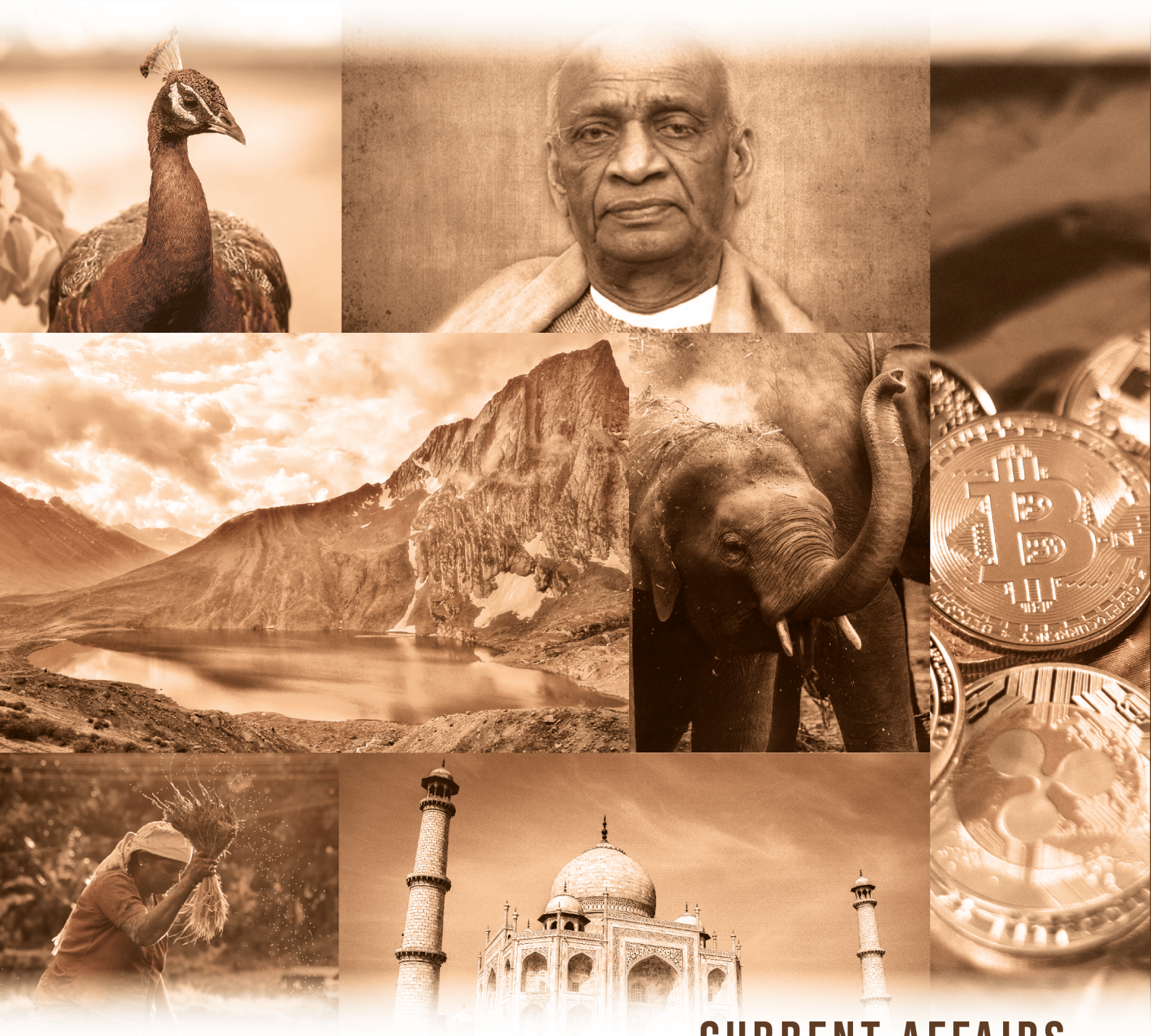ISSUE **04**

JUNE EDITION 2022

Varthaman

MONTHLY CURRENT AFFAIRS MAGAZINE
BY RV TRAINING ACADEMY

CURRENT AFFAIRS
& ESSAYS OF THE MONTH

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Sardar Vallabhbhai Patel

THE MAN BEHIND UNITED INDIA

Vallabhbhai Jhaverbhai Patel, one of the six children of Jhaverbhai Patel and Laad Bai Patel **was born in Nadiad, Gujarat.** He was an ordinary kid who completed his matriculation at the age of 22 and later went to England to pursue his dream of becoming a barrister. On his return to India in 1913, he set up practice in Ahmedabad and made a great success of it. He came to enjoy a respected position in public life due to his eminence as a Barrister.

In the initial stages of the freedom movement, Patel was neither keen on active politics nor the principles of Mahatma Gandhi. However, the meeting with Gandhi in **Godhra (1917)** fundamentally changed Patel's life. Patel joined the Congress and became the secretary of the Gujarat Sabha that became a Congress stronghold later. It was the **Bardoli Satyagraha of 1928** which earned **Vallabhbhai Patel the title of 'Sardar'** and made him popular throughout the country. So great was the impact that Pandit Motilal Nehru suggested Vallabhbhai's name to Gandhiji for the presidency of the Congress.

After Independence, he became India's first Deputy Prime Minister. On the first anniversary of Independence, Patel was appointed as the Home Minister of India. In what was to become Sardar Patel's most lasting legacy, he took charge of the States Department and was responsible for the accession of 565 princely states into the Union of India. Paying tribute to him, Nehru called Sardar **'the builder and consolidator of new India.'**

Patel was clearly conscious of the fact that independent India needed 'a steel frame to run its civil, military, and administrative bureaucracy'. Blessed with practical acumen, great wisdom and political foresight, he took up the uphill task of unifying India. He began lobbying with the princes and monarchs of the separate states to accede to the government in full faith. He used the tactics of invoking patriotism in the Indian rulers and proposed favorable terms for the merger. His commitment to national integration in the newly independent country was total and uncompromising, earning him the sobriquet **"Iron Man of India".**

It was Sardar Patel's vision to create an All India Services. The objective was preserve unity and integrity of the nation through a unified structure and standards of administration. Patel's address to the probationers to maintain utmost impartiality and incorruptibility of administration is as relevant today as it was then: "A civil servant cannot afford to, and must not, take part in politics." Due to his contribution to the present-day All India Administrative Services, Patel is regarded as **"Patron Saint of India's Civil Servants"** and **"Father of Indian Civil Service".**

Vallabhbhai Patel was one of the chief architects and guardians of India's freedom and his contribution towards consolidating the freedom of the country remains unrivalled. Vallabhbhai Patel has been conferred with the highest civilian honour in India, the Bharat Ratna (Jewel of Bharat or India).

Purpose of the magazine

The purpose of Varthaman is to focus solely on issues which are relevant to the actual as well as applied aspects of the General Studies syllabus. The unique way the "Varthaman" team puts forward the facts and analysis would help you understand, retain and reproduce the information during the journey towards toppers' list.

The sources relied for selection and application of issues

The Hindu
The Indian Express
Times of India
PIB
Live Mint
Hindustan Times
News on Air
Prasar Bharati website
IDSA Website
NASA website
PRS India Website
Down to Earth
Rajya Sabha tv website
Lok Sabha tv website
Economic and Political Weekly
Yojana
Kurukshetra
NITI Aayog reports
BBC

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Features of the magazine

Current Affairs Analysis

- This month's edition covers the analysis of news from the immediately preceding month.
- The news are categorized subject wise viz. Polity, Economics, Environment & Ecology, Science & Technology, International Relations, etc. for easy and efficient study.
- Lead articles on burning issues are included.

Essays of the month

- Selected essays from RVTA students.

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Polity and Governance

SEDITION LAW

In News: The Central government has informed Supreme court that it will reexamine the sedition law.

WHAT THE APEX COURT SAID	WHAT IS SECTION 124(A)?	
This government has been scrapping many obsolete laws. We don't know why they are not looking into this law? Continuance of this law is a serious threat to liberty	Under Section 124A of IPC, the offence of sedition is committed when any person by words or otherwise brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards, the govt established by law	● The penal provision is punishable with a jail term ranging between three years to life term
● The enormous power of misuse of this section can be compared with a carpenter with a saw. Instead of cutting a tree, he cuts the entire forest ● There is no dispute that it is a colonial law and was used by the British to suppress freedom and was used against Mahatma Gandhi... Is this law still needed after 75 years of Independence?	**LOW CONVICTION RATE** ● Between 2016 and 2019, the number of sedition cases rose by 160% to 93 ● But in 2019, the conviction rate was 3.3% ● This means just 2 of the 93 accused were convicted	

More on the Topic:

- **What is sedition law?**
- The penal law on sedition was drafted by **British historian-politician Thomas Babington Macaulay in 1837.**
- In the provisions of the law, sedition was defined as an act by "whoever, by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards, the Government established by law in India, shall be punished with imprisonment for life, to which a fine may be added; or, with imprisonment which may extend to three years, to which a fine may be added; or, with fine."
- In the 19th and 20th centuries, the colonial British government primarily used the sedition charge, which was included in Section 124 A of the Indian penal code in 1870, to suppress the writings and speeches of Indian nationalists and freedom fighters to crush dissent.

What Does Section 124 A of IPC say?

- Under section 124A of IPC, **sedition is a non-bailable offence,** punishable with imprisonment from three years up to life, along with a fine.
- If a person is charged under section 124A of IPC, they are barred from all kinds of government jobs and their passport is seized by the government.
- Ironically, the British government abolished the controversial law in United Kingdom in 2010.

Concerns:

- The 2020 National Crime Records Bureau (NCRB) report states that in 2018, 70 sedition cases of sedition were filed, however, not a single person was convicted.
- Similarly, 93 cases were filed in 2019, of them, only two were convicted. In 2020, 73 cases were filed and no one was convicted of sedition.

- This is an indication of inappropriate use of sedition law to crush dissent.
- Justice U.U. Lalit, in his recent judgment, quashed a sedition case against a person for his alleged remarks about the PM and the Union Government.
- Justice D.Y. Chandrachud had flagged the indiscriminate use of the sedition law against people who aired their grievances about the government's COVID management.

What is Law Commission's stance on sedition law?

- The Law Commission has also called for a **reconsideration of the section.**
- **The commission asked for inclusion of safe guards to prevent misuse of the law.**
- It has pointed that Britain abolished it more than a decade ago and raised the question of whether a provision introduced by the British to put down the freedom struggle should continue to be law in India.
- The commission also urged for striking a balance between sedition and the right to freedom of speech.

APPOINTMENT OF SUPREME COURT JUDGES

In News: Union with the new appointments, the Supreme Court will regain its full sanctioned strength of 34 judges.

More on the Topic:

- The judges of the supreme court are appointed by the president.
- The chief justice is appointed by the president after consultation with such judges of supreme court and the other judges are appointed by president after the consultation with the chief justice and such other judges of the supreme court.
- The consultation with the chief justice is obligatory in case of appointment of a judge other than chief.
- **First judges case:** The court held that consultation does not mean concurrence and it only implies exchange of view.
- **Second judges case:** The court reversed its earlier ruling and changed the meaning of the word consultation.
- Hence, it ruled that **the advice tendered by the chief justice of India is binding on the president** in matters of appointment of the judges of the supreme court .but , the chief justice would tender his advice on the matter after consulting two of his senior most colleagues.
- **Third judges case:** The court held that the consultation process to be adopted by the chief justice of India requires **consultation of plurality judges.**
- Sole opinion of chief justice of India does not constitute the consultation process.

- He should consult a collegium of four senior most judges of supreme court and even if two judges give an adverse opinion, he should not send the recommendation to the government the court held that the recommendation made by the chief justice of India without complying with the norms and requirements of the consultation process are not binding on the government.

- The constitution has not prescribed a minimum age of appointment as a judge of the Supreme court.

About Supreme Court:

- The Indian constitution has established **an integrated judicial system with the supreme court at top and the high court below it.**

- The supreme court of India was **inaugurated on 28 January 1950.**

- **Article 124 to 147 in part v of the Indian constitution** deal with the organization, independence, jurisdiction power, procedure of supreme court. The parliament also authorized to regulate them.

PARDONING POWER

In News: The Centre's claim that the president, and not the governor, has "exclusive power" to decide Perarivalan's plea drew criticism from the Supreme Court.

More on the Topic:

- **Article 72 of the Constitution** gives the president the right to grant pardons, remit, or commute the sentences of anyone convicted of any crime.

- The power to pardon is exercised by the president on the advice of the Council of Ministers.

- The President shall have the power to grant pardons, reprieves, Respites or remissions of punishment or to suspend, Remit or commute the sentence of any person convicted Of any offence:

- In all cases where the punishment or sentence is by a Court Martial;

- In all cases where the punishment or sentence is for an Offence against any law relating to a matter to which the Executive power of the union extends;

- in all cases where the sentence is a sentence of death.

- Article 161 of the Constitution gives the Governor the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the State extends.

Difference Between Pardoning Powers of President and Governor:

- The scope of **the pardoning power of the President under Article 72 is wider than the pardoning power of the Governor** under Article 161 which differs in the following two ways:

- Court Martial: The power of the President to grant pardon extends in cases where the punishment or sentence is by a Court Martial but Article 161 does not provide any such power to the Governor.

- Death sentence: The President can grant pardon in all cases where the sentence given is the sentence of death but the pardoning power of the Governor does not extend to death sentence cases.

