreign nationals who claimed to be refugees.
- An illegal immigrant can be a foreign national who enters India on valid travel documents and stays beyond their validity, or a foreign national who enters without valid travel documents.

Permanent Indus Commission

Context

- After a gap of more than two and half years Indian and Pakistani delegations on Monday began the **116th Meeting of the Permanent Indus Commission**. The meeting which coincided with the **National Day of Pakistan** is being viewed as part of the broader process of normalisation of bilateral ties between the two neighbours.

Details

- The two-day meeting of the Commission is being led on the Indian side by Indus Water Commissioner Pradeep Kumar Saxena.
- The positive backdrop of the talks between the two delegations has indicated that the **interaction is likely supported by the reported back channel talks** that are taking place between India and Pakistan.

About Permanent Indus Commission

- The Permanent Indus Commission (PIC) is a bilateral commission consisting of officials from India and Pakistan, created to **implement and manage the goals and objectives** and **outlines of the Indus Waters Treaty**.

Indus water treaty 1960

- The Indus Waters Treaty is a water-distribution treaty between India and Pakistan, brokered by the **World Bank**, to **use the water available in the Indus River and its tributaries**.
- The Indus Waters Treaty (IWT) was signed in **Karachi on 19 September 1960** by Indian Prime Minister Jawaharlal Nehru and Pakistani President Ayub Khan.
- The Treaty gives control over the waters of the **three "eastern rivers" — the Beas, Ravi and Sutlej** with a mean annual flow of **33 million acre-feet (MAF)** — to India, while control over the waters of the three **"western rivers" — the Indus, Chenab and Jhelum** with a mean annual flow of **80 MAF** — to Pakistan.
- India was allocated about 20% of the total water carried by the Indus system while Pakistan was allocated the remainder.
- The treaty allows India to use the western river waters for **limited irrigation use and unlimited non-consumptive** use for such applications as power generation, navigation, floating of property, fish culture, etc.

India abstains from resolution on Sri Lanka

Context

- India abstained from a crucial vote on Sri Lanka's rights record at the United Nations Human Rights Council in Geneva.

Details

- The resolution on 'Promoting reconciliation, accountability and human rights in Sri Lanka' was adopted after 22 states of the 47-member Council voted in its favour.
- Sri Lanka was quick to reject the UN move to collect and preserve evidence of war crimes in the country, committed by the armed forces and the LTTE.

United Nations Human Rights Council

- The United Nations Human Rights Council (UNHRC) is a United Nations body whose mission is to **promote and protect human rights** around the world.
- The UNHRC has **47 members** elected for staggered **three-year terms** on a regional group basis.
- The headquarters of UNHRC is in **Geneva, Switzerland**.
- The UNHRC investigates allegations of breaches of human rights in United Nations member states, and addresses important thematic human rights issues such as freedom of association and assembly, freedom of expression, freedom of belief and religion, women's rights, LGBT rights, and the rights of racial and ethnic minorities.
- The UNHRC holds regular sessions three times a year, in March, June, and September.

New Security Dialogue Platform

Context

- China and Russia have proposed setting up a new **"regional security dialogue platform"** to address security concerns of countries in the region.

Details

- They also proposed the establishment of a **regional security dialogue platform** to converge a **new consensus on resolving the security concerns** of countries in the region.
- China and Russia are already part of the **Shanghai Cooperation Organisation (SCO)** security grouping, which includes India.
- China and Russia have **rejected U.S. calls for "a rules-based order"** — a call endorsed by the Quad summit — and instead said all countries should follow the purposes and principles of the Charter of the United Nations.

India - Sweden Virtual Summit

Context

- Prime Minister Shri Narendra Modi and Prime Minister of the King-dom of Sweden H.E. Stefan Löfven held a Virtual Summit where they discussed bilateral issues and other issues of mutual interest.

Details

- The Prime Minister recalled his 2018 visit to Sweden for the **first India-Nordic Summit**, and the India visit of Their Majesties the King and Queen of Sweden in December, 2019.
- Both the leaders underlined that the longstanding close relations between India and Sweden were based on shared values of democracy, rule of law, pluralism, equality, freedom of speech, and respect for human rights.
- The two leaders reviewed the extensive ongoing engagement between India and Sweden, and expressed satisfaction at the implementation of the **Joint Action Plan and Joint Innovation Partnership** agreed during Prime Minister Modi's visit to Sweden in 2018.
- Prime Minister Modi welcomed **Sweden's decision to join the International Solar Alliance (ISA)**.
- The leaders also noted the growing member-ship of the India-Sweden joint initiative – the **Leadership Group on Indus-try Transition (LeadIT)** that was launched during the **UN Climate Action Summit** in September 2019 in New York.

Act East Policy

Context

- Union Minister of State Development of North Eastern Region (DoNER) Dr. Jitendra Singh said that **Connectivity is an important element of Act East Policy**.

Connectivity Projects

- Agartala-Akhaura Rail Link between India and Bangladesh
- Intermodal transport linkages and inland waterways through Bangladesh
- Kaladan Multimodal Transit Transport Project
- Trilateral Highway Project
- India-Japan Act East Forum: Road and Bridges and modernization of Hydro-electric power projects.

Act East Policy

- The 'Act East Policy' announced in November, **2014** is the **upgrade of the "Look East Policy"** which was promulgated in **1992**.
- It aims at promoting economic cooperation, cultural ties and developing a strategic relationship with countries in Indo-pacific region with a proactive and pragmatic approach and thereby improving the economic development of the **North Eastern Region (NER) which is a gateway to the South East Asia Region**.
- The policy has been **continuously evolving since the early 1990s** and **involves intensive and continuous engagement with South East Asian countries** in the field of connectivity, trade, culture, defence and people-to-people-contact at bilateral, regional and multilateral levels.

International North–South Transport Corridor (INSTC)

Context

- India wants Chabahar port to be included in the 13-nation International North South Transport Corridor that extends from India to Russia, and expand INSTC membership by including Afghanistan and Uzbekistan.

About INSTC

- The International North–South Transport Corridor (INSTC) is a 7,200-km-long multi-mode network of ship, rail, and road route for moving freight between India, Iran, Afghanistan, Azerbaijan, Russia, Central Asia and Europe.

- The route primarily involves moving freight from India, Iran, Azerbaijan and Russia via ship, rail and road. The objective of the corridor is to increase trade connectivity between major cities such as Mumbai, Moscow, Tehran, Baku, Bandar Abbas, Astrakhan, Bandar Anzali, etc.

- This will also synchronize with the Ashgabat agreement, a Multimodal transport agreement signed by India (2018), Oman (2011), Iran (2011), Turkmenistan (2011), Uzbekistan (2011) and Kazakhstan (2015) for creating an international transport and transit corridor facilitating transportation of goods between Central Asia and the Persian Gulf.
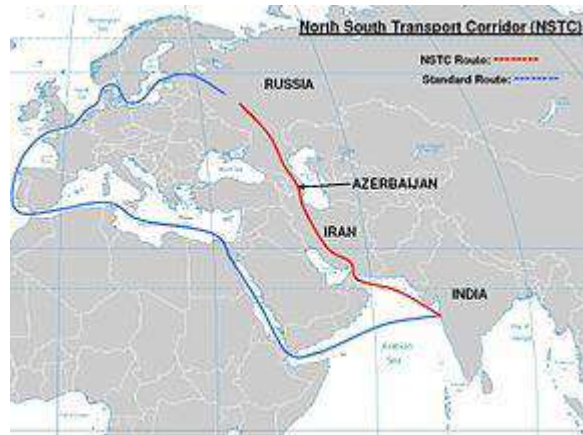
INDIA-BRAZIL-SOUTH AFRICA (IBSA) WOMEN'S FORUM

Context

- The Sixth India-Brazil-South Africa (IBSA) Women's Forum meeting was held virtually on 16th March, 2021. Led by the **Ministry of Women and Child Development**, the event witnessed participation of Ministers and officials responsible for **Women Affairs of IBSA Countries.**

About the forum

- It is a unique platform which brings together India, Brazil and South Africa, three large democracies and major economies from three different continents.

- All three partners are developing pluralistic, multicultural, multi-ethnic, multilingual and multi-religious nations.

- IBSA is committed to inclusive sustainable development, in pursuit of the well-being for their citizens and those from the other developing nations.

- The principles, norms and values underpinning the IBSA Dialogue Forum are participatory democracy, respect for human rights, the Rule of Law and the strengthening of multilateralism. IBSA lays efforts in South-South cooperation beyond the conventional areas of exchange of experts and training.

Indo-Korean Friendship Park

Context

- India's First Indo-Korean Friendship Park was jointly inaugurated by Mr Suh Wook, Hon'ble Minister of National Defence, Republic of Korea and Shri Rajnath Singh, Hon'ble Raksha Mantri, at Delhi Cantonment on 26 Mar 2021.

About the Park

- Located in **Delhi Cantonment**, the park's significance is not only because of it being a symbol of strong India-South Korea friendly relations, but also as a **monument to India's contributions as part of 21 countries** which participated in **Korean war 1950-53,** under the aegis of the United Nations.

- The park has been developed in joint consultation with the Ministry of Defence, Government of India, Indian Army, Delhi Cantonment Board, Embassy of Korea and Korean War Veterans Association of India.

- Spread across a green area of **six acres**, the park includes an entrance gate beautifully made in Korean style signifying the graceful culture, a jogging track, well landscaped garden and an amphitheatre.

- The park has an imposing **handshake artifact standing tall at the entrance** bearing flags of India and South Korea.

- The park also has a larger than **life statue of General KS Thimayya**, a celebrated soldier who led the Indian contingent as Chairman of Neutral Nations Repatriation Commission (NNRC) in Korea headed by India.

Official Development Assistance (ODA) Project in Andaman & Nicobar (A&N)

Context

- In the first-ever official development assistance (ODA) project in Andaman & Nicobar (A&N), Japan has approved grant aid worth ¥4.02 billion, or □265 crore, to improve the power supply in the islands, stressing the strategic geopolitical location of the islands for an open Indo-Pacific.

Details

- Japan has also extended yen loans worth ¥229.5 billion, or □16,186 crore, for executing four projects, including **Delhi Metro's Phase 4** and **Bengaluru Metro's Phase 2 expansion plans** for which loan agreements were signed between the **Japan International Cooperation Agency (JICA)** and the government.
- The □8,390-crore loan for Delhi Metro's fourth phase would help build three priority corridors — the extension of **Line 7 (Mukundpur – Maujpur/12.56 km), Line 8 (Janakpuri West – R.K. Ashram/28.92 km) and a new corridor spanning Aerocity** – Tughlakabad (23.62 Km), an official statement said. Following the completion of this phase, Delhi's metro rail network spans over 400 km, more than twice the Tokyo Metro.
- Similarly, a □3,717 crore loan has been approved for developing 80 km of metro lines under the Namma Metro's second phase in Bengaluru.

AGRICULTURE

Eastern Rajasthan Canal Project

Context

- Rajasthan Chief Minister Ashok Gehlot has been strongly demanding national project status for the Eastern Rajasthan Canal Project (ERCP).

About Eastern Rajasthan Canal Project (ERCP)

- The Eastern Rajasthan Canal Project aims to harvest surplus water available during the rainy season in rivers in southern Rajasthan such as Chambal and its tributaries including Kunnu, Parvati, Kalisindh and use this water in south-eastern districts of the state where there is a scarcity of water for drinking and irrigation.
- Through the help of diversion structures, intra-basin water transfers, linking channels and construction of pumping main feeder channels, the ERCP aims to create a network of water channels which will cover 23.67 per cent area of Rajasthan along with 41.13 per cent population of the state.

Benefits

- ERCP is estimated to create an **additional command area of 2 lakh hectares** and an **area of 4.31 lakh hectare** will get irrigation facilities because of this project.
- The ERCP also intends to **improve the groundwater table in rural areas of the state**, positively influencing the socio-economic conditions of people from these areas.
- It also adds **special emphasis on the Delhi Mumbai Industrial Corridor (DMIC)**, hoping that sustainable water sources **will enhance and help industries grow** in these areas resulting in investment and revenue.
- There are multiple sub-projects under the ERCP with budgets allocated for each phase.

Sub-Mission on Agroforestry (SMAF) Scheme

Context

- The Ministry of Agriculture and Farmers Welfare today signed a Memorandum of Understanding (MoU) with the **Central Silk Board** under the **Ministry of Textiles** on a convergence model for the implementation of Agroforestry in the silk sector under the ongoing Sub-Mission on Agroforestry (SMAF) Scheme.

About the MoU

- The signing of this MoU aims to **incentivize the farmers to take up sericulture** based Agroforestry models thereby contributing to the Make in India and Make for the World vision of the Prime Minister.
- This linkage will add another dimension to agroforestry for **faster returns to the growers as well as support the production of the range of silks** that India is famous for.
- The **Central Silk Board (CSB)**, Ministry of Textiles, Govt. of India will act as a catalyst to promote Agroforestry in the silk sector.

About Sub-Mission on Agroforestry (SMAF) Scheme

- The Department of Agriculture, Cooperation and Farmers Welfare (DAC & FW) has been implementing the Sub-Mission on Agroforestry (SMAF) since 2016-17 as part of the recommendation of the **National Agroforestry Policy 2014**.
- At present, the scheme is being implemented in 20 States and 2 UTs.
- SMAF aims to **encourage farmers to plant multi-purpose trees** together with the agriculture crops for **climate resilience and an additional source of income** to the farmers, as well as enhanced feedstock to inter alia wood-based and herbal industry.
- Hence there is a concerted effort to include**medicinal, fruits, fodder, tree-borne oilseeds, lac host** etc. in addition to the longer rotation timber species.
- Planting sericulture based tree species on the farm bunds and rearing silkworms has the **potential of creating additional income opportunities** for farmers besides their regular source of income from agriculture activities.

CSIR Floriculture Mission

Context

- Dr Harsh Vardhan exhorted scientists of CSIR laboratories across the country to develop the land available at each laboratory to be set up as a **model under the "CSIR Floriculture Mission"**.

About the Mission

- Recently, CSIR Floriculture Mission has been approved for **implementation in 21 States and Union Territories of India** wherein available knowledge base in CSIR Institutes will be utilized and leveraged to **help Indian farmers and industry reposition itself** to meet the import requirements.
- This Mission is being implemented in collaboration with **Indian Council of Agricultural Research (ICAR)-Directorate of Floriculture**; Khadi and Village Industries Commission (**KVIC**); Agricultural and Processed Food Products Export Development Authority (**APEDA**), Ministry of Commerce; Tribal Cooperative Marketing Development Federation of India Ltd. (**TRIFED**); Fragrance and Flavour Development Centre (**FFDC**), Kannauj, Ministry of Micro, Small and Medium Enterprises (MSME) and Universities.
- The CSIR Floriculture Mission is expected to create opportunities for entrepreneurship development in floriculture.
- Infusion of the latest technologies in the field of floriculture can be successfully led by CSIR.

Agriculture Voltage Technology

Context

- Agri-voltaic system of **105 KW capacity** was developed by **ICAR-Central Arid Zone Research Institute, Jodhpur.**

Details

- This technology can **increase the income of farmers** by generation of **electricity and growing of cash crops** simultaneously on the same piece of land.
- Under **component-I of KUSUM** (Kisan Urja Suraksha Utthan Mahabhiyan) scheme, there is a provision for installation of agri-voltaic system in farmers' fields with a capacity ranging from 500 KW to 2 MW.
- Moreover, the **National Solar Energy Federation of India**

(NSEFI) has also documented 13 operational agri-voltaic systems in the country managed by different solar PV functionaries and public Institutes.

- The uniqueness of the AVS system is that it had **provision of harvesting rainwater falling on solar panels** that can be reused for supplemental irrigation during the period of water shortages.
- AVSs have a special relevance in arid areas of north-western region as these regions receive higher radiations (6.11 kWh m-2 day-1) as compared to the rest of the country (5.6 kWh m-2 day-1).

ECONOMY

Make in India

Context

- An annual report submitted by the U.S. Trade Representative (USTR) to Congress, calls India's policies "trade-restrictive" and says the "Make in India" campaign epitomises the challenges to the trade relationship.

Details

- While India's large market, economic growth, and progress towards development make it an essential market for many U.S. exporters, a general and consistent **trend of trade-restrictive policies have inhibited the potential of the bilateral trade** relationship.
- Recent Indian **emphasis on import substitution** through a "Make in India" campaign has epitomised the challenges facing the bilateral trade relationship.
- The report describes the Trump administration's revocation of India's preferential trading status under the **Generalised System of Preferences (GSP) program** in June 2019 and the ensuing discussion to **achieve a mini trade deal ("package") throughout 2020**.
- In a section on **Digital Service Tax, a Section 301 investigation on India's DST**, which began in June last year, is highlighted. The investigation is ongoing, as per the report.

Make in India

- Make in India is an initiative by the Government of India to encourage companies to manufacture in India and incentivize dedicated investments into manufacturing.
- The policy approach was to create a conducive environment for investments, develop a modern and efficient infrastructure, and open up new sectors for foreign capital.
- The initiative targeted 25 economic sectors for job creation and skill enhancement, and aimed "to transform India into a global design and manufacturing hub."
- "Make in India" had three stated objectives:
  - to increase the **manufacturing sector's growth rate** to 12-14% per annum;
  - to create 100 million **additional manufacturing jobs** in the economy by 2022;
  - to ensure that the **manufacturing sector's contribution to GDP** is increased to 25% by 2022 (later revised to 2025).

Cess and Surcharge

Context

- The share of **cess and surcharge in the gross tax revenue (GTR)** of the Centre has almost doubled to **19.9% in 2020-21 from 10.4% in 2011-12**, leading to the **15th Finance Commission (FC)** recommending a higher grant-in-aid and lower tax devolution to the States.

Cess

- A cess imposed **by the central government is a tax on tax**, levied by the government for a **specific purpose**. Generally, cess is expected to be levied till the time the government gets enough money for that purpose.
- A cess is different from the usual taxes like excise duty and personal income tax as it is imposed as an **additional tax besides the existing tax (tax on tax)**.