INTER-STATE COUNCIL

In News: The Centre has reconstituted the Inter-State Council, which works to promote cooperative federalism.
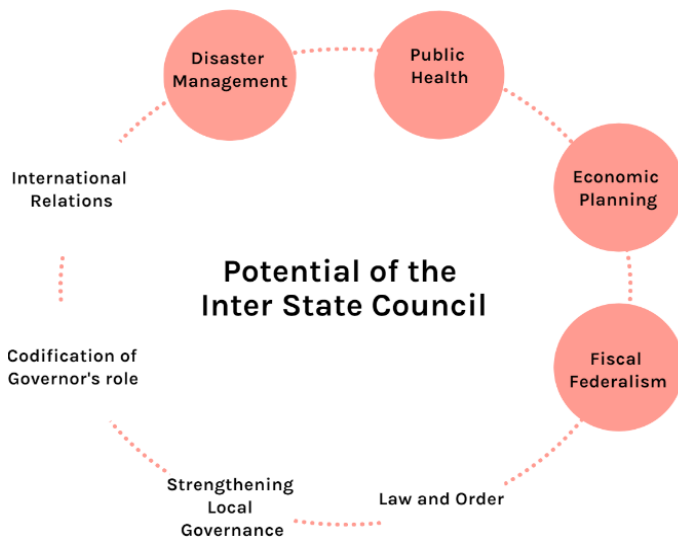
More on the Topic:

- Art 263 contemplates the establishment of an inter-state council to effect coordination between the states and between centre and states.

- **The President can establish such a council at any time** it appears to him that public interest would be served by its establishment. He is also authorized to define the nature of duties to be performed by such a council and its organization and procedure

Composition of the Council:

- Headed by the PM, the Council will comprise six Union ministers, besides the Chief Ministers of the 28 states and UTs with a legislature, and administrators of UTs without a legislature.

- It will also have 10 Union ministers as permane invitees. The government has also reconstituted the standing committee of the Council, with Home Minister Amit Shah its chairman.

Significance of the Council:

- Mandated with creating a strong institutional framework to promote and support cooperative federalism, the Council helps the Centre and states to find solutions to differences on policy and governance.

OBC QUOTA IN LOCAL BODY POLLS

In News: The Supreme Court has allowed local body elections in Madhya Pradesh with reservation for OBCs on the basis of a second report filed by the state backward classes commission.

More on the Topic:

- This is the first time that a state government has managed to clear the triple test formula mandated by the apex court in the context of providing reservation for OBCs in local body polls.

- Earlier, the SC while hearing a plea by the Maharashtra government decided to recall its December 2021 order, which stayed 27% reservation for Other Backward Classes (OBCs) in local body elections.

What was the "triple test" prescribed by the SC, and under what circumstances?

- The triple conditions to empirically establish the need for OBC quota were

- 1) a state commission must "conduct contemporaneous rigorous empirical inquiry into the nature and implications of the backwardness qua local bodies, within the state";

- 2) specify the proportion of reservation required to be provisioned local body wise in light of recommendations of the commission; and

- 3) total "reservation (must) not exceed the aggregate of 50% of the seats".

About Reservation in Local Body polls:

- The 73rd and 74th amendments provided compulsory reservation for SCs, STs, and women in Panchayats and Municipalities.

- However, reservation for backward classes is left to the discretion of state governments.

BIOLOGICAL RESEARCH REGULATORY APPROVAL PORTAL

In News: Minister of Science and Technology has launched Biological Research Regulatory Approval Portal named "BioRRAP".

Biological Research Regulatory Approval Portal (BioRRAP)

More on the Topic:

- The Portal "BioRRAP" will cater to all those seeking regulatory approval for biological research & development activity in the country.

- It is intended to deliver **"Ease of Science as well as Ease of Business".**

- The Portal will also allow stakeholders to see the approvals accorded against a particular application through **a unique BioRRAP ID.**

- Portal will strengthen **interdepartmental synergies and bring accountability, transparency and efficacy** in functioning of agencies regulating various aspect of biological research and issuing permission.

India's Biotechnology Sector:

- India is among the top 12 destinations for biotechnology worldwide.

- The country is also the world's third-largest producer of recombinant Hepatitis B vaccine and second-largest producer of BT cotton (genetically modified pest resistant plant cotton).

- The Indian biotech industry holds about 2 per cent share of the global biotech industry.

- Biotechnology can usher in a second Green Revolution with unprecedented opportunities to ensure food security along with the economic well-being of the farmer. Indian farmers have increasingly opted for Genetically Modified Bt cotton seeds to enhance productivity.

CENTRAL ADMINISTRATIVE TRIBUNAL

In News: The Supreme Court said the Central Administrative Tribunal (CAT) has collapsed, in view of several vacancies in it.

More on the Topic:

- Vacancies in the CAT would impinge upon the citizens' right of access to justice, the exercise of jurisdiction of Article 142 is mandated.

About Tribunals:

- Tribunals are institutions established for **discharging judicial or quasi-judicial duties.** The objective may be to reduce case load of the judiciary or to bring in subject expertise for technical matters.

- The Supreme Court has ruled that tribunals, being quasi-judicial bodies, should have the same level of independence from the executive as the judiciary. Key factors include the mode of selection of members, the composition of tribunals, and the terms and tenure of service.

- In order to ensure that tribunals are independent from the executive, the Supreme Court had recommended that **all administrative matters be managed by the law ministry rather than the ministry associated with the subject area.**

- Later, the Court recommended creation of an independent National Tribunals Commission for the administration of tribunals. These recommendations have not been implemented.

- Whereas the reasoning for setting up some tribunals was **to reduce pendency of cases in courts,** several tribunals are facing the issue of a large case load and pendency.

- There is no hierarchy of tribunals in this country.

About Central Administrative Tribunal:

- The Central Administrative Tribunal (CAT) **was established in 1985** through the Administrative Tribunals Act.

- It was established under **Article 323 - A of the Constitution** for the purpose of resolving disputes and complaints relating to the recruitment and conditions of service of persons appointed to public services and posts in connection with the Union's affairs or other authorities under the Government's control.

- The Tribunal is guided by the principles of natural justice in deciding cases and is not bound by the procedure, prescribed by the Civil Procedure Code.

- The orders of Central Administrative Tribunal are challenged by way of Writ Petition under Article 226/227 of the Constitution before respective High Court in whose territorial jurisdiction the Bench of the Tribunal is situated.

'MOTHER NATURE' AS A 'LIVING BEING' HAVING THE STATUS OF A LEGAL ENTITY

In News: Madras High Court has invoked the 'parens patriae jurisdiction', and declared 'Mother Nature' as a 'living being' having the status of a legal entity.

More on the Topic:

- 'Mother Nature' was accorded **the rights akin to fundamental rights, legal rights, constitutional rights for its survival, safety, sustenance and resurgence** in order to maintain its status and also to promote its health and well-being.

- The State and Central governments are directed to protect 'Mother Nature' and take appropriate steps in this regard in all possible ways.

- The natural environment is part of basic human rights, of 'right to life'.

The Parent Patriae Jurisdiction:

- 'Parens patriae' is a Latin term meaning **'parent of his or her country'.**

- It describes the power of the state to act as a guardian for those who are can't care for themselves — such as animals, children or the disabled.

- Examples: Supreme Court in **'Animal Welfare Board of India vs A Nagaraja & Ors '**, held that the Court has a duty under the doctrine of parens patriae to take care of animal's rights.

- In **'Bhopal gas leak disaster case'**, the SC stated that the parens patriae theory makes it imperative for the State to protect rights of the citizens when they are not in a position to do so.

THE ADVERTISING STANDARDS COUNCIL OF INDIA (ASCI)

In News: To ensure that consumers who deal in virtual digital assets are fully aware of the risks and are not misled, ads must comply with the ASCI guidelines.

More on the Topic:

- The guidelines which were introduced in late February this year came into effect in April.

- VDA advertisers and brands should prominently carry a disclaimer saying, "Crypto products and NFTs are unregulated and can be highly risky. There may be no regulatory recourse for any loss from such transactions."

- In case of non-compliance, ASCI can recommend corrections in the ads and for companies which fall under the Cable Act, the ad regulator can prohibit the broadcast of ads by such firms.

- ASCI doesn't have legal powers for complaint redressal or removal of ads for mediums like digital.

- According to Ministry of Information and Broadcasting it will ensure no advertisement violating the ASCI Code shall be carried in the cable service.
- ASCI can not only suggest changes in an ad but can also forward the same to an Authorising Officer (AO) under the Cable Television Network Act, 1995 (Cable Act), if the advertiser doesn't comply with ASCI's recommendations.
- This gives legal backing to the ASCI decisions.

Virtual Digital Assets:

- Virtual Digital Assets are **subsets of all digital assets transacted on a blockchain,** such as non-fungible tokens (NFTs), cryptos and other virtual assets.
- Virtual currencies are a form of digital currency.
- They are issued by private parties, such as a group of developers or organizations, and are intended only for online use—they do not have a physical incarnation like paper money.

The Advertising Standards Council of India:

- The Advertising Standards Council of India is a voluntary self-regulatory organization of the advertising industry in India.
- The aim of ASCI is to maintain and enhance the public's confidence in advertising.
- Their mandate is that all advertising material must be truthful, legal and honest, decent and not objectify women, safe for consumers - especially children and last but not the least, fair to their competitors.

Consumer Protection Agency

In News: CCPA has issued advisory to e-commerce entities against illegal sale, facilitation of wireless jammers.

More on the Topic:

- Sale and use of any wireless device without authorization/license under the Indian Telegraph Act, 1885 or Indian Wireless Telegraphy Act (IWTA) 1933, unless exempted by rules, is illegal.
- Jammers are a signal blocking device which transmits synchronized radio waves at the same frequency as a device like a cell phone or drone in order to blur its signal.
- **Under Section 18 of the Consumer Protection Act, 2019,** CCPA is empowered to protect, promote and enforce the rights of consumers as a class, and prevent violation of consumers' rights.
- Further, **CCPA is empowered to prevent unfair trade practices** and ensure that no person engages himself in unfair trade practices. It comes under **Ministry of Consumer Affairs, Food & Public Distribution.**

Consumer Protection Ac 2019:

- **A consumer is defined** as a person who buys any good or avails a service for a consideration.
- It does not include a person who obtains a good for resale or a good or service for commercial purpose.
- It covers **transactions through all modes** including offline, and online through electronic means, teleshopping, multi-level marketing or direct selling.
- Six consumer rights have been defined in the act, including Right to Safety, Right to be Informed, Right to Choose, Right to be heard, Right to seek Redressal, Right to Consumer Education.
- The central government will set up **CCPA to promote, protect and enforce the rights of consumers.** The CCPA will have an investigation wing, headed by a Director-General, which may conduct inquiry or investigation consumer rights violations.
- **The CCPA may impose a penalty** on a manufacturer or an endorser of up to Rs 10 lakh and imprisonment for up to two years for a false or misleading advertisement.

Consumer Disputes Redressal Commission:

- **Consumer Disputes Redressal Commission (CDRCs)** will be set up at the district, state, and national levels. A consumer can file a complaint with CDRCs
- Appeals from a District CDRC will be heard by the State CDRC. Appeals from the State CDRC will be heard by the National CDRC. **Final appeal will lie before the Supreme Court.**
- The act provides for reference to **mediation by Consumer Commissions** wherever scope for early settlement exists and parties agree for it. **The e-commerce portals will have to set up a robust consumer redressal mechanism** as part of the rules under the Consumer Protection Act, 2019.
- A manufacturer or product service provider or product seller will be held **responsible to compensate for injury or damage caused by defective product or deficiency in services.**

Government Schemes

AIM PRIME

In News: Atal Innovation Mission- PRIME (Program for Researchers for Innovation, Market Readiness and Enterpreneurship) Playbook & Startup showcase was launched recently.

More on the Topic:

- Programme was aimed at **promoting early-stage science-based, deep technology ideas to market through training and guidance** over a period of 12 months using a blended learning curriculum.

- The programme will serve an important purpose of creating strong indigenous manufacturing capabilities in all critical sectors.

Atal Innovation Mission:

- The Atal Innovation Mission (AIM) is **a flagship initiative set up by the NITI Aayog** in 2016 to promote innovation and entrepreneurship across the length and breadth of the country.

- AIM's objectives are to create and promote an ecosystem of innovation and entrepreneurship across the country at school, university, research institutions, MSME and industry levels.

- AIM has multiple programs to encourage and support innovation in the country like Atal Tinkering Labs, Atal Incubators.

NORTH EAST CAPACITY BUILDING

In News: Union Minister of State for Electronics & IT and Entrepreneurship & Skill Development launched the NECB 2.0 project

NER at a Glance

Total Geographical Areas (TGA)	263181 Sq. km. (8% of India's TGA)
Total states/districts	8/110
Total population	45587982 as per 2011 census
Population density	148 /Sq. km
Languages spoken	220
Traditional agriculture	Jhum / shifting cultivation
Biodiversity hotspot	51 forest types, 6 out of 9 vegetation types found in NE, 8000 out of 15000 species of flowering plants, highest species diversity in NE (AP – 5000 7 Sikkim – 45000), 800 out of 1500 endangered floral species reported in NE
Average annual Rainfall	~ 2000 mm
Average road density	66 km/ 100 Sq. km.

Socio-economic development in the region governed by MDoNER's (Ministry for Development of North Eastern Region) and North Eastern Council (NEC).

More on the Topic:

- It aims for capacity building and training in digital skill sets and industry demanding technologies for various sections of society in the North East states.

- **Main objective is the overall upliftment of socio economic status of the North East citizens by creating smart eco-system.**

- National Institute of Electronics and Information Technology (NIELIT) is the implementation agency through its centres at Agartala, Aizwal, Gangtok Guwahati, Imphal, Itanagar, Kohima and Shillong.

PM MITRA Parks Scheme

In News: As many as 13 states, including Karnata-ka, gave presentations on setting up of the PM Mega Integrated Textile Region and Apparel (PM-MITRA) scheme.

7 MITRA Parks with a total outlay of ₹4,445 Crores in a period of 5 years

World-class Industrial infrastructure to attract investment

Generation of 7 lakh direct and 14 lakh of indirect employment

More on the Topic:

- PM MITRA park will be developed by a Special Purpose Vehicle which will be owned by the Central and State Government and in a Public Private Partnership (PPP) Mode.

- Each MITRA Park will have an incubation centre, common processing house and a common effluent treatment plant and other textile related facilities such as design centres and testing centres.

- The Master Developer will not only develop the Industrial Park but also maintain it during the concession period.
- Under the scheme, the centre will provide development capital support for the development of common infrastructure of Rs 500 crore for each greenfield MITRA park and upto Rs 200 crore for each brownfield park.
- Greenfield describes a completely new project that has to be executed from scratch, while a brownfield project is one that has been worked on by others.

Significance:
- The park will be a **one-stop shop for all manufacturing activities** and reduce logistics cost.
- PM-MITRA Park will offer the opportunity to create an Integrated textiles value chain right from spinning, weaving, processing, dyeing and printing to garment manufacturing at one location and will reduce logistics cost of Industry,
- Textile parks are expected **to reduce fragmentation in its value chain** and increase exports.
- Each MITRA park **is expected to directly generate 1 lakh jobs** and indirectly generate a further 2 lakh jobs.
- The parks are crucial to attract **Foreign Direct Investment (FDI).**

MPLADS FUNDS

In News: GOI has revised MPLAD guidelines.

MPLADS - Member of Parliament Local Area Development Program

- Launched on 23rd December, 1993
- Rs 5 crore per annum grant to each MP
- To take development project in constituency.
- Applicable to Lok Sabha and Rajya Sabha MPs.
- 15% of annual outlay of funds must be utilized on areas inhibited by Scheduled Caste Population
- 7.5% of annual outlay of funds must be utilized on areas inhibited by Scheduled Tribes Population

Government of India
Ministry of Statistics and Programme Implementation

More on the Topic:
- MPLAD is a central government scheme, under which MPs can recommend development programmes involving spending of Rs 5 crore every year in their respective constituencies.
- MPs from both Lok Sabha and Rajya Sabha, including nominated ones, can do so.
- MPs and MLAs do not receive any money under these schemes.

- **The government transfers it directly to the respective local authorities.** The legislators can only recommend works in their constituencies based on a set of guidelines.
- For the MPLAD Scheme, the guidelines focus on the creation of durable community assets like roads, school buildings etc.
- Recommendations for **non-durable assets can be made only under limited circumstances.**
- For example, last month, the government allowed use of MPLAD funds for the purchase of personal protection equipment, coronavirus testing kits etc.

NATIONAL FILM HERITAGE MISSION

In News: The World's largest film restoration project under National Film Heritage Mission (NFHM) is underway.

More on the Topic:
- The restoration project now awarded is set to commence in full swing at National Film Archive of India (NFAI).
- Launched in 2017, NFHM is the prestigious mission of Government of India, for **preservation, conservation, digitization and restoration of rich cinematic heritage of the country.**
- In addition to restoration, the National Film Heritage Mission also involves the on-going preservation processes of film condition assessment, preventive conservation and digitization.

National Film Archive of India:
- It was set up in 1964 as a media unit of the Ministry of Information & Broadcasting.
- The primary objective of the NFAI is to acquire and preserve the Indian cinematic heritage.

PM WANI SCHEME

In News: Recently, RailTel has launched the Prime Minister Wi-Fi Access Network Interface (PM-WANI) scheme across 100 Indian Railways stations.

More on the Topic:
- Prime Minister Wi-Fi Access Network Interface (PM-WANI) is being seen as an attempt by the government **to elevate wireless internet connectivity in the country.**

- Public Data Offices (PDOs) will be established on the lines of Public Call Offices (PCOs). These PDOs will establish, operate, and maintain only the WANI compliant Wi-Fi access points to deliver broadband services to its subscribers.

- These PDOs will **either provide internet on their own or will lease from some other Internet Service Provider (ISP)**.

- PDO Aggregators (PDOAs) will also be set up. These will perform the function of authorisation and accounting of the numerous PDOs.

- The government **will develop an application which will register the users on to the network.**

- The application will also help them discover WANI-compliant Wi-Fi hotspots in nearby areas

- A central registry will be set-up which will maintain details of all app providers, PDOAs and PDOs. The registry will be handled by the Centre for Development of Telematics (C-DoT).

RailTel Corporation:

- RailTel Corporation is a PSU of Ministry of Railways a "Mini Ratna (Category-I) and is a largest neutral telecom services providers in the country.

- It has a Pan-India optic fiber network covering all important towns and cities of the country and several rural areas covering 70% of India's population.

SMART CITIES

In News: Bhopal, Surat, Bhubaneswar, Udaipur, Ahmedabad, Varanasi and Indore are set to be declared India's 'first set of smart cities'.

More on the Topic:

- The Smart Cities Mission, launched on June 25, 2015, to 'smarten up' cities with eco-friendly hi-tech solutions to urban problems, is in its last year of implementation.

- The mission period ends in June 2023. Of the 100 cities, the seven have taken a lead with most projects completed.

More on Smart City Mission:

- The National Smart Cities Mission is an urban renewal mission launched on June 25, 2015, to promote cities to provide core infrastructure, a clean and sustainable environment, and a decent quality of life to their citizens through the application of 'smart solutions'.

- The purpose of the Smart Cities Mission is to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to Smart outcomes.

- The Ministry of Housing and Urban Affairs (MoHUA) is the implementing ministry in collaboration with the respective state governments. It is a centrally sponsored scheme that initially included 100 cities to be covered between 2019 and 2023.

Challenges ahead:

- Creating energy-efficient and green buildings needs to be addressed effectively. It has not achieved optimally.

- Self-reliant Urban Bodies are one of the important aims of Smart city mission. This has not been achieved in most of the cities.

- There is need to increase citizens use of public transport. Innovative solutions to attract and retain public transport consumers are the need of the hour.

- Increased pace in urbanization has led to increased pollution, congestion, etc. Innovative technologies are needed to address the same.

SYSTEM FOR PENSION ADMINISTRATION (RAKSHA) (SPARSH)

In News: Defence Ministry recently introduced a portal, System for Pension Administration (Raksha) (SPARSH), to directly transfer pension to pensioners.

More on the Topic:

- It aims to provide comprehensive services to defense pensioners.

- It promotes the Government's vision of 'Digital India', 'Direct Benefit Transfer (DBT)' and 'Minimum Government, Maximum Governance'.

How SPARSH works?

- It is an integrated system for automation of sanction and disbursement of defence pension.

- This web-based system processes pension claims and credits pension directly into the bank accounts of defence pensioners without relying on any external intermediary.
- A Pensioner Portal is available for pensioners to view their pension related information, access services and register complaints, if any.
- SPARSH envisages establishment of Service Centres to provide last mile connectivity to pensioners who may be unable to directly access the SPARSH portal.

PRAAPTI PORTAL

In News: According to PRAAPTI portal Total outstanding dues of electricity distribution companies to power producers rose by 4.04 per cent.
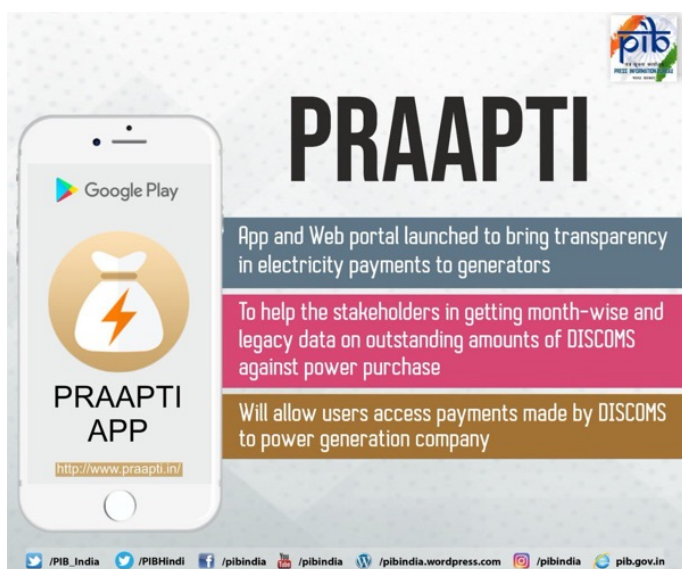
More on the Topic:
- The PRAAPTI portal was launched in May 2018 to bring transparency in power purchase transactions between generators and discoms.
- Its full form is Payment Ratification And Analysis in Power procurement for bringing Transparency in Invoicing of generators.
- The PRAAPTI app and web Portal will capture invoicing and payment data for various long term Power Purchasing Agreements (PPAs) from power generation companies (generators).
- This will help stakeholders in getting month-wise and legacy data on outstanding amounts of Discoms against power purchase.

NATIONAL BEHAVIOUR CHANGE COMMUNICATION FRAMEWORK FOR GARBAGE FREE CITIES

In News: Swachh Bharat Mission-Urban 2.0, under the aegis of the Ministry of Housing and Urban Affairs has launched the 'National Behaviour Change Communication Framework for Garbage Free Cities'.

More on the Topic:
- It will help to strengthen the ongoing jan andolan for 'Garbage Free Cities'.
- It shall serve as a guiding document and blueprint for States and Cities to undertake large scale multimedia campaigns along with intensive and focused inter-personal communication campaigns.
- The framework focuses on intensifying messaging around the key focus areas of source segregation, collection, transportation, and processing of waste, plastic waste management, and remediation of legacy dumpsites to truly transform the urban landscape of India.

About Swach Bharat Mission -Urban:
- SBM-U has set an objective to achieve Clean India by October 2, 2019.
- In the first two years of the SBM-U was focused on bringing about necessary regulatory and policy changes to facilitate the scientific processing of waste
- In the third year, the mission shifted its focus on bringing about behaviour change among citizens and encouraging them to segregate waste at source.
- **SBM-U 2.0, announced in Budget 2021-22,** is the continuation of SBM-U first phase. The government is trying to tap safe containment, transportation, disposal of faecal sludge, and septage from toilets.
- SBM-U first phase was launched on 2nd October 2014 aiming at making urban India Open Defecation Free (ODF) and achieving 100% scientific management of municipal solid waste. It lasted till October 2019.

UNNAT BHARAT ABHIYAN

In News: Unnat Bharat Abhiyan, (UBA) 2.0 completed four years recently.

More on the Topic:
- It is a flagship program of the **Ministry of Education launched in 2014.**
- It aims to link the Higher Education Institutions (HEIs) with a set of at least (5) villages, so that these institutions **can contribute to the economic and social betterment of these village communities** using their knowledge base.
- One of the objectives of the scheme is helping the students and faculty to gain practical knowledge and traditional wisdom.
- It covers two major domains for holistic development of villages – human development and material (economic) development - in an integrated way.
- Under UBA, a network of more than 2600 participating institutions with over 14000 villages are covered.
- The Indian Institute of Technology Delhi (IIT, Delhi) has been designated as the **National Coordinating Institute (NCI)** for the UBA scheme.

ASPIRATIONAL DISTRICT PROGRAMME

In News: The Union Government has reviewed the progress of work under the Aspirational District Programme (ADP).

More on the Topic:

- **The NITI Aayog coordinates and manages** the programme with support from Central Ministries and the State Governments

- It aims to quickly and **effectively transform some of India's most underdeveloped districts.**

- It will identify areas of immediate improvement, measure progress, and rank districts.

- The broad ideas of the programme include -

- **convergence** of central and state schemes

- **collaboration** of central, state level 'Prabhari' (in-charge) officers and district collectors

- **competition** among districts

Monitoring of the Programme:

- NITI Aayog in partnership with the government of Andhra Pradesh has created a dashboard.

- This is for monitoring the real-time progress of the districts.

- District collectors of all the aspirational districts can input the latest available data of their respective districts.

- The dashboard will also be open to the public.

MEGHALAYA ENTERPRISE ARCHITECTURE (MEGHEA)

In News: The Meghalaya Enterprise Architecture (MeghEA), has won a coveted UN Award World Summit on the Information Society Forum (WSIS) Prizes, 2022.

More on the Topic:

- The project aims to improve service delivery and governance for the people using the power of Digital technologies.

- Enterprise Architecture (EA) is the process by which organizations standardize and organize IT (Information Technology) infrastructure to align with business goals.

- The initiative is spread across 6 pillars i.e. Governance, Human Resources, Entrepreneurship, Primary Sector, Infrastructure and Environment, and envision to make Meghalaya a high income state by 2030.

'BHARAT TAP' INITIATIVE

In News: The Minister for Housing and Urban Affairs & Petroleum and Natural Gas has launched the BHARAT TAP initiative.

More on the Topic:

- BHARAT TAP initiative will provide low-flow, sanitary-ware at scale, and thereby reduce water consumption at source considerably.

- It is estimated to save approximately 40% of water. This will in turn result in water saving and energy saving due to less water and energy will be required for pumping, transporting, and purification.

- This initiative will also be accepted quickly in the country and will lead to a renewed focus on water conservation efforts.

MISSION AMRIT SAROVAR

In News: A high level meeting held to review the progress of the Mission Amrit Sarovar.

More on the Topic:

- The Mission is aimed at **developing and rejuvenating 75 water bodies in each district of the country** as a part of celebration of Azadi ka Amrit Mahotsav.In total, it would lead to creation of 50,000 water bodies of a size of about an Acre or more.

- This Mission has been launched with a whole of Government Approach in which 6 Ministries/Department namely Dept of Rural Development , Department of land resources, Department of Drinking Water and Sanitation, Department of Water resources, Ministry of Panchayati Raj, Ministry of Forest, Environment and Climate changes.

- **People's participation in the Mission is the focal point.**

- Local freedom fighter, their family members, Martyr's family members, Padma Awardee and citizens of the local area wherein an Amrit Sarovar is to be constructed, will be engaged at all stages.

INDIA HYPERTENSION CONTROL INITIATIVE (IHCI)

In News: ICMR report has found out that One in four adults in India suffers from hypertension and only 10% of patients have their blood pressure under control.

More on the Topic:

- Cardiologists noted that managing blood pressure for 25 million individuals can prevent up to half a million deaths due to cardiovascular disease in the next 10 years.

- High blood pressure, if undetected or inadequately treated, contributes to a very high disease burden of heart attacks and failure, brain strokes, kidney disease, vascular dementia, aneurysms and blocks of blood vessels.