- Tax revenue from Cess are **first credited to the CFI** and the Central Government may, after due appropriation made by Parliament, **utilise the money for the specified purposes.**
- Another major feature of cess like surcharges is that the **Centre need not share it with states.**

Surcharge

- Surcharge is a **charge on any tax**, charged on the tax already paid. As the name suggests, surcharge is an additional charge or tax.

Comparison

- A common feature of both surcharge and cess is that the **centre need not share it with states.** Following are the **differences** between the usual taxes, surcharge and cess.
  - The usual taxes go to the consolidated fund of India and can be spent for any purposes.
  - Surcharge also goes to the consolidated fund of India and can be spent for any purposes.
  - Cess goes to Consolidated Fund of India but can be spent only for the specific purposes.

Rail Passenger Fares

Context

- A parliamentary committee has recommended that the Railway Ministry should undertake "prudent adjustment" of passenger fares to **reduce the burden on freight segment**, while highlighting that the **Railways' operating ratio has regularly deteriorated after 2015-16**.

Details

- The committee, in its report tabled in Parliament also said the **actual earnings of the Railways have fallen short of projected earnings** for all years since 2016-17, indicating that either **unrealistic projections** were made or the Ministry'**s efforts to actualise the accruals were not sufficient.**
- The tariff policy of the Indian Railways has traditionally followed the **principle of cross subsidisation** in order to offset the losses incurred in the **heavily subsidised passenger and other coaching services** through additional revenue from freight movement.
- The Committee feels that **both passenger fares and freight rates have to be demand-cum-market driven** and fixed differently for different segments.
- On the net revenues, the panel noted that over the past five years, Budget Estimates for revenues are being **drastically reduced at Revised Estimate stage**, and even the reduced targets nowhere matched the actuals.
- Operating ratio indicates how much the Railways spend to earn a rupee. For example, an operating ratio of 98.36% for 2019-20, indicates that to earn Rs. 100, the Railways will have to spend Rs. 98.36.

Crisil Report

Context

- Crisil said it expects the **Indian economy to grow at 11% in fiscal 2022**, after an estimated **8% contraction** this fiscal due to the pandemic.

Details

The growth will be driven by four factors:

- people learning to live with the new normal,
- flattening of the COVID-19 affliction curve,
- roll-out of vaccines, and
- investment-focused government spending.

CRISIL

- CRISIL (formerly Credit Rating Information Services of India Limited) is an **Indian analytical company providing ratings, research, and risk and policy advisory** services and is a subsidiary of American company S&P Global.
- CRISIL, was the first credit rating agency in India, introduced in 1988 by the **ICICI and UTI jointly** with share capital coming from SBI, LIC and United India Insurance Company.
- In April 2005, **US based credit rating agency S&P acquired the majority shares** of the company.

Pre-pack Mechanism

Context

- The government is planning to initially roll out pre-packs as a resolution mechanism under the Insolvency and Bankruptcy Code (IBC) only for micro, small, and medium enterprises (MSMEs).
- The Centre had previously announced a special resolution framework for MSMEs; however, similarities between the special framework and pre-packs, which the government was also considering to introduce, led to both the proposals being clubbed.

About Pre-packs

- Pre-packs allow for the **management of a distressed firm to retain control** while creditors negotiate a resolution plan with either existing promoters or a third party.
- Currently, the **Corporate Insolvency Resolution Process (CIRP)** requires creditors to **take control of the management** of a distressed company through an insolvency professional and a public bidding process to maximise the value of the assets of the distressed firm.
- Pre packs are currently in use in a number of developed jurisdictions **including the US and the UK** but have however **faced criticisms about the lack of transparency** in the process and its **impact on operational creditors** such as suppliers, compared to an open bidding process like the CIRP.

Production-Linked Incentive (PLI) scheme

Context

- The government has started inviting applications for the second round of large-scale electronics manufacturing under the production-linked incentive (PLI) scheme with focus on some electronic components like motherboards, semiconductor devices, among others.

About the scheme

- PLI scheme is a scheme that aims to give companies **incentives on incremental sales** (over FY 2019-20) from products manufactured in domestic units.
- The scheme **invites foreign companies to set up units** in India.
- It also aims to **encourage local companies** to set up or expand existing manufacturing units and also to **generate more employment** and cut down the country's reliance on imports from other countries.
- The purpose of widening the PLI Scheme to cover more products was:
  - To protect identified product areas
  - To introduce non-tariff measures that make imports more expensive.
  - To acknowledge the relevance of exports in overall growth strategy but focus more on the domestic market
  - To promote manufacturing at home by offering production incentives and encourage investments both from within and outside.

Open Market Operations

Context

- The Reserve Bank of India (RBI) has decided to conduct **simultaneous purchase and sale of government securities** under **Open Market Operations (OMO)** for an amount of Rs. 10,000 crore each on March 25.
- The decision to conduct the OMO was taken after a **review of current liquidity and financial conditions**.

About OMO

- Open market operations (OMO) refers to a **central bank buying or selling short-term Treasurys and other securities** in the open market in order to **influence the money supply**, thus influencing short term interest rates.1
- Buying securities adds money to the system, making loans easier to obtain and interest rates decline.
- Selling securities from the central bank's balance sheet removes money from the system, making loans more expensive and increasing rates.
- These open market operations are a method the central bank uses to manipulate interest rates.

Draft plan for District-wise Export Promotion

Context

- The government has readied a **draft district-wise export promotion plan** for **451 districts** in the country after identifying products and services with export potential in 725 districts.

Details

- The Commerce Ministry has asked States to prepare an annual **'export ranking index' of districts on export competitiveness** with the assistance of the Directorate General of Foreign Trade (DGFT).
- While foreign trade constitutes 45% of India's GDP, most export promotion efforts are driven by the Centre.
- In the initial phase, products and services with export potential in each district have been identified and an institutional mechanism of **State and District Export Promotion Committees (SEPC) are being created**, with an action plan to grow exports from each district.
- **Draft District Export Action Plans** have been prepared by regional DGFT authorities in 451 districts.

Anti-Dumping Duty

Context

- The U.S. Department of Commerce is preparing to tax **aluminium sheet exporters from 18 countries** after determining that they had benefited from subsidies and dumping.

Background

- The investigation, launched under the Donald Trump administration, had been requested by nearly a dozen U.S. aluminium alloy manufacturers.
- President Joe Biden's administration determined that imports from Germany in particular ($287 million in 2019) benefited from dumping ranging from 40% to 242%.
- According to the U.S. investigation, Imports from India ($123 million in 2019) have benefited from subsidies for 35% to 89%.

About Anti-Dumping Duty

- An anti-dumping duty is a protectionist tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value.
- In order to protect their respective economy, many countries impose duties on products they believe are being dumped in their national market; this is done with the rationale that these products have the potential to undercut local businesses and the local economy.
- While the intention of anti-dumping duties is to save domestic jobs, these tariffs can also lead to higher prices for domestic consumers.
- In the long-term, anti-dumping duties can reduce the international competition of domestic companies producing similar goods.
- The World Trade Organization (WTO) also operates a set of international trade rules, including the international regulation of anti-dumping measures.

India Telecom 2021

Context

- **TEPC (Telecom Equipment Export Promotion Council) has organized India Telecom 2021' - an Exclusive International Business Expo being held virtually on March 3 & 4, 2021 under Market Access Initiative Scheme (MAI) of Department of Commerce, Government of India and with support of Department of Telecommunications & Ministry of External Affairs.**

Details

- India Telecom 2021 is a platform for convergence of technologies and business exchange.
- This mega event has become 'a must attend' mega event for Telecom and IT Stakeholders as it encapsulates strategies and learning that transcend the two most important present day industries having potential of unlocking huge demand of ICT services across multiple domains.

About TEPC

- TEPC has been set up by the Ministry of Commerce & Industry and Ministry of Communications, Government of India to promote and develop of Export of Telecom Equipment and Services.
- The council undertakes several activities aimed at exports promotion such as Commissioning of Studies to find potential markets, holding of National/International Seminars and facilitating participation of exporters in various overseas exhibitions.
- The council also disseminates trade related data to its members.
- The council makes various recommendations to the Government for making necessary changes in various policies and procedures for promotion of Exports and Services.

Rating Mechanism Formulated For National Highways

Context

- The Ministry of Road Transport and Highways (MoRTH) has released the ratings for 18,668 km of completed **four and six lane stretches** of National Highways covering 343 toll plazas.

Details

- This has been done by **National Highways Authority of India (NHAI)** under **MoRTH**, which has taken initiative to **improve its accountability towards road users**, who pay user fee to use National Highways.
- Each toll plaza of highway is judged based on three major criteria viz. **Efficiency, Safety and User Services.**
- These criteria are further divided into a **total of 39 parameters** which include average speed, road condition, facility for public like VUP/ PUP/ FOB, service road, delay at toll plaza, accidents, incident response time, wayside amenities, general cleanliness, etc.