Suggestions in the Report:

- We need to improve **the capacity of primary care systems** to detect hypertension early, assess co-existing risk factors and provide continuous long-term care.

- We also need to foster **capacity for self-monitoring and care.**

- Health gains of hypertension control will be immense for India.

About Hypertension:

- Blood pressure is **the force of blood against the arteries.**

- High blood pressure (hypertension) is a common condition in which the long-term force of the blood against your artery walls is high enough that it may eventually cause health problems, such as heart disease.

- A normal blood pressure level is less than 120/80 mmHg.

"MALAVIYA MISSION"

In News: "Malaviya Mission" was launched recently. It intends for capacity building of teachers/faculty in higher education institutes. It is in line with National Education Policy.
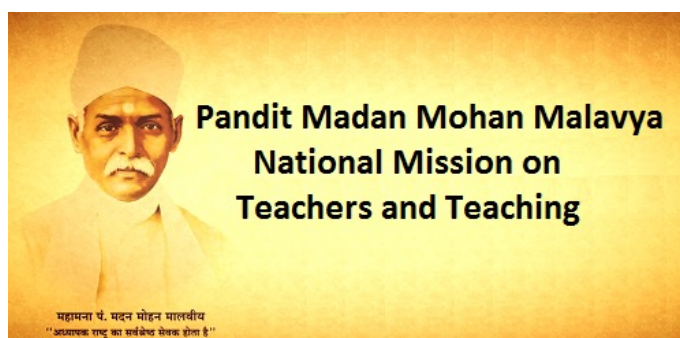
More on the Topic:

- The scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching aims to address shortcomings relating to teachers and teaching in schools, higher education institutes and technical education institutes using the best international practices for excellence.

- It aims to create and strengthen the institutional mechanisms for training teachers. Teachers will be given refresher courses and retrained in generic skills, pedagogic skills, discipline specific content upgradation along with ICT and technology enabled training.

- A total of 5,62,138 trainees have undergone professional development training under this mission.

NATIONAL SKILL DEVELOPMENT FUND (NSDF)

In News: National Skill Development Fund is receiving corporate social responsibility funds.

More on the Topic:

- The National Skill Development Fund was set up in 2009 by the Government of India for raising funds both from Government and Non-Government sectors for skill development in the country.

- The Fund is contributed by various Government sources, and other donors/ contributors to enhance, stimulate and develop the skills of Indian youth by various sector specific programs.

- The Fund meets its objectives through National Skill Development Corporation (NSDC) which is an industry led 'Not For Profit Company' set up for building skill development capacity and forging strong linkages with the market.

- NSDC acts as a catalyst in skill development by providing funding to enterprises, companies and organizations that provide skill training.

- **NSDC was set up by Ministry of Finance as Public Private Partnership (PPP) model.**

"GATISHAKTI SANCHAR" PORTAL

In News: Department of Telecommunication has Launched "GatiShakti Sanchar" Portal for Centralised Right of Way (RoW) approvals.

More on the Topic:

- RoW is **the legal right, allowing online filing of application.** Basically, this is **a framework** for setting up telecom towers, laying fibre cables, settling disputes, and improve coordination among companies.

- The portal will enable applicants form various Telecom Service providers (TSPs) as well as Infrastructure providers (IPs) **to apply at a common single portal for Right of Way permissions** to lay down Optical Fibre Cable and for erecting mobile towers to State/UT Governments and local bodies.

- As it **smoothens the process of RoW permissions** as well as faster approvals; it is believed to facilitate easy rollout of 5G services, in which a Base Transceiver Station (BTS) is installed at very short intervals.

- For effective monitoring of RoW applications across the country, the portal even comes fitted with **a potent dashboard showing State and District wise pendency status.**

Significance of the portal:

- Fast laying of more Optical Fiber Cable and thus will **accelerate fiberization.**

- Increased tower density which will **enhance connectivity and improve the quality of various telecom services**

- Increased fiberization of telecom towers, thus ensuring **better Broadband speed**, across the country.

NATIONAL CRECHE SCHEME

In News: Ministry of Women and Child Development stopped payment to creches in FY 2021-22 stating that all creches were closed last year.
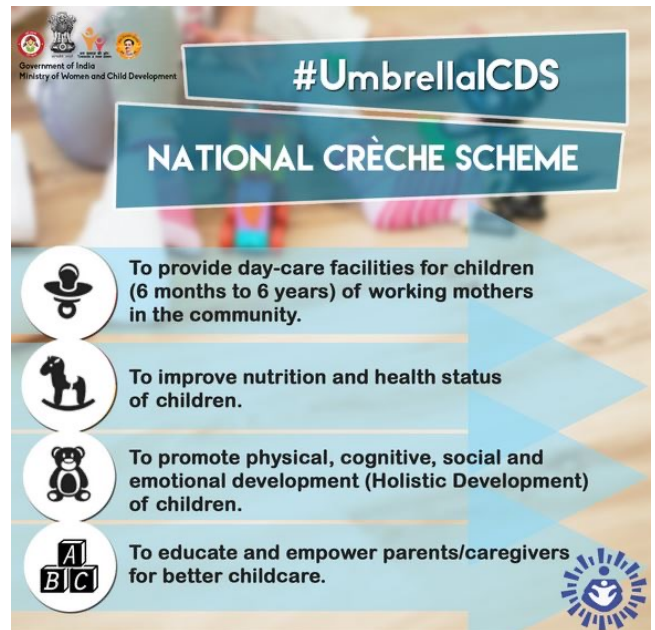
More on the Topic:

- This centrally sponsored scheme is being implemented by **the Ministry of Women and Child Development (WCD).**

- The scheme, previously known as the Rajiv Gandhi National Creche Scheme for The Children of Working Mothers dates back to January 1, 2006.

- It was launched **to primarily nurture children between six months to six years from mothers belonging to low-income groups who go to work at least 15 days in a month.**

- While BPL families pay ₹20 per child per month, the fee ranges from ₹100 to ₹200 for others.

- The centre provides 60 per cent of the funds in all states, except the Himalayan and North Eastern states.

- The remaining 30 per cent funds are provided by the state, while NGOs puts in 10 per cent from their corpus.

- Concerns: Ministry stated that Creches were not functioning during covid 19. The reality is that there were many creches which were functioning and they faced severe fund crunch.

- NGO which provided their funds for the scheme has not received their share from the government.

- As many as 11,582 creches functioning under this scheme have been shut down between FY18 and FY20.

- These facts have affected low income group working mothers adversely including quiting from work force to take care of their toddlers.

Way Ahead:

- More funds should be allocated under the scheme to meet the growing demand for creches.

- The scheme may be revamped and expanded and the WCD ministry should be approached for more allocation, emphasising the need for creches in view of safety of children of working mothers.

SWACHH SURVEKSHAN 2023

In News: Union Government has launched the Eighth Edition of Swachh Survekshan – SS-2023 under Swachh Bharat Mission Urban 2.0.

More on the Topic:

- **Swachh Survekshan is a ranking exercise** taken up by the Government of India to assess rural and urban areas for their levels of cleanliness and active implementation of Swachhata mission initiatives in a timely and innovative manner.

- The objective of the survey is **to encourage large scale citizen participation and create awareness** amongst all sections of society about the importance of working together towards making towns and cities a better place to live in.

- Additionally, the survey also intends **to foster a spirit of healthy competition** among towns and cities to improve their service delivery to citizens, towards creating cleaner cities and towns.

- The Ministry of Urban Development, Government of India takes up the Swachh Survekshan in urban areas and the Ministry of Drinking Water and Sanitation in rural areas.

- **The Quality Council of India (QCI)** has been commissioned the responsibility of carrying out the assessment.

Swachh Bharat Mission:

- Swachh Bharat Mission (SBM) or Clean India Mission is a country-wide campaign initiated by the Government of India in 2014.

- The objectives of the first phase of the mission are the following.

- Eradication of manual scavenging.

- Generating awareness and bringing about a behaviour change regarding sanitation practices.

- Building capacity at the local level.

- The second phase of the mission aims to sustain the open defecation free status and improve the management of solid and liquid waste, while also working to improve the lives of sanitation workers.

- Under the scheme, the Government provides subsidies for constructing toilets, waste management structures, and awareness campaigns to bring behaviour change.

- In rural areas "SBM - Gramin" is financed and monitored through the Ministry of Jal Shakti.

- In Urban areas "SBM - urban" is overseen by the Ministry of Housing and Urban Affairs.

PRADHAN MANTRI UJJWALA YOJANA

In News: Indian Government will give a subsidy of ₹200 per gas cylinder (upto 12 cylinders) to over 9 crore beneficiaries of Pradhan Mantri Ujjwala Yojana.

More on the Topic:

- Pradhan Mantri Ujjwala Yojana is a scheme of the Ministry of Petroleum & Natural Gas for providing LPG connections to women from Below Poverty Line (BPL) households.

- The scheme was launched on 1st May 2016.

- All PMUY beneficiaries will be provided with **the first LPG refill and Stove (hotplate) both** free of cost along with their deposit free connection by the Oil Marketing Companies (OMCs).

Ujjwala2.0:

- The second phase of the Pradhan Mantri Ujjwala Yojana or Ujjwala cooking gas scheme was launched in in August 2021.

- Ujjwala 2.0 now **aims to cover 10 million more beneficiaries in the second phase** of the scheme. Union Budget 2021-22, has decided to extend Pradhan Mantri Ujjwala Yojana to provide additional 1 Crore LPG connections, with **a special focus on migrant families.**

- Under Ujjwala 2.0, migrant workers can get a free cooking gas connection based on a self-declaration without any need for documents like address proof.

Significance of the Scheme:

- According to WHO estimates, **about 5 lakh deaths in India alone due to unclean cooking fuels.**

- Most of these premature deaths were due to non-communicable diseases such as heart disease, stroke, chronic obstructive pulmonary disease and lung cancer.

- Indoor air pollution is also responsible for a significant number of acute respiratory illnesses in young children.

- According to experts, **having an open fire in the kitchen is like burning 400 cigarettes an hour.**

- Providing LPG connections to BPL households will **ensure universal coverage of cooking gas in the country.**

- **This measure will empower women and protect their health.** It will reduce drudgery and the time spent on cooking. It will also provide **employment for rural youth** in the supply chain of cooking gas.

Indian Economy

INSOLVENCY AND BANKRUPTCY CODE

In News: Recoveries by financial creditors under the Insolvency and Bankruptcy Code (IBC) have dropped significantly in the past two years.

STEP 1
On day one of the default, a creditor or a borrower can approach NCLT to initiate insolvency proceedings

STEP 2
Once the case is admitted, lenders to constitute creditors' committee, appoint Insolvency Professional which will run the borrower's company in the interim period

STEP 3
Within 180 days, the lenders' committee has to decide on a debt recast plan. Lenders would be given additional 90 days to arrive at a final plan

STEP 4
If 75% of lenders agree, the committee would go ahead with debt restructuring, otherwise after 180 days, the company's assets will be liquidated

More on the Topic:

- As of March 2022, financial creditors have recovered 33 per cent of the amount admitted as claims.
- **The pandemic-induced slowdown in the economy and delays in the resolution process** are the root cause behind the drop in realisation.
- Recovery under the IBC is still far higher than other measures.
- Court-led delays caused by protracted legal battles are adding to the problem.

About Insolvency and Bankruptcy Code:

- The Insolvency and Bankruptcy Code, 2016 (IBC) enacted on May 28, 2016.
- It was intended to solve mounting **non-performing loans.**
- It aims to establish **a consolidated framework for insolvency resolution of corporations, partnership firms and individuals in a time-bound manner,** seeks to tackle the non-performing asset (NPA) problem in two ways.
- Firstly, **behavioural change on part of the debtors** to ensure sound business decision-making and prevent business failures is encouraged.
- Secondly, it envisages a process through which financially ailing corporate entities are put through **a rehabilitation process** and brought back up on their feet.

Significance:

- Under the IBC, the Indian insolvency regime shifted from **'debtor-in-possession' to 'creditor-in-control'.**
- The Apex Court in **Swiss Ribbons Vs Union of India,** has held that the core objective of the IBC is to ensure revival and continuation of the corporate debtor.
- Thus, the IBC has a larger public-welfare consideration in play.
- **Insolvency:** It is a situation where individuals or companies are unable to repay their outstanding debt.
- **Bankruptcy:** It is a situation whereby a court of competent jurisdiction has declared a person or other entity insolvent, having passed appropriate orders to resolve it and protect the rights of the creditors. It is a legal declaration of one's inability to pay off debts

DEPRECIATION OF RUPEE

In News: The Rupee slipped to 76.97/$ recently, hitting its all-time low before rebounding following a possible intervention by the Reserve Bank of India (RBI).

More on the Topic:

- The RBI has been intervening aggressively in the foreign exchange markets by selling dollars, which resulted in the foreign exchange reserves dip.
- The country's foreign exchange reserves also dropped to $598 billion for the week ended April 29, down from its all-time high of $642 billion in the week ended September 3, 2021.

What is currency depreciation?

- Currency depreciation is **the loss of value of a country's currency with respect to one or more foreign reference currencies,** typically in a floating exchange rate system in which no official currency value is maintained
- **Causes:** In a floating exchange rate system, a currency's value goes up (or down) if the demand for it goes up more (or less) than the supply does.
- In the short run this can happen unpredictably for a variety of reasons, including the balance of trade, speculation, or other factors in the international capital market.
- For example, a surge in purchases of foreign goods by home country residents will cause a surge in demand for foreign currency with which to pay for those goods, causing a depreciation of the home currency.

Economic effects:

- **Positive Effects:** Depreciation of a currency **tends to increase a country's balance of trade** (exports minus imports) by improving the competitiveness of domestic goods in foreign markets while making foreign goods less competitive in the domestic market by becoming more expensive.

- **Negative Effects:** It poses risk of imported inflation, and may make it difficult for the central bank to maintain interest rates at a record low for longer.

- Reduction in Forex reserves as RBI sell them to arrest depreciation of rupee.

About Forex Reserves:

- Foreign Exchange reserves or Forex reserves are assets such as foreign currencies, gold reserves, treasury bills, Other Government Securities etc retained by a central bank or other monetary authority.

- **RBI is the custodian of the Foreign exchange reserves in India.**

- Reserve Bank of India Act, 1934 and the Foreign Exchange Management Act, 1999 set the legal provisions for governing the forex reserves in India.

- **It checks the balance payments and influences the foreign exchange rate** of its currency and maintains stability in financial markets.

ANTI-DUMPING DUTY

In News: India has initiated anti-dumping probe against imports of optical fibre from China, Indonesia and Korea.

Anti-Dumping Duty
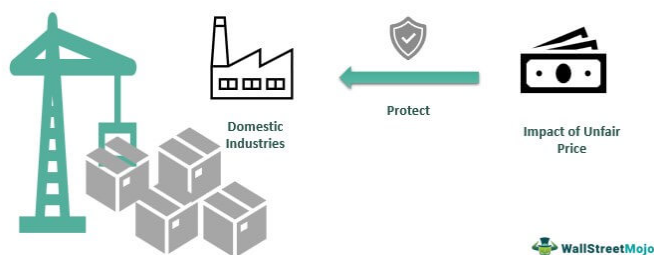
More on the Topic:

- Countries start anti-dumping probes to determine **whether their domestic industries have been hurt because of a surge in cheap imports.**

- As a countermeasure, they impose these duties under the multilateral regime of the Geneva-based **World Trade Organisation (WTO).**

- The duty is aimed at **ensuring fair trading practices and creating a level-playing field for domestic producers' vis-a-vis foreign producers and exporters.**

- The duty will protect domestic industry from cheap imports.

- India has already imposed anti-dumping duty on several products to tackle cheap imports from various countries, including China.

About Optical Fibre:

- The product is used for the manufacture of different kinds of cables, including optical fibre, tight buffer cables, armoured and un-armoured cables.

- Single-mode optical fibre is mainly applied to high-data-rate, long distance and access network transportation.

CORE INDUSTRIES

In News: India's combined Index of Eight Core Industries grew by 4.3 per cent In March 2022 compared to the Index of March 2021.
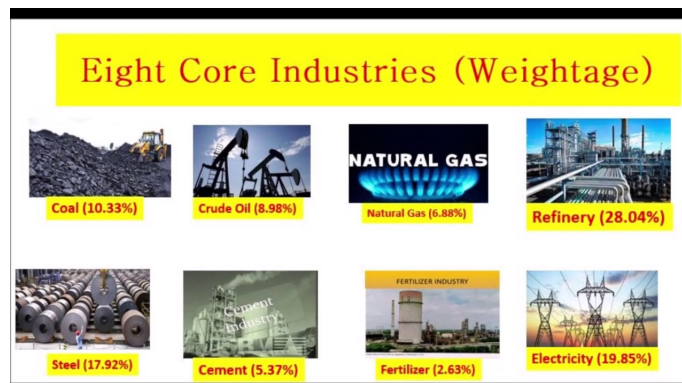
More on the Topic:

- From April 2021 to March 2022, the cumulative growth of the index was 10.4 per cent compared to the previous fiscal.

- The eight core sectors measured as part of the index are - Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement, and Electricity.

- The eight core industries comprise 40.27 per cent of the weight of items included in the Index of Industrial Production (IIP).

The Index of Industrial Production (IIP):

- The Index of Industrial Production (IIP) is a composite indicator that measures the short-term changes in the volume of production of a basket of industrial products during a given period with respect to that in a chosen base period.

- It is compiled and published monthly by the **National Statistical Office (NSO),** Ministry of Statistics and Programme Implementation.

- The eight core sector industries in decreasing order of their weightage: **Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.**

RBI REPORT ON CURRENCY AND FINANCE (RCF)

In News: The RBI has released the Report on Currency and Finance (RCF) for the year 2021-22 recently.

More on the Topic:

- Theme is **'Revive and Reconstruct'** in the context of nurturing a durable recovery post-COVID and raising trend growth in the medium-term.

- Key observations:

- The Indian economy is likely **to take over 12 years to overcome the COVID-19 losses.**

- The pandemic is a watershed moment and the ongoing structural changes catalysed by the pandemic **can potentially alter the growth trajectory in the medium-term.**

- Taking the actual growth rate of (-) 6.6 per cent for 2020-21, 8.9 per cent for 2021-22 and assuming growth rate of 7.2 per cent for 2022-23, and 7.5 per cent beyond that, India is expected to overcome COVID-19 losses in 2034-35.

Reforms Proposed:

- The blueprint of reforms proposed in the report revolves around seven wheels of economic progress.

- The reforms should focus on aspects like **aggregate demand, aggregate supply; institutions, intermediaries, and markets; macroeconomic stability, and policy coordination.**

- **Price stability is a necessary precondition** for strong and sustainable growth besides proposing a seven-point blueprint for reforms.

- To achieve sustainable growth, **timely rebalancing of monetary and fiscal policies** is mandatory.

- **Reducing general government debt to below 66 per cent of GDP** over the next five years is important to secure India's medium-term growth prospects.

- Scaling up research and development activities with an emphasis on **innovation and technology,** will be a key to achieve healthy economic growth.

- It is necessary for **state-run banks to reduce their dependence on the government** for recapitalization.

- **Stronger corporate governance norms** in the banking segment is a priority area.

MONETARY POLICY COMMITTEE

In News: The Reserve Bank has hiked the repo rate in a bid to contain inflation, which has remained stubbornly above the target zone of 6 per cent for the last three months.

More on the Topic:

- **Repo rate changes transmit through the money market to the entire the financial system,** which, in turn, influences aggregate demand – a key determinant of inflation and growth.

- **Monetary Policy:** The primary objective of the RBI's monetary policy is to maintain price stability while keeping in mind the objective of growth. Price stability is a necessary precondition to sustainable growth.

- **Monetary Policy Committee: Under Section 45ZB of the amended RBI Act, 1934,** the central government is empowered to constitute **a six-member Monetary Policy Committee (MPC)** to determine the policy interest rate required to achieve the inflation target. **The first such MPC was constituted on September 29, 2016.**

- The MPC shall consist of the RBI Governor as its ex officio chairperson, the Deputy Governor in charge of monetary policy, an officer of the Bank to be nominated by the Central Board, and three persons to be appointed by the central government.

- The MPC is **entrusted with the responsibility of deciding the different policy rates** including MSF, Repo Rate, Reverse Repo Rate, and Liquidity Adjustment Facility.

OPEN NETWORK FOR DIGITAL COMMERCE

In News: The Indian government would launch an Open Network for Digital Commerce to end the dominance of the US-based e-commerce companies like Amazon and Walmart in India.
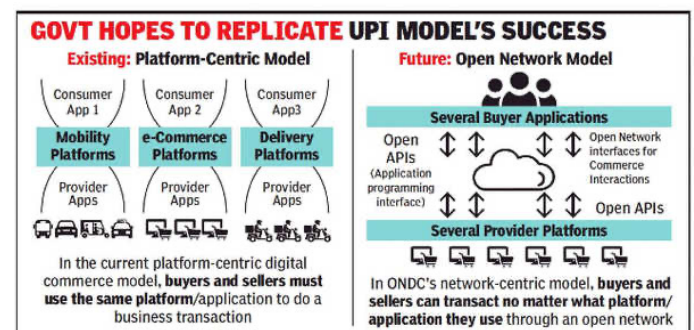
More on the Topic:

- The ONDC aims at promoting open networks developed on open-sourced methodology.

- The project to integrate e-commerce platforms through a network based on open-source technology has been tasked to the **Quality Council of India.**

- Implementation of ONDC, which is **expected to be on the lines of Unified Payments Interface (UPI)** could bring various operational aspects put in place by e-commerce platforms to the same level.

- Various operational aspects include on boarding of sellers, vendor discovery, price discovery and product cataloguing etc.

- On ONDC, buyers and sellers may transact irrespective of the fact that they are attached to one specific e-commerce portal.

Significance:

- ONDC is **expected to make e-Commerce more inclusive and accessible for consumers.**
- Consumers can **potentially discover any seller, product or service** by using any compatible application or platform, thus increasing freedom of choice for consumers.
- It will **enable the consumers to match demand with the nearest available supply.**
- This would also give consumers the liberty to choose their **preferred local businesses.**
- Thus, ONDC would **standardize operations, promote inclusion of local suppliers, drive efficiencies in logistics and lead to enhancement of value for consumers.**

About Open Source Methodology:

- A software for which the original source code is made freely available and may be redistributed and modified according to the requirement of the user.

FORMALISATION OF ECONOMY

In News: According to ICICI Securities the pay of private sector employees is growing at par with the public sector and is expected to outpace them. It is a signs of formalisation of the economy

Increasing size of formal economy~	
Number of jobs formalised since FY18 (as per EPFO records)	~36.6 lakh or ~0.66 lakh crore
Unorganized workers registered on E-shram portal (as on 30 Oct)	5.7 crore or ~Rs 6.8 lakh crore
Formalisation of cash usage since pandemic	~Rs 1.2 lakh crore
Amount of Agriculture credit formalised since FY18	~Rs 4.6 lakh crore
Increase in digital payments towards Petrol + Diesel on Petrol Pumps during last three years	~Rs 1.0 lakh crore

More on the Topic:

- According to International Labour Organization (ILO) the informal sector consists of all private unincorporated enterprises owned by individuals or households that are not separate legal entities and for whom no complete accounts are available.
- Informal employment includes not just persons working in informal enterprises, but also includes certain types of employment outside informal enterprises. For instance, persons working in formal enterprises who are not covered by social protection at their work are categorized as informal workers.
- Domestic workers, casual day laborers, and family workers are not covered by social security provided by their employers.

Process of Formalisation:

- Formalization processes result in **a move towards greater formality of firms and/or jobs.**

- Greater formalisation will see **a shift from low-paying, labour-intensive jobs in informal sector to more productive, formal-sector jobs.** This could lead to disruption in short term.
- Shifts from the unorganised to the organised sector occur at two levels — **one, the formalisation of the firm, and two, the formalisation of the informal labour force.**
- While in the case of the former, enterprises are essentially shifting from the informal to the formal part of the economy, the latter could be a consequence of both, formalisation of the firm, and/or formalisation of the informal labour force of an existing formal enterprise.

Advantages of Formalisation:

- Formalisation leads to **more tax revenues with an increase in tax-to-GDP ratio.**
- Formalisation provides **a level-playing field for tax-compliant entities,** expanding the tax base so that the burden falls more equitably on all the players rather than a select few.
- **Formalisation will lead to Formal Credit Facility.** It will provide long term loans, Cheaper loans etc.
- With formalisation of economy more persons and entities will come under tax net. This will help increase government tax revenue. This revenue will be invested in social sector like education, skill development etc. It will cause **ripple effect in development of the country.**
- There will be **efficient regulations** like environment laws, labour laws etc.
- **Less black money will be generated** and their flow in to illegal activities would be checked.

FOREIGN DIRECT INVESTMENT

In News: India has reported the highest foreign direct investment (FDI inflow) to the tune of $83.57 billion for the financial year 2021-2022.

More on the Topic:

- The FDI inflow in the manufacturing sectors increased by 76 per cent in the previous financial year as compared to financial year 2020-21.

- Singapore is the highest contributor (27 per cent), followed by US (18 per cent) and Mauritius accounting for 16 per cent.

- The computer software and hardware remained the top sector which received the FDI inflow with around 25 per cent share, followed by services sector and automobile sector getting 12 per cent each.

- **Karnataka is the top recipient state with 38% share of the total FDI Equity inflow** reported during the previous financial year followed by Maharashtra (26%) and Delhi (14%).

- Majority of the equity inflow of Karnataka has been reported in the sectors `Computer Software & Hardware' (35%), Automobile Industry (20%) and `Education' (12%).

Foreign Direct Investment:

- Foreign Direct Investment (FDI) is defined as **an investment in which a company takes controlling ownership of a business entity in another country.**

- Therefore, foreign companies get directly involved with day-to-day operations in other countries.

- It is generally made in open economies that have a skilled workforce and growth prospects.

- FDI is significant as they are bringing money, knowledge, skills and technology along with them.

WORLD TRADE ORGANISATION WAIVER FOR WHEAT IMPORTS

In News: World Trade Organization rules may prove to be a hurdle to India's plan to export wheat from state-owned stocks.

More on the Topic:

- WTO rules make it difficult for a country to export grains from official stocks if they have been procured from farmers at fixed prices, which in India's case, is the minimum support price mandated by the Centre.

- India and other developing nations purchase and stockpile food grains to be distributed to people in need.

- Richer economies say such stockholding programmes are considered **trade-distorting when they involve purchases from farmers at prices set by governments,** such as India's minimum support prices.

WTO Peace Clause:

- The WTO currently has a **'peace clause' that permits uninterrupted implementation of India's food security programme** until a permanent solution is found.

- This allows India to procure and stock food grain for distribution to the poor without being penalised by WTO members.

- However, **the peace clause comes with several riders,** including the periodical submission of data on food procurement, stockholding, distribution, and subsidies. India has lagged on this aspect.

- It also allows India to continue public stockholding even when it has provided production level subsidies to farmers, something the WTO also frowns upon.

The Subsidy Debate:

- The issue of farm subsidy has locked India and other developing nations in a pitched trade battle against rich economies. Currently, the multilateral body in principle allows developing countries like India to provide farmers subsidies of up to 10 percent of the value of food production.

- Subsidies beyond the prescribed ceiling are seen as trade-distorting. But India often exceeds this subsidy cap and has to invoke the peace clause.

- It then has to establish that the subsidies are not trade-distorting, a process that has led to numerous acrimonious negotiations at the WTO headquarters in Geneva.

India's Suggestions:

- India contends that the WTO's current farm subsidy rules are **skewed against developing countries,** which have a large number of poor farmers to support.

- As a case in point, India provides a subsistence amount of about $260 per farmer per annum compared to over 100 times more in some developed countries.