About NHAI

- The National Highways Authority of India (NHAI) is an **autonomous agency** of the Government of India, set up in **1988** and is responsible for management of a network of over **50,000 km of National Highways out of 1,15,000 km in India**.
- It is a nodal agency of the **Ministry of Road Transport and Highways**.
- NHAI has signed a memorandum of understanding (MoU) with the **Indian Space Research Organisation** for satellite mapping of highways.

Index of Economic Freedom

Context

- A US-based think tank published the latest Economic Freedom Index, ranking Singapore on top for the second consecutive year amid the COVID-19 pandemic.

Details

- **Singapore** scored the most points among the 184 countries that were covered for the study.
- The **United States dropped to its lowest points ever**, ranking No. 20 globally. The United States remained in the 'mostly free' category.
- New Zealand, Australia, Switzerland, and Ireland have been ranked 2nd, 3rd, 4th, and 5th respectively.
- India has been ranked **121st** freest in the 2021 index, scoring **56.5 points**. India has been ranked **26th among the 40 countries in Asia-Pacific** and is ranked under the category of **'mostly unfree'**, alongside China (107th), Bangladesh (120th), Sri Lanka (131st), Nepal (157th), Pakistan (152nd).

About the Index

- The Index of Economic Freedom is an annual index and ranking created in **1995** by conservative think-tank **The Heritage Foundation** and **The Wall Street Journal** to measure the **degree of economic freedom** in the world's nations.
- The creators of the index claim to take an approach **inspired by Adam Smith's in The Wealth of Nations**.
- The ranking scores aspects of economic freedom **between 0 and 100**, with 0 meaning "**no economic freedom**" and 100 meaning **"total economic freedom"**. There are **twelve aspects divided into four categories.**

Shyamala Gopinath Committee

Context

- The Reserve Bank of India (RBI) has set up a five-member committee, headed by former Deputy Governor Shyamala Gopinath, for **evaluating applications for Universal Banks as well as Small Finance Banks**.

Details

- The RBI's guidelines for 'on-tap' Licensing of Universal Banks in the Private Sector (August 1, 2016) and Guidelines for 'on-tap' Licensing of Small Finance Banks in the Private Sector (December 5, 2019) indicated that the applications for Universal Banks and Small Finance Banks will be initially screened by the Reserve Bank to ensure prima facie eligibility of the applicants.
- The guidelines also stated that a SEAC comprising eminent persons with experience in banking, financial sector and other relevant areas, will evaluate the applications thereafter and that the constitution of the SEAC will be announced by the Reserve Bank.

International Intellectual Property Index

Context

- India ranked 40 among 53 global economies on the latest annual edition of the International Intellectual Property (IP) Index released.
- Released annually by the US Chamber of Commerce Global Innovation Policy Centre (GIPC), the Index evaluates Intellectual Property rights in 53 global economies — from patent and copyright policies to commercialisation of IP assets and ratification of international treaties.

Details

- The overall global IP environment improved in 2020, with positive score increasing in 32 of the 53 economies measured by the IP Index. This is the ninth IP index released by the GIPC.
- India ranked 40th in 2020, scoring 38.4 out of 100 on a set of 50 intellectual property-related indicators.
- India's overall score has increased from 36.04 per cent (16.22 out of 45) in the seventh edition to 38.46 per cent (19.23 out of 50) in the eighth edition.
- India has shown real improvement over the past few years, the report said, adding that it has made a string of positive efforts which resulted in a score increase because of stronger enforcement efforts and precedent-setting court cases involving copyright and trademark infringement.

Integrated Ombudsman Scheme

Context

- The Reserve Bank of India (RBI) announced an integrated ombudsman scheme to improve **grievance redressal mechanism** for bank customers. The scheme will be rolled out in June.

Details

- Currently, there are three separate ombudsman for banks, non-banking finance companies (NBFCs) and non-bank prepaid payment issuers (PPIs) that are wallets.
- These are operated by the RBI from **22 ombudsman offices** located across the country.
- The RBI plans to **integrate the three separate ombudsman** under one centralised scheme to make the grievance redressal mechanism more efficient and simpler.

Draft Blue Economy Policy

Context

- The **Ministry of Earth Sciences (MoES)** has rolled out the Draft Blue Economy policy for India in the public domain **inviting suggestions and inputs from various stakeholders** including industry, NGOs, academia, and citizens.

Details

- The draft blue economy policy document **outlines the vision and strategy that can be adopted** by the Government of India to **utilize the plethora of oceanic resources** available in the country.

- The policy document has been **disseminated for public consultation** on several outreach platforms including websites and social media handles of MoES and its institutes.
- Stakeholders have been invited to submit inputs and ideas by February 27, 2021.
- The policy document aims to enhance contribution of the blue economy to India's GDP, <u>improve lives of coastal communities, preserve marine biodiversity, and maintain the national security of marine areas and resources.</u>
- The draft policy framework emphasizes policies across several key sectors to achieve holistic growth of India's economy. The document recognizes the following seven thematic areas.
  - National accounting framework for the blue economy and ocean governance.
  - Coastal marine spatial planning and tourism.
  - Marine fisheries, aquaculture, and fish processing.
  - Manufacturing, emerging industries, trade, technology, services, and skill development.
  - Logistics, infrastructure and shipping, including trans-shipments.
  - Coastal and deep-sea mining and offshore energy.
  - Security, strategic dimensions, and international engagement.

SCIENCE & TECHNOLOGY

Haemorrhagic Septicemia

Context

- Recently, six elephants died of haemorrhagic septicaemia in Karlapat Wildlife Sanctuary in Odisha's Kalahandi district.

Nature of the disease

- Haemorrhagic septicaemia (HS) is a **contagious bacterial disease** caused by two serotypes of <u>*Pasteurella multocida*</u>.
- It affects cattle and water buffaloes with a high mortality rate in infected animals.
- It is regarded as one of the most serious diseases of large ruminants in south east Asia.

Distribution

- HS occurs in South and South East Asia, the Middle East and most of Africa, the disease has also been reported to occur occasionally in Southern Europe.

Clinical signs

- ✓ High fever
- ✓ Depression
- ✓ Reluctance to move
- ✓ Salivation and nasal discharge
- ✓ Painful, oedematous swelling of the throat, extending to the brisket
- ✓ Congested mucous membranes
- ✓ Respiratory distress
- ✓ Calves may have a haemorrhagic gastro-enteritis
- ✓ Death in 6-48 hours after onset of clinical signs. Recovery is rare.

Arktika-M

Context

- Russia has successfully launched its first satellite to monitor the Arctic's climate and environment. Its called: Arktika-M

About

- The Arktika-M is a remote-sensing and emergency communications satellite.
- It will help collect meteorological data from the polar regions of the Earth.
- The data will help improve weather forecasts and enable scientists to better study climate change.

- Through this Russia aims to develop a unique satellite network dedicated to monitoring the weather conditions of the Arctic region.
- The traditional communications and weather-forecasting satellites are ill-suited for serving high-latitude areas of the globe.
- The Arktika-M satellites are being designed to monitor high-latitude areas of the Earth.

ADFOSC

Context

- Indian Scientists have indigenously designed and developed a low-cost optical spectrograph called as Aries-Devasthal Faint Object Spectrograph & Camera (ADFOSC).

Developed by

- It has been designed and developed by Aryabhatta Research Institute of Observational Sciences (ARIES), Nainital.
- The telescope is built in collaboration with the Belgian firm Advanced Mechanical and Optical System (AMOS).

Function

- It can locate sources of faint light from distant quasars and galaxies.
- It can also detect regions around supermassive black holes around the galaxies, and cosmic explosions.

Working

- The spectrograph, uses a complex arrangement of several lenses made of special glasses that are polished to better than five nanometer smoothness to produce sharp images of the celestial sky.

Significance

- Till now, these spectrographs were imported to India.
- ADFOSC is about 2.5 times less costlier compared to the imported ones and can locate sources of light.
- The spectrograph is the largest in the country and in Asia.

SERB Prism

Context

- Recently, a portal called 'SERB – PRoject Information System & Management (SERB – PRISM)' was launched.

About

- **Developed by:** SERB, a Statutory body of the Department of Science and Technology (DST).
- **Objective:** This portal is designed to provide information regarding projects sanctioned by SERB from 2011 onwards, including funding details, status, research summary, and project output information such as publications and patents. Search facilities enables retrieval of information about projects by Name of PI, institution, state, keywords, as well as year-wise listing and equipment that has been sanctioned by SERB in these projects.

> Science and Engineering Research Board is a statutory body under the Department of Science and Technology, The Board is chaired by the Secretary to the Government of India in the Department of Science and Technology and has other senior government officials and eminent scientists as members. The Board was set up for promoting basic research in science and engineering and to provide financial assistance to scientists, academic institutions, R&D laboratories, industrial concerns and other agencies for such research.

Candida Auris

Context

- Indian researchers have for the first time identified a deadly hospital pathogen, the **Candida Auris**, in the environment off the coast of South Andaman district in the Andaman & Nicobar Islands.

About

- Candida Auris, is a multidrug resistant pathogen.
- It is a species of fungus that grows as yeast.
- It is one of the few species of the genus Candida which cause candidiasis in humans.