- For a permanent solution to this debate, **India has proposed either amending the formula to calculate the food subsidy cap of 10 percent,** which is based on the reference price of 1986-88, or allowing such schemes outside the purview of the subsidy cap.

- The government said it has the diplomatic backing to get a waiver from the WTO, given that food grain supplies have become an even more sensitive geopolitical topic in the aftermath of the Ukraine crisis.

AADHAR MANDATORY FOR BANKING

In News: People who deposit or withdraw cash more than Rs 20 lakh from the bank account, including co-operative banks and post offices, in a financial year will now have to quote their permanent account number (PAN) or Aadhaar number.

Keeping A Watch

The ₹50,000-threshold for transactions includes investments in mutual funds, FDs and insurance

Existing bank a/c holders will have to provide Aadhaar and PAN by December 31 or else lose access

If no Aadhaar, then one will have to provide proof of having applied for it

Unique ID no has to be submitted to the bank within six months of opening the account

Some curbs on small a/cs as well to check laundering

More on the Topic:

- The requirement has been made mandatory from May 26 with the new rules coming into effect. The rules will also apply to the opening of a current account.

- It will help the income tax department monitor high-value cash transactions, and deposits/withdrawals where tax would not be getting paid by the individual otherwise on his or her income.

- **The rules will help the government trace the movement of cash in the financial system.**

- These rules are expected to further tighten the loopholes, along with the already existing provision of TDS deduction under Section 194N of the Income Tax Act, 1961.

- Meanwhile, the government has also asked people to link their PAN number with Aadhaar.

SEBI ADVISORY COMMITTEE FOR ADVISING ON ESG (ENVIRONMENT, SOCIAL AND GOVERNANCE)

In News: The Securities and Exchange Board of India has formed an advisory committee for advising on Environmental Social and Governance (ESG) related matters pertaining to the securities markets.

More on the Topic:

- ESG criteria refer to **environmental, social and corporate governance factors that are taken into account when investing in a company.**

- Although their origin dates back several decades, they have become a reference for socially responsible investing in recent years.

- Essentially, the terms of reference of the committee will include enhancements in business responsibility and sustainability report, ESG ratings and ESG investing.

- **Under ESG Investing,** investments are made considering their impact on the environment, society, and human well-being.

GST COUNCIL

In News: The Supreme Court has recently held that the recommendations of the GST council are not binding on the Union and the State Governments.

More on the Topic:

- SC has also clarified that **both the Parliament and the State Legislatures can equally legislate on matters of Goods and Service Tax.**

- GST Council's recommendations have a **"persuasive value"** and were not binding on the Centre and the state governments.

- According to Article 246A, the Parliament and the state legislatures have "equal, simultaneous and unique powers" to make laws on GST.

About GST Council:

- India rolled out the GST regime in 2017, following **101 constitutional amendment act** by subsuming nearly one-and-a-half-dozen central and state levies.

- GST is **one indirect tax for the whole nation,** which will make India one unified common market.

- It is a single tax on the supply of goods and services, right from the manufacturer to the consumer.

- The amendment provided for the creation of a council with representation from the Centre and states for decision-making.

- It has been formed under Article 279A.

- Article 279A provisions are the following, **GST Council to be formed by The President to administer & govern GST.**

- **Its Chairman is Union Finance Minister of India** with ministers nominated by the state governments as its members.

- The council is devised in such a way that the centre will have 1/3rd voting power and the states will have 2/3rd.

- The decisions will be taken by 3/4th majority.

National Start up Advisory Council

In News: 4th meeting of National Start up advisory council was held recently

More on the Topic:

- Department for Promotion of Industry and Internal Trade (DPIIT) had constituted the National Startup Advisory Council.

- It is intended to advise the Government on measures needed to build a strong ecosystem for nurturing innovation and startups in the country to drive sustainable economic growth and generate large scale employment opportunities.

- Besides the ex-officio members, the council has several non-official members, representing various stakeholders such as founders of successful startups, veterans who have grown and scaled companies in India, persons capable of representing interests of investors, incubators and accelerators into startups, representatives of associations of stakeholders of startups and representatives of industry

INFRASTRUCTURE INVESTMENT TRUSTS (INVITS)

In News: SEBI amended norms for InvITs.
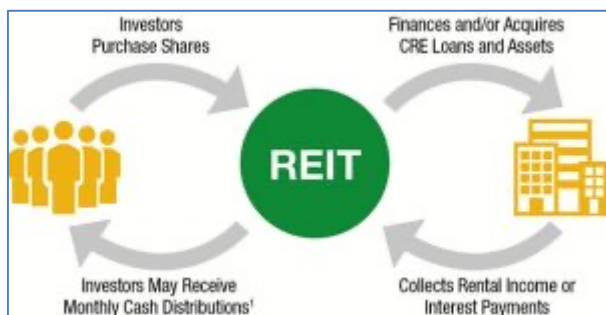
More on the Topic:

- Infrastructure Investment Trusts (InvITs) are investment instruments that work like mutual funds and are regulated by SEBI.
- Typically, such a vehicle is designed to pool money (small sums) from several investors to be invested in income-generating assets.
- InvITs are mostly structured as trusts, and an independent trustee holds assets on behalf of unitholders.
- InvITs could be set up for sectors defined under the infrastructure as per RBI guidelines. So far, developers engaged in the road, power transmission, gas pipelines and tower transmission have formed InvIT.

FRONT RUNNING

In News: SEBI is investigating front running allegations of different mutual funds.
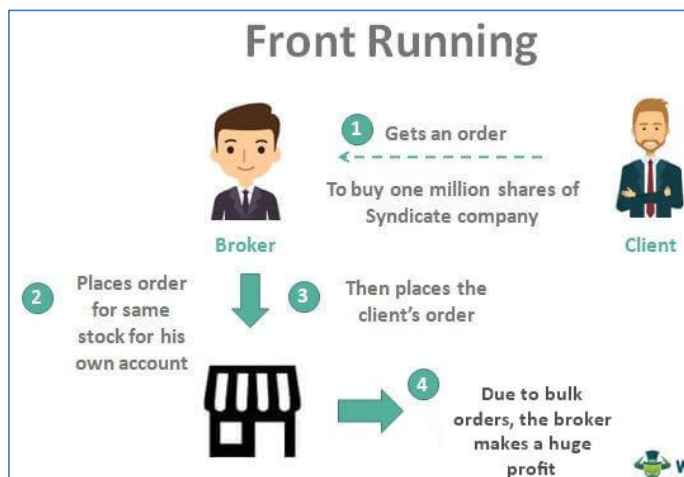
More on the Topic:

- Front running is the practice of trading in securities ahead of large client orders.
- Large orders usually move a stock's price.
- By buying shares just before the big order hits the market and selling them once the price moves up, the front-runner pockets illegal gains from his advance knowledge.

- Besides being a serious securities market offence, **it can affect the net asset value (NAV)** of a fund as the trades in securities would have already run up the stock, making it expensive for the fund to buy and thereby affecting the NAV and leading to losses or inferior prices for customers.
- People with information about the trades end up making outsized gains.

About SEBI Regulation on Front Running:

- SEBI (Prohibition of Fraudulent and Unfair Trade Practices Relating to Securities Market) Regulations, 2003 clearly define front-running and characterises it as a fraudulent and unfair practice.
- SEBI has invoked this section many times to pass orders against front-runners.
- on the primary market front, SEBI is **enhancing disclosure and compliance requirement for listing of new-age technology companies.**
- For the secondary market participants, it is **enhancing awareness around responsible investing** as lot of new customers are going for speculative trading.

SIN GOODS

In News: The Govt may subsume sin goods cess into GST to pacify states.

More on the Topic:

- Subsuming the cess into GST will mean that the states will get half of the proceeds as state GST (SGST) in addition to getting 41% of the Centre's GST collections.
- **Sin Tax:** A sin tax is an excise tax **specifically levied on certain goods deemed harmful to society** and individuals, such as alcohol, tobacco, drugs, candies, soft drinks, fast foods, coffee, sugar, gambling etc.
- Cess: Different from the usual taxes and duties like excise and personal income tax, a Cess is imposed as an additional tax besides the existing tax (tax on tax) with a purpose of raising funds for a s`pecific task.
- For example, the Swachh Bharat cess is levied by the government for cleanliness activities that it is undertaking across India.

INDIA'S DIGITAL PUBLIC INFRASTRUCTURE

In News: The Bank for International Settlements (BIS) has endorsed India's Data Empowerment Protection Architecture (DEPA).

India's Strong Digital Infrastructure
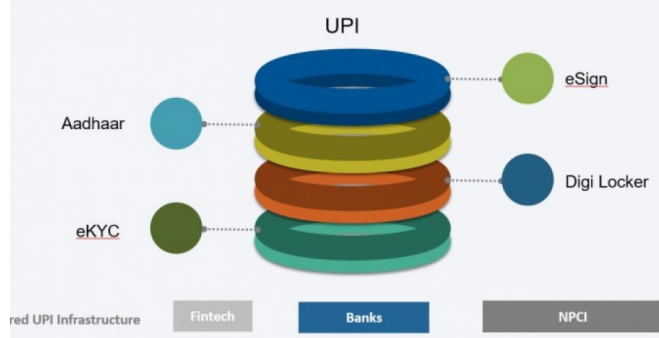
More on the Topic:

- DEPA is **a joint public-private effort** for an improved data governance approach.

- DEPA creates **a digital framework that allows users to share their data on their own terms through a third-party entity,** who are known as Consent Mangers (In India, Account Aggregators).

- **DEPA went live in the financial sector in 2020** under the joint leadership of the Ministry of Finance, the Reserve Bank of India (RBI), Pension Fund Regulatory and Development Authority (PFRDA), Insurance Regulatory and Development Authority (IRDAI), and Securities and Exchange Board of India (SEBI).

DEPA services:

- **Account Aggregators:** The RBI-supported Account Aggregator (AA) mechanism follows the DEPA model, which allows a user to access their financial data at one place.

- **Open Credit Enablement Network (OCEN):** Another manifestation of DEPA has begun with the OCEN in the financial sector. OCEN allows a user to share their financial data from various sources, such as the Goods and Services Tax (GST) and the Tax Deducted at Source (TDS) return from the income tax system—to prove their creditworthiness without having to show assets.

Indian Achievements Mentioned in the Report:

- Several Indian innovations such as Aadhaar, the Unified Payments Interface (UPI) and vaccination platform CoWin, among others, have been emulated by several countries.

- Google wrote to the US Federal Reserve Board detailing the success of UPI-based digital payments in India and recommending that the Fed launch a new interbank real-time gross settlement service on the same lines.

What is Digital infrastructure?

- It is the collection of technological and human components, networks, systems, and processes that contribute to the functioning of an information system.

- These digital infrastructures often evolve into larger and more complex structures such as the Internet.

About Digital Public Infrastructure:

- The UN defines digital public goods as open source software, open data, open AI models, open standards and open content that adhere to privacy and other applicable International and domestic laws, that do not harm and help in attaining the SDGs

- Digital Public Infrastructure (DPI) solutions can improve the lives of citizens around the world by enabling digital inclusion.

- Successful governments have been able to harness these digital tools to address urgent challenges facing society.

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About BIS:

- BIS is an **international financial organisation owned by 60 member central banks,** representing countries from around the world including India. It fosters international monetary and financial cooperation and serves as a bank for central banks.

INDIAN GAS EXCHANGE

In News: ONGC has become the first exploration and production (E&P) company in India to trade domestic gas on **Indian Gas Exchange.**

More on the Topic:

- India's first gas exchange - The Indian Gas Exchange (IGX) was launched in 2020. The exchange is expected to facilitate transparent price discovery in natural gas, and facilitate the growth of the share of natural gas in India's energy basket.

- The IGX is a digital trading platform that will allow buyers and sellers of natural gas to trade both in the spot market and in the forward market for imported natural gas across three hubs —Dahej and Hazira in Gujarat, and Kakinada in Andhra Pradesh.

- Imported Liquified Natural Gas (LNG) will be regassified and sold to buyers through the exchange, removing the requirement for buyers and sellers to find each other.

- Gas exchange price only applies to imported Natural gas. The price of domestically produced natural gas is decided by the government. It will not be sold on the gas exchange.

ANCHOR INVESTORS

In News: The Securities and Exchange Board of India (Sebi) has notified the relaxed norms for anchor investors.

More on the Topic:

- Anchor investor is a concept launched by Securities Exchange Board of India (SEBI) in 2009.
- Anchor investors are institutional investors who are invited to subscribe the shares before the Initial Public Offers (IPOs) open so that it increases the popularity of the issue.
- As the name denotes, the anchor investors are required to **take up the share at a fixed price to make other investors confident** and improve the demand of the share.
- This process also helps to improve the investment opportunity for retail investors with the company.
- Each anchor investor needs to invest a minimum of Rs 10 crore in the issue.

Commodities Market Outlook

In News: World Bank has released Commodities Market Outlook Report.

More on the Topic:

- Key observations:
- **The war in Ukraine will escalate food and fuel prices** for the next three years.
- It could lead to **high rates of inflation** and fuelling fears that the world economy is headed for slow growth.
- Russia and Ukraine together make for a third of the world's global wheat exports.
- Russia is the world's largest natural gas and fertiliser exporter, and the second-largest crude oil exporter.
- Owing to **restrictions on the trade of food, fuel and fertiliser, the situation is being aggravated.** It is escalating the already elevated inflationary pressures around the world.
- The world faces the biggest commodity price shock since the 1970s.
- Policymakers should take every opportunity to increase economic growth at home and avoid actions that bring harm to the global economy.

PLI schemes for white goods

In News: Under the scheme for white goods, eligible investors in air-conditioners, LED lights and such components will be granted incentive.

How The Incentives Stand

The ₹6,238-cr scheme will extend an incentive of 4-6% on incremental sales and be implemented from FY22 to FY29

For AC comps, large minimum cumulative incremental investment is ₹150 cr while normal minimum cumulative incremental investment is ₹50 cr

For LED lights core components, the minimum cumulative incremental investment is ₹100 cr for large investments and ₹20 cr for

More on the Topic:

- In order **to boost domestic manufacturing and cut down on import bills,** the union government in March 2020 introduced a PLI scheme that aims **to give companies incentives on incremental sales from products manufactured in domestic units.**
- Apart from inviting foreign companies to set shop in India, the scheme also aims to encourage local companies to set up or expand existing manufacturing units.
- The schemes have been **specifically designed to attract investments** in sectors of core competency and cutting edge technology; ensure efficiency and bring economies of size and scale in the manufacturing sector and make Indian manufacturers globally competitive so that they can integrate with global value chains.
- The PLI schemes are **being implemented by the concerned Ministries/ Departments.**
- There are **targeted promotion activities** being taken up by concerned Ministries/ Departments for identification of potential global and domestic investors.
- All the approved sectors identified under PLI Schemes follow the broad framework of new and emerging technologies where India can leapfrog, overall economic gain accruing to the economy and export potential of the sectors.
- **These sectors were recommended by NITI Aayog** after detailed deliberations with concerned Ministries/ Departments followed by approval of the Union Cabinet.
- Any new sector for PLI will require fresh approval of the Cabinet.

MANDATORY GOLD HALLMARKING

In News: The second phase of mandatory hallmarking of gold jewellery and artefacts will come into force from June 1 2022.

More on the Topic:

- Gold hallmarking is a **purity certification of the precious metal** and was voluntary in nature till June 16, 2021.

- Hallmarked gold jewellery was only in three grades – 14-carat, 18-carat and 22-carat in the first phase.

- Second phase will cover additional three caratages of gold jewellery/artefacts (ie 20, 23 and 24 carats)

- **It will contain four marks:** BIS mark, purity in carat, assay centre's name and jewellers' identification mark.

- **The Bureau of Indian Standard (BIS)** operates gold and silver hallmarking scheme in India.

- The rule is applicable only on sales by retailers and not to consumers.

- However, it is available for consumers who want to get their old jewellery hallmarked.

Significance of hallmarking?

- The mandatory hallmarking will protect the public against lower caratage and ensure consumers do not get cheated while buying gold ornaments.

- It will also help to get the purity as marked on the ornaments.

- It will bring in transparency and assure the consumers of quality.

About Bureau of Indian Standards (BIS):

- The Bureau of Indian Standards (BIS) is the National Standards Body of India under Department of Consumer affairs, Ministry of Consumer Affairs, Food & Public Distribution

- It is established by the Bureau of Indian Standards Act, 2016.

ATAL TUNNEL

In News: The Indian Building Congress' (IBC) 'Best Infrastructure Project' award was bagged by Atal Tunnel recently.

More on the Topic:

- Atal Tunnel (also known as Rohtang Tunnel) is a highway tunnel built under the Rohtang Pass in the eastern Pir Panjal range of the Himalayas on the Leh-Manali Highway in Himachal Pradesh.

- At a length of 9.02 km, **it is the longest highway single-tube tunnel above 10,000 feet (3,048 m) in the world.**

- The tunnel reduces the travel time and overall distance between Manali and Keylong on the way to Leh.

- The tunnel, besides offering the Armed Forces a strategic advantage by providing an alternate link to the critical Ladakh Sector, has also been a boon for the residents of Lahaul & Spiti District in Himachal Pradesh.

Environment and Ecology

STATE OF THE WORLD'S FOREST REPORT

In News: The he State of the World's Forests 2022 (SOFO 2022) was released by the United Nations Food and Agriculture Organization (FAO).

More on the Topic:

- The world has lost approximately 10.34 per cent of its total forest area in the last 30 years.

- Although the rate of deforestation was declining, 10 mha of forests were lost every year between 2015 and 2020.

- More than 700 mha of forest (18 per cent of total forest area) is in legally established protected areas. **Nevertheless, forest biodiversity remains under threat from deforestation and forest degradation.**

- Unless additional action is taken, an estimated 289 mha of forests would be deforested between 2016 and 2050 in the tropics alone, **resulting in the emission of 169 GtCO2e.**

- Globally, ecosystems at risk of deforestation or degradation **contain at least 260 Gt of irrecoverable or difficult-to-recover carbon,** particularly in peatlands, mangroves, old-growth forests and marshes.

- Restoration of degraded land through afforestation and reforestation could cost-effectively take 0.9 to 1.5 GtCO2e per year out of the atmosphere between 2020 and 2050.

- More than 140 countries have pledged, through the **Glasgow Leaders' Declaration on Forests and Land Use,** to eliminate forest loss by 2030 and to support restoration and sustainable forestry.

Significance of Protecting Forests:

- Forest are important to keep the global temperature below 1.5°C

- Improved forest protection would reduce the risk of future pandemics

- It will also ensure food security and nutrition for all

- Forests plays an important role in eliminating poverty and conserving the planet's biodiversity.

Way Forward Suggested by the report:

- **Halting deforestation** and maintaining forests

- Restoring degraded lands and expanding agroforestry

- **Sustainably using forests** and building green value chains

CAG REPORT ON SUNDERBANS AND EAST KOLKATA WET LANDS

In News: The Comptroller and Auditor General (CAG) has pointed out illegal construction and violations of environmental norms in two Ramsar sites in West Bengal, the East Kolkata Wetlands (EKW) and the Sunderbans.
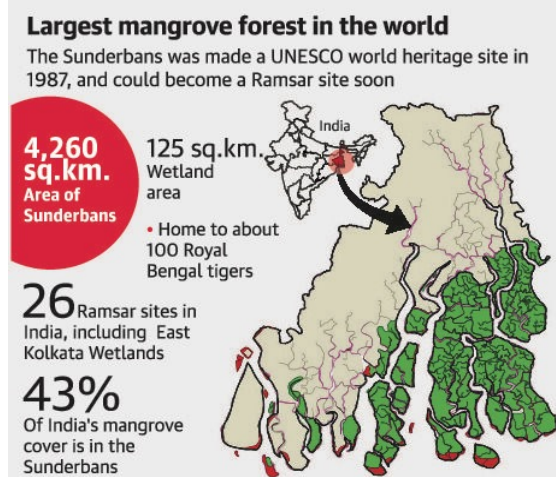
More on the Topic:

- CAG has found out **illegal constructions** in the EKW and Coastal Regulation Zone area in Sunderbans.

- Such violations even in these ecologically fragile areas were rarely found to have been penalised by concerned authorities.

- On a couple of rare occasions when they were done, it was in compliance with the Kolkata High Court's orders.

- CRZ notification disallows construction of residential buildings in the No Development Zone.

Concerns:

- The CAG report pointed out that failure to delineate boundaries of the EKW and uncontrolled transfer of land resulted in the change of character of EKW and lack of effective action by EKWMA (East Kolkata Wetland Management Authority).

- In absence of effective measures by EKWMA, water bodies were dried up and filled illegally.

- **Small patches of mangroves are being lost gradually and quietly** due to their indiscriminate destruction for either coastal development or short-term gains.

- These patches are observed to be enriched habitats of several rare and threatened flora and fauna.

- This irreversible loss of biodiversity is often neglected, which could never be compensated with any 'cut the established and plant the new' theory.

About Sunderbans:

- Sundarbans is a mangrove area in the delta formed by the **confluence of the Padma, Brahmaputra and Meghna Rivers in the Bay of Bengal.**
- The Sundarbans is the world's largest delta and mangrove forest.
- It is the largest tidal halophytic mangrove forest in the world.
- It was recognized as **UNESCO World Heritage Site in 1987.**
- Sundarbans forests are known for **Royal Bengal Tiger** and other numerous species of animals, including Chital Deer, Crocodile and Snakes.

The East Calcutta Wetlands:

- The East Calcutta Wetlands, are a complex of natural and human-made wetlands lying east of the city of Calcutta, of West Bengal in India. The wetlands cover 125 square kilometres and include salt marshes, and agricultural fields, sewage farms and settling ponds.

'CIRCULAR ECONOMY IN MUNICIPAL SOLID AND LIQUID WASTE' REPORT

In News: Housing and Urban Development Ministry has published the report 'Circular Economy in Municipal Solid and Liquid Waste'.

More on the Topic:

- Key highlights are as following:
- India generates **approx. 1.45 lakh tonnes of solid waste on a daily basis and 35 per cent of it is said to be a dry waste.**
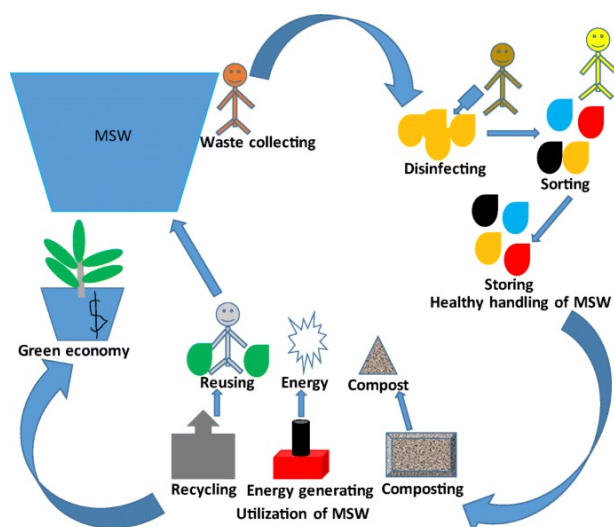- Approx. 26,000 tonnes of plastic waste is generated daily and only 15,600 tonnes of plastic waste is recycled, while the remaining 9,400 tonnes are left uncontrolled and unchecked. These uncontrolled wastes are then sent to landfills or water bodies.
- When it comes to wet waste, about 75,000 tonnes of wet waste is generated on a daily basis and around 32 per cent of this is left untreated.
- It has been estimated that **if municipal solid, wet and construction wastes are treated properly, they can generate nearly Rs 30,000 crore revenue per annum** and create employment opportunities for more than one crore people by 2025.

Recommendations:

- Report also suggested **to introduce a tax for dumping municipal waste in landfills.**
- In order to encourage the recycling of waste products government should **reduce the GST and other taxes on the products that are made out of recycled materials to 5 per cent.**
- **Mandatory use of 25% of recycled materials in non-food grade packaging** to ensure recycling.
- **Cement Kilns have the potential to use 25% RDF- non recyclable combustible dry waste replacing coal.**

SEOUL FOREST DECLARATION BY 15TH WORLD FORESTRY CONGRESS

In News: The 15th World Forestry Congress concluded with adopting the Seoul Forest Declaration.

More on the Topic:

- The five-day congress is hosted by the **Food and Agriculture Organization and held every six years** to share worldwide forest-related and environmental problems, like climate change, biodiversity loss and desertification, and devise solutions through forests.
- **The first World Forestry Congress first held in Rome in 1926.**
- The Seoul Forest Declaration, prepared by the host country South Korea, was announced among the major outcomes.

Key highlights of the Seoul Forest Declaration:

- Future sustainable forest management responsibilities should be integrated among agencies and stakeholders.
- There is a need to build new partnerships, like the AFFIRM Mechanism, SAFE initiative and REDD+.
- It is important to establish **financing for sustainable forest management.** Investment in forest and landscape restoration globally needs to triple by 2030 to meet internationally agreed commitments and targets on restoring degraded land.
- **Circular Economy and Climate neutrality** is a must for sustainable future.
- There is a need **to utilise the potential of sustainably produced wood** as a renewable, recyclable and versatile material.

- **The health of humans and forests are closely tied** together and the degradation of forests will have serious negative impacts on the health and well-being of humans.
- **The circular economy** is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible.
- **Climate neutrality** refers to the idea of achieving net zero greenhouse gas emissions by balancing those emissions so they are equal (or less than) the emissions that get removed through the planet's natural absorption.

DROUGHT IN NUMBERS, 2022 REPORT

In News: The Drought in Numbers, 2022 Report was released at the ongoing 15th Conference of Parties (CoP15) to the United Nations Convention to Combat Desertification (UNCCD).
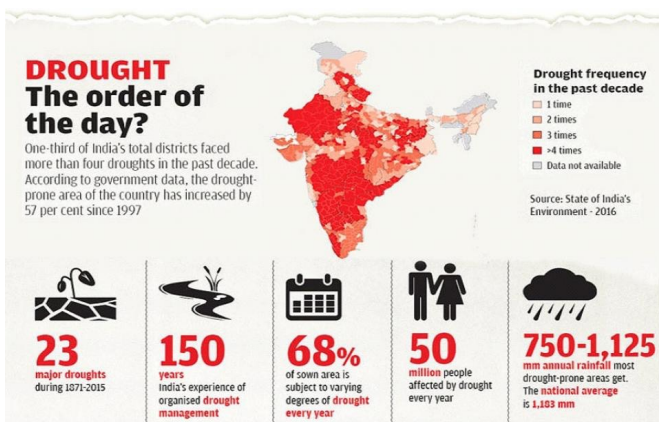
More on the Topic:
- Following are the observations of the study:
- The frequency and duration of drought is increasing at an alarming rate across the world since the onset of the 21st century.
- The latest assessment analysed **droughts and impacts on life and livelihood over 122 years covering 196 countries.** It said an entire new generation is growing up being "water scarce".
- India has featured in the assessment as **one of severely drought-impacted countries.** Nearly two-thirds of the country suffered drought during 2020-2022.
- The effect of severe droughts was estimated to have **reduced India's gross domestic product by 2-5 per cent over the 20 years from 1998-2017.**
- India's drought-prone area has increased by 57 per cent since 1997.
- **One-third of India's districts have faced more than four droughts** over the past decade and 50 million people are affected by drought every year.
- Some 97.85 million hectares; nearly 30 per cent of the country's land has underwent land degradation.
- **Drought impacts India's dominantly rainfed agriculture** that accounts for 60 per cent of the sown area on average.