- Often, candidiasis is acquired in hospitals by patients with weakened immune systems.
- C. auris can cause invasive candidiasis (fungemia) in which the bloodstream, the central nervous system, and internal organs are infected.
- It presents a serious global threat to human health.
- C. auris can spread in healthcare settings through contact with contaminated environmental surfaces or equipment, or from person to person.
- The most common symptoms of invasive Candida infection are fever and chills that don't improve after antibiotic treatment for a suspected bacterial infection.
- While C. auris infections are serious, most are treatable. Typically, treatment begins with antifungal drugs called echinocandins.

New Bacteria Strains in ISS

Context

- Scientists discovered three new strains of bacteria on the International Space Station.

About

- The belong to the family of _Methylobacteriaceae_.
- The bacterias are rod shaped and can fix nitrogen

Significance

- To grow plants in extreme places where resources are minimal, isolation of novel microbes that help to promote plant growth under stressful conditions is essential
- The discovery of these new bacteria in the plants could lead to breakthroughs in plant growth and space farming.
- This will further aid in the identification of genetic determinants that might potentially be responsible for promoting plant growth under microgravity conditions and contribute to the development of self-sustainable plant crops for long-term space missions in future.

ENVIRONMENT

The Butea Monosperma Tree

Context

- Flame of the forest' now in bloom across Nilgiris.

About Butea monosperma tree

- The flowers are bright orange with a unique petal shape, hence called 'flame of the forest.'
- The trees are distinct as they wear more flowers than leaves.
- It is a **small-sized dry-season deciduous tree**, native to tropical and sub-tropical parts of the Indian Subcontinent and Southeast Asia, ranging across Pakistan, India, Bangladesh, Nepal, Sri Lanka, Myanmar, Thailand, Laos, Cambodia, Vietnam, Malaysia, and western Indonesia.
- It is used for **timber, resin, fodder, medicine, and dye.**
- The wood is dirty white and soft. Being durable under water, it is used for **well-curbs and water scoops.**
- Spoons and ladles made of this tree are used in various Hindu rituals to pour ghee into the fire.
- **Good charcoal** can be obtained from it.
- The leaves are usually very leathery and **not eaten by cattle**. The leaves were used by earlier generations of people to serve food.
- The **gum** is known as Bengal Kino and is considered valuable by druggists because of its **astringent qualities** and by **leather workers because of its tannin**.

Commission for Air Quality Management

Context

- Suddenly dissolution of the Commission for Air Quality Management occurred.
- The body came into being in October on the back of an ordinance.
- The ordinance never became an Act. Any ordinance has to be introduced within six weeks of the convening of Parliament. It did not happen, so the ordinance has lapsed and the commission is dissolved.

Commission for Air Quality Management in National Capital Region and Adjoining Areas

- It came into being after the 22-year-old Environmental Pollution (Prevention and Control) Authority (**EPCA**) that has so far addressed air pollution in Delhi, **was dissolved** in October.
- **Powers:** It would be a **"permanent" body to address pollution in the National Capital Region Delhi and address sources of pollution** in Delhi, Punjab, Rajasthan, Haryana and Uttar Pradesh.
- It assumed several powers to **coordinate action among States, levy fines — ranging up to ₹1 crore or five years of prison —** to address air pollution.
- While the **Central Pollution Control Board** (CPCB) and its **State branches** have the powers to implement provisions of the **Environment Protection Act for air, water and land pollution**, in **case of dispute or a clash of jurisdictions**, the commission's **writ will prevail specific to matters concerning air pollution.**
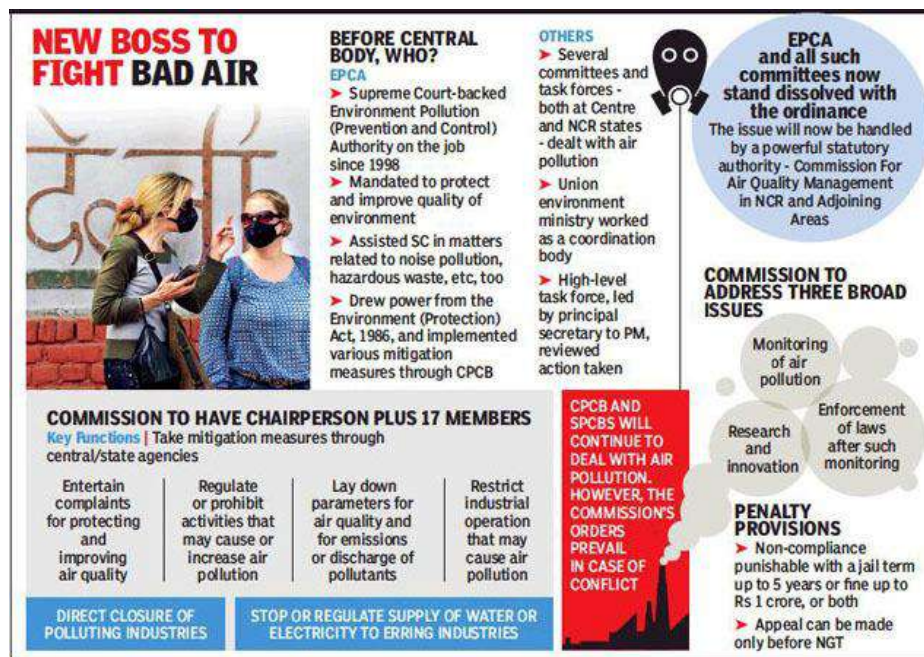
Nag River Pollution

Context

- The Nag River Pollution Abatement Project has been approved at a cost of Rs. 2,117.54 crores.
- The project, approved under the National River Conservation Plan, will be implemented by the National River Conservation Directorate, NRCD.
- It will reduce the pollution level in terms of untreated sewage, flowing solid waste and other impurities flowing into the Nag river and its tributaries.
  - The National River Conservation Plan (NRCP) by

the Ministry of Environment and Forests (MoEF) aims at preventing pollution of rivers and improving water quality.

Nag River

- It flows through **Nagpur city**, thus giving its name to the city, is now a highly polluted water channel of sewage and industrial waste.

Nacaduba Sinhala Ramaswamii Sadasivan

Context

- Researchers find new butterfly species Nacaduba sinhala ramaswamii Sadasivan in Agasthyamalais in the Western Ghats.

More about news

- A group of lepidopterists have added a species to the expanding list of butterflies in India.
- It is the first time that a butterfly species was discovered by an all-Indian research team from the Western Ghats.

Ecological importance of Butterfly

- Butterflies support a range of other predators as well as parasites.
- They have been widely used by ecologists as model organisms to study the impact of the loss of habitat and climate change.
- Additionally, their ecological function is also a food source to predators like birds, spiders, lizards and other animals.
- Butterflies and moths are indicators of a healthy environment and healthy ecosystems

National Clean Air Programme (NCAP)

Context

- MoU signed towards execution of planned actions in time bound manner in 132 cities under National Clean Air Programme(NCAP).

National Clean Air Programme (NCAP)

- It is a **long-term, time-bound, national level strategy** to tackle air pollution problem across the country in a comprehensive manner with targets to achieve **20% to 30%reduction in Particulate Matter** concentrations by 2024 (with 2017 as base year).
- The city action plans have been prepared to control specific air pollution sources through multidimensional actions by brining several implementation agencies together.
- Expansion of ambient air quality network, source apportionment studies, public awareness, grievance redressal mechanism and sector specific action points are part of these action plans.

CLEARING THE AIR
AIM OF NATIONAL CLEAN AIR PROGRAMME
To meet prescribed annual average ambient air quality standards at all locations in the country

- How it will work -

Monitoring committee under joint secretary

A NEW INSTITUTIONAL FRAMEWORK FINALISED

Apex committee under environment minister

National project implementation unit at CPCB (5-6 scientific personnel)

State-level project monitoring units (3-4 scientific personnel)

Steering committee under secy (environment)

National project monitoring unit in environment min (25 scientific personnel)

CPCB TO STEER identification of alternative tech for ambient air quality monitoring

Air quality management plan would be proposed for **100 cities**

Authority to be set up to manage 3-tier system for data collection, archiving & analytics

50 stations in rural areas to monitor air quality

Guidelines to be worked out for indoor air pollution

EXTENSIVE PLANTATION DRIVE

PM 2.5 to be monitored across the country

Air Information Centre to be set up for data analysis, interpretation & policy updates

Source apportionment studies (to identify sources of pollution & contribution) to be commissioned in 94 cities

Increase in manual monitoring stations from **691 to 1,000**

BY 2024, POLLUTION CUT BY 30%

NATIONAL CLEAN AIR PROGRAMME (NCAP)

Cities to be covered: 102

GOAL: To meet annual average ambient air quality standards

MID-TERM (5 YEARS) TARGET: Reducing air pollution by 20-30% by 2024, taking 2017 as base year

HOW: Through city-specific air pollution abatement action plan

BUILD CAPACITY BY SETTING UP:

1. National emission inventory
2. Air Information Centre for data analysis
3. Source apportionment studies
4. Guidelines for indoor air pollution
5. Rural monitoring stations

INTERNATIONAL SUPPORT AGENCIES: World Bank, German development agency (GIZ), AFD (French funding agency), Swiss Development Corporation, Bloomberg Philanthropies

'Buldhana Pattern' For Water Conservation

Context

NITI Aayog has prepared draft guidelines for convergence of the activities of

1. sourcing earth for improvement/construction of national highways, state roads and railways and
2. water conservation works through desiltation/ deepening of water bodies.

Buldhana pattern

- It is **two-fold activity for water conservation** that has already been successfully implemented as a pilot project in the Buldhana district of Maharashtra state.
- Ministry of Road Transport & Highways, issued a letter to all States/UTs and project/construction agencies to excavate the earth from identified water bodies/areas at no cost to the village panchayats/ rural development departments.
- Similarly, the panchayats/water conservation departments of the states should not charge any amount from the agencies for the earth so excavated.
- Through this arrangement, gram panchayats/farmers will gain by having a pond/water body dug in their land at no cost which will help in restoration of such water bodies while the construction agency would get the material for embankments for its road building and road expansion projects free of cost.

National Perspective Plan

- The National Perspective Plan (NPP) was prepared by the then Ministry of Irrigation (now Ministry of Jal Shakti) in August 1980 for water resources development through inter basin transfer of water for transferring water from water surplus basins to water-deficit basins.
- Under the NPP, the National Water Development Agency (NWDA) has identified 30 links (16 under Peninsular Component and 14 under Himalayan Component) for preparation of Feasibility Reports (FRs).
- The Government has also taken up the inter-linking of rivers (ILR) program in a consultative manner for relief to the people suffering from floods and droughts.

New Nagar Van Scheme

Context

- The United Nations General Assembly proclaimed 21st March as the International Day of Forests in 2012. The Day was celebrated to raises awareness of the importance of all types of forests.

About New Nagar Van Scheme

- The new Nagar Van Scheme will help in creation of Urban forests in the cities.

- It will also fill the gap between the cities and villages in terms of having their own forest cover.
- Under the Nagar Van Scheme , Urban forests will be developed in 200 cities in its first phase.
- One forest in every state will be selected under this programme and with the help of drone mapping water conservation and tree plantation will be taken up.

Ranthambore National Park

Context

- Six tigers 'missing' in Ranthambore. Rajasthan forest officials deny reports that they may have been poached
- Six tigers — four adults and two sub-adults — have been unaccounted for since March 2020 in the Ranthambore tiger sanctuary, **Rajasthan.**
- However, State forest officials are not willing to label them "missing" and denied reports that they may have been poached.
- Independent wildlife groups such as Tiger Watch have alleged that the tigers have been missing for over a year and that "negative human intervention being a cause [poaching]" could not be ruled out.
- The National Tiger Conservation Authority, a wing of the Union Environment Ministry, has constituted a committee to ascertain the disappearance of the tigers.

Ranthambore tiger sanctuary

- It is the **only source of tigers** in the territory with about 53 tigers constituting over 90% of the population in this block, as per the latest census.
- The Ranthambore forest reserve consists of highly fragmented forest patches, ravines, river streams, and agricultural land.
- It is connected to the **Kuno-Palpur landscape** in Madhya Pradesh through parts of the **Kailadevi Wildlife Sanctuary**, the ravine habitats of Chambal and the forest patches of Sheopur.
- Tributaries of river Chambal provide easy passage for tigers to move towards the Kuno National Park.
- **Madhya Pradesh** has the **highest number** of tigers at 526, closely followed by **Karnataka** (524) and **Uttarakhand** (442).
- Chhattisgarh and Mizoram saw a decline in tiger population and all other States saw an increase.

DEFENCE & SECURITY

INAS 310

Context

- Indian Naval Air Squadron (INAS) 310, The Cobras, a maritime reconnaissance squadron of the Indian Navy based at Goa celebrated its Diamond Jubilee.

About INAS 310

- The squadron holds the distinction of being the **most decorated unit of the Indian Navy**.
- It has rendered yeoman service to the nation in numerous operations since 1961 and continues to carry out daily surveillance operations over the coastline.
- INAS 310 has participated in **Operation Vijay (1961), Indo-Pakistani War of 1965, Indo-Pakistani War of 1971, Operation Pawan, Kargil War and Operation Parakram.**
- Amidst the COVID-19 pandemic the squadron is flying across the length and breadth of the nation for critical medical supplies, COVID test kits and medical teams.

MILAN-2T Anti-tank guided missiles

Context

- Defence Ministry sealed a deal with state-run Bharat Dynamics Ltd (BDL) to acquire 4,960 anti-tank guided missiles for the Indian Army.

About MILAN-2T

- It is a portable medium-range, anti-tank weapon.
- Having a range of 1,850 metres, these missiles can be fired from ground as well as vehicle-based launchers and their induction is planned to be completed in three years to enhance their overall combat capabilities.
- The missiles are being produced by BDL under license from French defence major MBDA Missile Systems.
- These missiles can be deployed in anti-tank role for both offensive and defensive tasks.

Vajra Prahar 2021

Context

- Indian and US Special Forces Conclude Joint Training Exercise.

About

- The 11th edition of Indo-US Joint Special Forces Exercise VAJRA PRAHAR 2021 was conducted at Special Forces Training School located at Bakloh, HP in March 2021.
- The joint exercise by the Special Forces of both the countries is **conducted alternatively between India and the United States to share the best practices and experiences** in areas such as joint mission planning and operational tactics as also to improve interoperability between the Special Forces of both nations.
- Bilateral military exercises and defence exchanges are an important facet of deepening bilateral defence cooperation between friendly countries.
- During such events, the armies of participating nations jointly train, plan and execute a series of operations for neutralisation of threats of varied nature with a common aim of countering threats of international terrorism through mutual training and jointness.

Land Ports Authority of India (LPAI)

Context

- The Land Ports Authority of India (LPAI) celebrated its 9th Foundation Day at its Headquarter in New Delhi.
- LPAI plays crucial role in facilitating safe and seamless cross-border movement of trade and passengers through land ports during the recent COVID-19 pandemic.

About LPAI

- It is a **statutory body** (created through the Land Ports Authority of India Act, 2010) working under the **Ministry of Home Affairs**, Government of India.
- It is responsible for creating, upgrading, maintaining and managing border infrastructure in India.
- It manages several Integrated Check Posts (ICPs) all across Borders of India.
- Projects undertaken by LPAI are
  - **Integrated Check Posts (ICPs)**
  - **Inland Custom Posts**
  - Shri **Kartarpur Sahib Corridor**

DUSTLIK II

Context

- The India - Uzbekistan joint military exercise DUSTLIK II concluded in Uttarakhand.

More about news

- This is the Second Edition of annual bilateral joint exercise of both armies.
- The first edition of the exercise was held at Uzbekistan in November 2019.
- Both contingents shared their expertise and skills in the field of **counter terrorist operations in mountainous or rural or urban scenario under UN mandate.**

- **J**oint exercise provided impetus to the ever-growing military and diplomatic ties between the two nations.
- It also reflected the strong resolve of both nations to counter terrorism.

Ammunition-cum-torpedo-cum-missile (ACTCM) barges

Context

- The Indian Navy has signed a contract with Suryadipta Projects to construct 11 ammunition-cum-torpedo-cum-missile (ACTCM) barges.
- The ACTCM barges will be inducted in Indian Navy to undertake the mission needs for embarking or disembarking ammunition, torpedo, missile, etc.
- The project adds another milestone to the Atmanirbhar Bharat and Make in India initiative of the government of India.

Mobile integrated network terminal (MINT) for Indian army

Context

- Indian Army is in the process of procuring Mobile Integrated Network Terminal (MINT) systems under Make II Category of DAP 2020.

Need

- Robust communication support has always been a key enabler of combat potential of the field army.
- Advancements in communication technologies have facilitated solutions, which can be adapted and customised as per operational requirements to give a distinctive winning edge.

About MINT

- The system is envisaged as a lightweight, portable, state of art integrated communication solution with satellite backhaul and wireless access system to support voice, video and data.
- Development of MINT systems will enhance the operational communication capability of the field army in consonance to the self-reliance vision of "Aatmanirbhar Bharat" for Defence production.

SMS scrubbing

Context

- The Telecom Regulatory Authority of India (Trai) temporarily suspended the scrubbing of short message service or SMS by telecom service providers (TSP) to allow principal entities to register their messaging templates.

What is scrubbing?

- As per Trai norms, the **content of all SMSes will now be verified** before it is allowed to be delivered on the users' device.
- This process, known as scrubbing.
- The new Trai regulations for principal entities, which will be allowed to send SMSes to customers, **seek registration of senders, telemarketers, headers, content, templates, consent templates and subscriber preference**.
  - o Blockchain will ensure two things — **non-repudiation and confidentiality**.
  - o Only those authorised to access details will be able to access subscriber details and only when they need to deliver service
- TRAI, in 2018, released a framework under which telcos **could use a distributed ledger technology or blockchain to verify the sender information** and content of every commercial SMS before it was delivered on the user's device.
- All unregistered commercial senders were banned from sending any SMSes by the new technology.

1. Which of the following protected areas is/are located in Andhra Pradesh?

1. Papikonda National Park
2. Coringa Wildlife Sanctuary
3. Rollapadu Bird Sanctuary

Choose 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

2. Consider the following statement about the Fishing cats:

1. They are endemic to Western Ghats.
2. It is listed as Critically Endangered on the IUCN Red List

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 about the Census of India:

1. First complete decennial Census of India was taken in 1972.
2. Census of India Act, 1948 gives legal backing to census in India.
3. Registrar General and Census Commissioner of India under the Ministry of Home Affairs are responsible for conducting census in India.

Choose 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

4. Consider the following statements about the Similipal Biosphere:

1. This protected area is a Ramsar site.
2. Todas tribes inhabit this biosphere reserve forest.
3. It is located in Odisha.

Choose the correct answer using the code given below:

a) 1 and 2 only   b) 3 only

c) 1 and 3 only   d) 2 and 3 only

5. In context of the National Family Health Survey (NFHS), consider the following statements:

1. Ministry of Health and Family Welfare, is the nodal agency responsible for providing coordination and technical guidance for the NFHS.

2. The First National Family Health Survey (NFHS-1) was conducted in 1947-48.
3. NFHS-4 was funded by the United States Agency for International Development (USAID), United Nations Population Fund (UNFPA), and the MacArthur Foundation.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 and 3 only

c) 3 only   d) 1, 2 and 3

6. Which of the following activities cannot be done by the Non-banking financial companies (NBFCs)?

1. accept demand deposits
2. outsource core management functions
3. management of investment portfolio

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) 1, 2 and 3

7. Consider the following statements about the Indian Bison or gaur:

1. It has been listed in Schedule 1 of the Indian Wildlife (Protection) Act, 1972.
2. It has been listed as 'endangered' on the Red List of the International Union for Conservation of Nature.
3. It is mainly found in Western Ghats.

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

8. Consider the following statements about the X-Ray Microtomography:

1. It is utilized to generate a virtual 3D model of an object using 'slices'.
2. This technique is utilized to study origami.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) neither 1 nor 2

9. Consider the following statement about the National Horticulture mission:

1. Being a center sector scheme, it is fully funded by the central government.
2. National Bamboo Mission (NBM) is being implemented as a sub scheme of the National Horticulture mission.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

10.   Which of the following sectors is/are identified as the priority sector" by the central bank (Reserve Bank of India) under the priority sector lending scheme?
1.   Agriculture and allied activities
2.   Micro and small enterprises
3.   Renewable energy sector
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

11.   In context of "Coalition for Disaster Resilient Infrastructure", consider the following statements:
1.   This coalition was launched by India at the 2019 UN Climate Action Summit.
2.   The UN Development Programme (UNDP) and World Bank are its knowledge and development partners.
Which of the statements given above is/are correct?
a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

12.   In context of Foreign Contribution Regulation Act (FCRA), consider the following statements:
1.   It regulates foreign donations and ensures that such contributions do not adversely affect the internal security of the country.
2.   It is implemented by Ministry of Finance.
3.   As per the FCRA, members of legislatures, political parties, government officials, judges and media persons are prohibited from receiving any foreign contribution.
Which of the above-mentioned statements are correct?
a) 1 only   b) 2 and 3 only
c) 1 and 3 only   d) 1,2 and 3

13.   Consider the following statements about the Brahmaputra River:
1.   It is a trans-boundary river, which flows through three countries and two Indian states
2.   Manas River, Teesta River and Subansiri River are its famous tributaries.
3.   Kangchenjunga is the highest point within the Brahmaputra basin.
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

14.   Consider the following statements about the e-Courts Project:
1.   It is a Pan-India Project, monitored and funded by the Department of Administrative Reforms and Public Grievances.
2.   It aims to connect all courts in the country to the National Judicial Data Grid (NJDG) through a wide area network and additional redundant connectivity.
Which of the statements given above is/are correct?
a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

15.   Consider the following statement about the Khajuraho Group of Monuments:
1.   These temples are famous examples of nagara-style temple architecture.
2.   They were dedicated to Hinduism and Buddhism.
Which of the statements given above is/are correct?
a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

16.   Consider the following statements about the Partners in Population and Development (PPD):
1.   It is an intergovernmental initiative created for improving South-to-South collaboration in the fields of reproductive health, population, and development.
2.   India is a member of this intergovernmental alliance of developing countries.
Which of the statements given above is/are correct?
a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

17.   Consider the following statements:
1.   The Odisha style of temple architecture is also known as Vesara style of temple architecture.
2.   Rekha Deula, Pidha Deula, and Khakhra Deula are different Styles within Kalinga Nagara Temples.
Which of the statements given above is/are correct?
a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

18. **Consider the following statement about the Sovereign Gold Bond Scheme:**

1. These securities can be used as collateral for loans from financial Institutions and Non-Banking Financial Companies (NBFC).
2. These bonds are neither transferrable nor tradable.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

19. **Consider the following statements about the sacred ensembles of the Hoysalas:**

1. They are located on the forested terrain of the Western Ghats.
2. The architecture of the Hoysalas is a hybrid of the nagara style of temple architecture of north India and the dravidian style from the South.
3. The Hoysalas temples were built on a star shaped plan.

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

20. **Consider the following statement about the Mission VATSALYA:**

1. It was launched by the Ministry of Women and Child development.
2. It is a scheme to promote breastfeeding and thereby reduce infant mortality.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

21. **Consider the following statements about the whale shark:**

1. It is the largest known ocean fish species.
2. It is a protected species under the Appendix I of the Convention in International Trade in Endangered Species of Fauna and Flora (CITES).
3. It has no commercial importance.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 only
c) 1 and 3 only   d) 1, 2 & 3 only

22. **Which of the following factors can cause the Antimicrobial resistance?**

1. Overuse of antibiotics in livestock and fish farming
2. Poor hygiene and sanitation
3. Antibiotics discharged into the surface water

Choose the correct answer using the code given below:

a) 1 and 2 only   b) 3 only
c) 2 and 3   d) 1, 2 and 3

23. **Consider the following statement about the Scheme for Protection and Preservation of Endangered Languages (SPPEL):**

1. It is an initiative by the Ministry of Home Affairs.
2. It is monitored by the Central Institute of Indian Languages (CIIL).
3. Under this scheme, languages which are spoken by less than 10,000 speakers or which are not studied earlier are documented.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 3 only
c) 2 and 3   d) 1, 2 and 3

24. **Consider the following statements about the SATAT scheme:**

1. It is aimed at setting up Compressed Bio-Gas production plants and making them available in the market for use in automotive fuels.
2. It is an initiative by the Ministry of New and Renewable Energy.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

25. **Consider the following statements about the Banking Ombudsman:**

1. This quasi-judicial body was constituted under the Banking Ombudsman Scheme 2006.
2. It is appointed by the Reserve Bank of India.
3. Presently, there are three Ombudsmen for Banking, Non-Banking Finance Company and digital transactions.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 only
c) 2 and 3   d) 1, 2 and 3

26. **The National Company Law Appellate Tribunal (NCLAT) is responsible for hearing appeals from the orders of**

1. National Company Law Tribunal
2. Insolvency and Bankruptcy Board of India
3. Competition Commission of India

Choose the correct answer using the code given below:
a) 1 and 2 only   b) 2 only
c) 1 and 3 only   d) 1, 2 and 3

27. Consider the following statements about the Quasars:

1.   These luminous objects are found only in those galaxies that have supermassive blackholes.
2.   It shows evidence that galaxies underwent a massive phase of star formation.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

28. Consider the following statements about the NISAR:

1.   It is a joint collaboration of ISRO and NASA.
2.   It will measure earth's changing ecosystems, dynamic surfaces and ice masses.
3.   It can collect data day and night in any weather.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 only
c) 1 and 3 only   d) 1, 2 and 3

29. With reference to the sacred groves, consider the following statements:

1.   They are protected under the Biodiversity (Protection) Amendment Act, 2002.
2.   They act as biodiversity hotspots.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

30. With reference to the Dam Rehabilitation and Improvement Project (DRIP), consider the following statements:

1.   It has been taken up in all northeastern states with loan assistance of the World Bank.
2.   It is implemented by the National Disaster Management Authority (NDMA).

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

31. With reference to the Business Advisory Committee (BAC), consider the following statements:

1.   The Speaker of the Lok Sabha acts as its ex-officio chairperson.

2.   It is the largest committee of the parliament consisting of 30 members.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

32. Consider the following statements:

1.   The pardoning power of both President and Governor extends to the cases where the sentence or punishment has been awarded by a Court Martial.
2.   The pardoning power of the Governor doesn't extend to the death sentence.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

33. In context of the Additional Tier 1 bonds, consider the following statements:

1.   These bonds are regulated by SEBI.
2.   The issuing bank has no obligation to pay back the principal or interest to the investors.
3.   These bonds are tradable and exchangeable.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 only
c) 1 and 3 only   d) 3 only

34. Consider the following statements about the Inner Line Permit (ILP):

1.   It is an official travel document issued by both the central and state government.
2.   This document is required by citizens to enter the protected areas.
3.   ILP is required to enter all northeastern states of India.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 only
c) 1 and 3 only   d) None of the above

35. Which of the following is/are notable contributions of Guru Gobind Singh to Sikhism?

1.   Khalsa
2.   Dasam Granth
3.   masand institution

Choose the correct answer using the code given below:

a) 1 and 2 only   b) 2 only
c) 1, 2 and 3 only   d) 3 only

36. **Consider the following statements about the Financial Stability and Development Council (FSDC):**
1. It is a statutory body.
2. The Governor of the Reserve Bank of India (RBl) acts as a chairperson of FSDC.

Which of the statements given above is/are correct?
a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

37. **Consider the following statements about the LUPEX mission:**
1. It is a joint lunar polar exploration mission of India and Japan.
2. It aims to send a lander and rover to the Moon's north pole around 2024.

Which of the statements given above is/are correct?
a) 1 only   b) 2 only
c) both 1 & 2   d) neither 1 nor 2

38. **Consider the following statements about the National Employability Enhancement Mission:**
1. It is a joint initiative of the Ministry of Labour & Employment and Ministry of Skill Development and Entrepreneurship .
2. Its objective is to offer on the job practical training to enhance the employability of a person who has discontinued studies after Class 10th.

Which of the 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 the Eco-Sensitive Zones (ESZs), consider the following statements:**
1. These are notified by the state government around Protected Areas, National Parks and Wildlife Sanctuaries.
2. They act as a transition zone from areas of high protection to areas involving lesser protection.
3. ESZs are declared under the Wild Life Protection Act, 1972.

Which of the statements given above is/are correct?
a) 1 and 2 only   b) 2 only
c) 2 and 3 only   d) 3 only

40. **Consider the following statements about the National Commission for Safai Karamcharis (NCSK):**

1. It is a statutory body constituted under the NCSK Act, 1993.
2. It can investigate specific grievances of Safai Karamcharis.
3. Union Minister of Social Justice & Empowerment acts as its ex-officio chairperson.

Which of the statements given above is/are correct?
a) 1 and 2 only   b) 2 only
c) 1 and 3 only   d) 2 and 3 only

41. **In context of Investor Education and Protection fund Authority (IEPFA), consider the following statement:**
1. It was established under the Society Registration Act, 1860.
2. It is entrusted with the responsibility of making refunds of shares, unclaimed dividends, matured deposits etc. to investors.
3. Union Minister of Consumer Affairs, Food and Public Distribution, act as the ex-officio Chairman of this authority.

Which of the statements given above is/are correct?
a) 1 and 2 only   b) 2 only
c) 1 and 3 only   d) 3 only

42. **Consider the following statements about the Pradhan Mantri Swasthya Suraksha Nidhi:**
1. This non-lapsable reserve fund for Health is set up under the Public Account.
2. Proceeds of health and agriculture cess will be credited into PMSSN.
3. Administration and maintenance of the PMSSN is entrusted to the Ministry of Health & Family Welfare.

Which of the statements given above is/are correct?
a) 1 and 2 only   b) 2 only
c) 1 and 3 only   d) 1, 2 and 3

43. **Consider the following statements about the Cigarettes and Other Tobacco Products Act, 2003**
1. It prohibits advertisement, production, supply and distribution of cigarettes and other tobacco products in India.
2. It prohibits smoking in public places.
3. Under this act, tobacco products cannot be sold in places within 10000 yards radius from the outer boundary of an institution of education.

Which of the statements given above is/are correct?

a) 1 and 2 only b) 2 only

c) 1 and 3 only d) 1, 2 and 3

44.   With reference to the Sattras, consider the following statements:

1.   These monastic institutions were created as part of the Neo-Vaishnavite reformist movement.

2.   These institutions have paramount importance in Manipur culture.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) neither 1 nor 2

45.   With reference to the Central Employment Guarantee Council, consider the following statements:

1.   It was constituted under the Mahatma Gandhi National Rural Employment Guarantee Act, 2005.

2.   It is chaired by the Union Minister of Labour & Employment.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) neither 1 nor 2

46.   In context of the Bio Medical Waste Management (BMWM) Rules, 2016, consider the following statements:

1.   It aims for complete phase-out of usage of chlorinated plastic bags, gloves and blood bags within two years.

2.   It calls for establishing a Bar-Code System for bags or containers containing bio-medical waste for disposal.

3.   It puts emission limits on Dioxin and furans.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 only

c) 1 and 3 only   d) 1, 2 and 3

47.   Consider the following statements about the Agricultural Labourers:

1.   An agricultural labourer has no risk in the cultivation, as he merely works on another person's land for wages.

2.   An agricultural labourer has the right of lease or contract on land on which she/he works.

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 about the National Beekeeping & Honey Mission (NBHM):

1.   It aims to achieve the goal of 'Golden Revolution' as part of Atmanirbhar Bharat Abhiyaan.

2.   It is being implemented through the National Bee Board.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) neither 1 nor 2

49.   In context of the Kathakali dance, consider the following statements:

1.   This classical dance incorporates movements from ancient Indian martial arts and athletic traditions of South India.

2.   This classical dance is indigenous to the state of Tamil Nadu.

3.   This form of dance is based on themes of Ramayana, the Mahabharata, and stories from Shaiva literature.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 only

c) 1 and 3 only   d) 3 only

50.   Consider the following statements about the TULIP program:

1.   It is a centrally sponsored scheme aims at providing strategic funding to higher educational institutions throughout the country.

2.   It is implemented by the Ministry of Education in partnership with NITI Aayog.

Choose the correct answer using the code given below:

a) 1 only   b) 2 only

c) both 1 & 2   d) neither 1 nor 2

51.   Consider the following statement about the Channapatna toys:

1.   It is a particular form of wooden toys that are manufactured in the Andhra Pradesh state.

2.   It is awarded with the geographical indication tags.

3.   Tipu Sultan invited artisans from Persia to train the local artisans for making these toys.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 and 3 only

c) 3 only   d) 1, 2 and 3

52.   Consider the following statements:

1.   India is the world's largest producer of bricks.

2.   The Energy Efficiency Enterprise (E3) Certifications Programme for the Brick manufacturing Sector is aimed at tapping the huge energy efficacy potential of the bricks making sector.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) neither 1 nor 2

53.   Consider the following statements about the Bambusa bambos or Indian thorny bamboo:

1.   This bamboo species is endemic to northeastern India.

2.   It flowers only once in its lifecycle.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) neither 1 nor 2

54.   Consider the following statements about the Gelatin Sticks:

1.   These are cheap explosive materials that can only be used by government agencies for the purpose of mining.

2.   They can be used without a detonator.

3.   Manufacturing of gelatin sticks is regulated by Petroleum and Explosives Safety Organization (PESO).

Which of the statements given above is/are correct?

a) 1 and 2 only b) 2 and 3 only

c) 3 only d) 1, 2 and 3

55.   In context of the Sunderbans, consider the following statements:

1.   It is the world's largest mangrove delta and home to the Royal Bengal Tiger

2.   The Forest Survey of India (FSI) report 2019 pointed that Sunderbans has increased 2 percent between 2017 and 2019.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) neither 1 nor 2

56.   In context of the Bhagat Singh, consider the following statements:

1.   He established the Hindustan Republican Association.

2.   During his stay in jail, he went on a hunger strike against the policy of better treatment for prisoners of foreign origin.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) neither 1 nor 2

57.   Consider the following statements about the Indus Waters Treaty:

1.   This water-distribution treaty between India and Pakistan was brokered by the United Nations.

2.   This treaty allocated equal share of water to both countries.

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.   Which of the following agencies are associated with producing and releasing the System of Environmental Economic Accounting (SEEA)?

1.   European Commission

2.   Organisation for Economic Co-operation and Development

3.   International Monetary Fund

Choose the correct answer using the code given below:

a) 1 and 3 only   b) 2 only

c) 1 and 3 only   d) 1, 2 and 3

59.   In context of the Bhaona, consider the following statements:

1.   This traditional form of entertainment is written in both Assamese and Bengali language.

2.   Ramanuja created it to convey spiritualism in the Vaishnav mould.

3.   It is also known as Ankiya Nats.

Which of the statements given above is/are correct?

a) 1 and 2 only   b) 2 only

c) 2 and 3 only   d) 3 only

60.   Which of the following criteria is/are used for identification of Particularly Vulnerable Tribal Groups (PVTGs)?

1.   Pre-agricultural level of technology

2.   Declining or stagnant population

3.   Economic backwardness

Choose the correct answer using the code given below:

a) 1 and 2 only   b) 2 and 3 only

c) 3 only   d) 1, 2 and 3

ANSWERS

1. d	16. c	31. a	46. d
2. d	17. b	32. b	47. a
3. c	18. a	33. d	48. b
4. c	19. d	34. b	49. c
5. c	20. b	35. a	50. d
6. d	21. c	36. d	51. b
7. c	22. d	37. a	52. b
8. c	23. c	38. b	53. c
9. d	24. a	39. b	54. c
10. d	25. d	40. b	55. a
11. c	26. d	41. b	56. b
12. c	27. c	42. c	57. d
13. b	28. d	43. a	58. d
14. b	29. b	44. a	59. d
15. a	30. d	45. a	60. d