Drought Mitigation Programs worldwide:
- The United Nations Development Programme (UNDP) **launched the Integrated Drylands Development Programme (IDDP)** with the overall goal to strengthen resilience by working on the twin vulnerabilities of poverty and unsustainable land management in the drylands.
- The United Nations Office for Disaster Risk Reduction (UN-ISDR) developed a **Drought Risk Reduction framework** that takes an integrated development approach and provides a comprehensive framework for both higher-level and local action.
- **The Integrated Drought Management Programme (IDMP)** and its partners have adopted three pillars of drought management:
- **Drought monitoring and early warning systems** to determine drought status.
- **Vulnerability and impact assessment** to determine who and what are at risk and why.
- **Mitigation, drought preparedness, and response to set out actions** and measures to mitigate drought impacts and to prepare to respond to drought emergencies.

About Drought:
- Drought is a **temporary reduction in water or moisture availability** below the normal or expected amount for a specific period.
- **Meteorological Drought** is a situation where there is a reduction in rainfall for a specific period below a specific amount.
- Hydrological Drought is associated with reduction of water.
- Agriculture drought happens **when soil moisture and rainfall conditions are not adequate** enough to support the crops, thereby resulting in crop failures.
- Ecological Drought is when the **productivity of a natural ecosystem fails due to shortage of water** and as a consequence of ecological distress, damages are induced in the ecosystem.

SHALLOW AND DEEP ECOLOGISM

In News: Shallow and deep ecologism concept is in focus due to recent climate events and solutions to them.
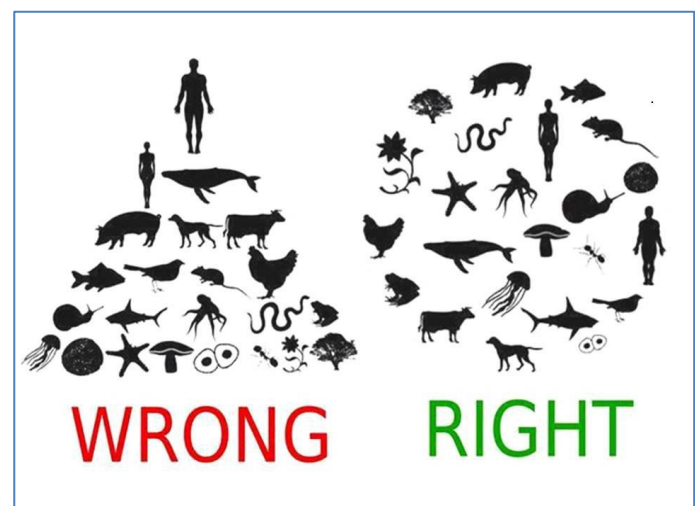
More on the Topic:

- The concepts emerged in the 1970s, when Norwegian philosopher Arne Næss sought to **look beyond the popular pollution and conservation movements** of his milieu to address environmental degradation.

- In his study of ecological concerns, Næss is more preoccupied with the role of the individual in nature.

- He believes that owing to increased anthropocentrism, **humans have cut themselves off from nature, viewing nature and themselves as competing entities and establishing a master-slave dynamic.**

- By placing humans at the heart of the environmental crisis, Næss outlines the difference between the two styles of ecologism.

- **Shallow Ecologism:** Also referred to as weak ecologism, refers to the philosophy wherein the present lifestyle is continued, **but with specific tweaks to minimise the damage to the environment.**

- **He termed this powerful and fashionable fight against pollution and resource depletion as shallow ecologism or environmentalism.**

- – For example, using energy efficient air conditioner to reduce carbon foot print.

- **Deep ecologism:** It refers to the philosophy wherein the exponents believe that humans should radically change their relationship with nature.

- It rejects shallow ecologism as it prioritises humans above nature. **It aims to preserve nature subsequent to environmental destruction.**

- It aspires to sustain nature by making large-scale changes to our lifestyle.

- For example, limiting the commercial farming, reducing the artificial fattening of animals, or the reshaping of transport systems.

ENVIRONMENT IMPACT ASSESSMENT

In News: Central Government has questioned whether any environmental impact study has been carried out for approving projects in the vicinity of Jog Falls.

Environmental Impact Assessment

Screening and Scoping
Is an Environmental Impact Assessment required and to what scale?

Assessment of Environmental Risk
What data will be collected to determine environmental risk?

Mitigation
What measures will be followed to minimize assessed environmental impacts?

Decision Making
Regulatory agency will make the final decision on the permit issuance

Monitoring
How will environmental parameters be regularly monitored for possible impacts?

Stakeholder Engagement

More on the Topic:

- Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.

- **EIA was first introduced in India in 1978** with regard to the various river valley projects all over the country and later expanded to include various other developmental procedures in its scope.

- **EIA is now mandatory for over 30 classes of projects.**

Objectives of EIA:

- It aims **to predict environmental impacts at an early stage** in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers.

- EIA **systematically examines both beneficial and adverse consequences of the project** and ensures that these effects are taken into account during project design.

- It helps to identify possible environmental effects of the proposed project, proposes measures to mitigate adverse effects and predicts whether there will be significant adverse environmental effects, even after the mitigation is implemented.

- Properly conducted EIA also **lessens conflicts by promoting community participation,** informing decision makers, and helping lay the base for environmentally sound projects.

About Jogfalls:

- Jog Falls is a waterfall on the Sharavati river located in the Western Ghats in Shivamogga District, Karnataka.
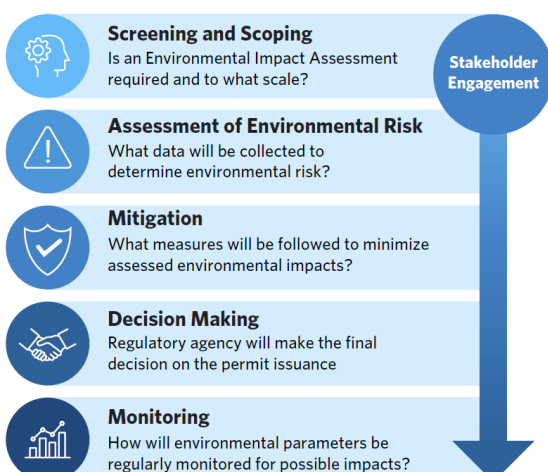
THE STATE OF BIO FERTILIZERS AND ORGANIC FERTILIZERS IN INDIA

In News: The State of Biofertilizers and Organic Fertilizers in India was released by the Centre for Science and Environment (CSE), a Delhi-based think-tank.
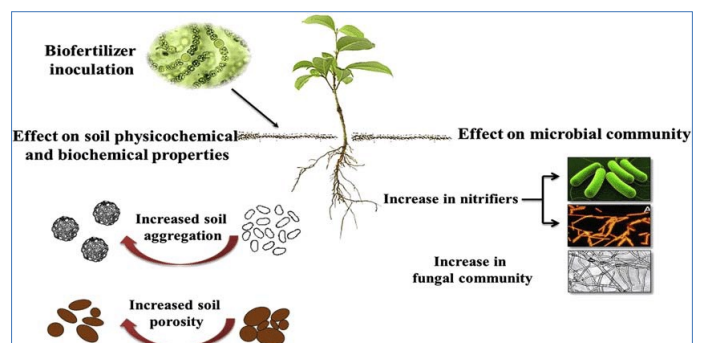
More on the Topic:

- Availability, quality and uptake of bio fertilisers and organic fertilisers in India is poor.

- These non-chemical options are considered critical to the transition from chemical-based to sustainable farming practices like organic and natural farming. Availability of cost-effective quality biofetilisers and organic fertilisers is, therefore, of utmost importance. However, these sectors have been neglected over the years.

- Both the sectors have so far received limited attention and support by the central and most state governments, compared to the chemical fertiliser sector.

- The government subsidy received by the chemical fertiliser sector was to the tune of **Rs 1.3 lakh crore** in 2020-21, while the budget allocated **to the entire organic fertiliser and biofertilisers sector was limited to a few hundred crores.**

- **India has become the second-highest producer and consumer of chemical fertilisers** in the world. Per hectare chemical fertiliser consumption has been increasing over the years, including in the last two decades.

- **The country's soil health is also poor:** The soil sample test results showed severe and widespread deficiency of organic carbon, macronutrients and micronutrients in Indian soils.

- **The Union government has several schemes and programmes to promote biofertilisers and organic fertilisers.** Some of these schemes are aimed at supporting farmers, while others support manufacturers.

- **But only a very small part of these schemes contribute to the sector.** The potential of these schemes is not being fully utilised.

- There is a lack of data on companies, their registered products, authorisations given and production details of various types of manufacturers related to biofertilisers and organic fertilisers sector.

- State governments may have kept the records, but compiled countrywide information is lacking.

- More than 90 per cent of the country-wide production of carrier-based solid biofertilisers is limited to only five states. Same is the case with liquid biofertilisers.

- Data for years 2018–19 showed **Karnataka as the biggest producer of organic fertilisers,** and this single state contributed 94 per cent share in countrywide production.

- There is a widespread availability of inferior quality as well as spurious biofertiliser and organic fertiliser products across the country.

What is Bio Fertilisers:

- In nature, there are a number of useful soil micro organisms which can help plants to absorb nutrients.

- Their utility can be enhanced with human intervention by selecting efficient organisms, culturing them and adding them to soils directly or through seeds.

- The cultured microorganisms packed in some carrier material for easy application in the field are called bio-fertilisers. Thus, the critical input in Biofertilisers is the microorganisms.

- Rhizobium, Azotobacter, Azospirillum and blue green algae(BGA) have been traditionally used as Biofertilizers.

What is Organic Fertiliser?

- Organic fertilizers are fertilizers that are naturally produced. Fertilizers are materials that can be added to soil or plants, in order to provide nutrients and sustain growth.

- Examples: Manure. It is made from animal excreta(cow dung & goat droppings), Compost (It is organic matter decomposed through composting)

UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION (UNCCD)

In News: The 15th session of the Conference of the Parties (COP15) to the United Nations Convention to Combat Desertification (UNCCD) is taking place at Abidjan, the economic capital of the Ivory Coast.

More on the Topic:

- A hallmark report released by UNCCD in advance of the COP – the Global Land Outlook 2 (GLO2) – is serving as the scientific foundation for discussions.

- Among other staggering facts, the report found that 40 percent of all ice-free land is degraded, which has direct consequences on half of humanity and poses risks for half of global GDP.

- The need for gender equity is a main theme for discussion. The event opened with launch of a new report on the **gendered effects of desertification and drought.**

- The Great Green Wall a UNCCD-led effort to restore a green belt across the Sahelian region to prevent the southward spread of the Sahara Desert – remains achievable but needs significantly more support to be realized.

- Leaders are calling for more funds, national coordination and task forces to ramp up the initiative.

- "Abidjan Call" – a collective assertion from leaders stressing the need to make drought an issue of highest global priority and to continue working toward a net-neutral level of annual land degradation by 2030 was an important outcome.

United Nation Convention to Combat Desertification:

- The United Nations Convention to Combat Desertification (UNCCD), was established in 1994.

- UNCCD is the sole legally binding international agreement linking environment and development to sustainable land management.

- The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands.

- It is the only convention stemming from a direct recommendation of the **Rio Conference's Agenda 21.**

- **The Ministry of Environment, Forest and Climate Change** is the nodal Ministry for this Convention.

GLOBAL LAND OUTLOOK SECOND EDITION

In News: United Nations Convention to Combat Desertification has published Global Land Outlook 2 (GLO2) report recently based on three scenarioes.

More on the Topic:

- By continuing current trends in land and natural resource degradation, The report predicts the following by 2050:
- 16 million square kilometres would show continued land degradation **(almost the size of South America)**
- A persistent, **long-term decline in vegetative productivity** is observed for 12-14% of agricultural, pasture and grazing land, and natural areas – with sub-Saharan Africa worst affected.
- An additional **69 gigatonnes of carbon is emitted from 2015 to 2050** due to land use change and soil degradation.

Other Important observations of the Report:

- Restoring land, soils, forests and other ecosystems would contribute more than one-third of the cost-effective climate change mitigation needed to limit global warming to 1.5°C.
- Unsustainable food production practices cause degradation of land and soil.
- **Restoration projects and programs tend to have long-term multiplier effects** that strengthen rural economies and contribute to wider regional development.
- **Intensive monocultures and the destruction of forests** and other ecosystems for food and commodity production generate the bulk of carbon emissions associated with land use change
- If current land degradation trends continue, food supply disruptions, forced migration, rapid biodiversity loss and species extinctions will increase, accompanied by a higher risk of zoonotic diseases like COVID-19, declining human health, and land resource conflicts

Way Ahead:

- There is a need to bring together national action plans currently siloed under the UNCCD, Convention on Biological Diversity, and UN Framework Convention on Climate Change.
- It provides an immediate opportunity to align targets and commitments to implement land restoration, realize multiple benefits, and maximize returns on investment.

GENETICALLY MODIFIED CROPS

In News: The Department of Biotechnology (DBT) has issued guidelines easing norms for research into genetically modified (GM) crops.

More on the Topic:

- The guidelines provide a road map for the sustainable use of genome editing technologies and applicable to public and private sector research institutions engaged in research and development and handling of genome edited plants.
- The environment ministry had **exempted certain types of genome-edited crops from the stringent biosafety regulations** applicable to genetically-modified (GM) crops.
- The ministry had exempted site directed nuclease (SDN) 1 and 2 genomes from rules 7-11 of the Environment Protection Act, thus allowing to avoid a long process for approval of GM crops through the Genetic Engineering Appraisal Committee (GEAC).
- **The guidelines define various categories of genome edited plants and determine regulatory requirements** for appropriate categories and provide the regulatory framework and scientific guidance on data requirement in context of development of these crops.
- The guideline aligns and harmonizes India's regulatory framework on genome editing with other mega food producing countries from Latin America, North America, Africa and Asian countries.

Significance of the Guidelines:

- Guidelines are expected **to bring transformational change in product development and commercialisation** and would contribute towards increasing farmer's income.
- The conventional breeding technique takes 8–10 years for development of new agricultural crop varieties, while **through genome-editing, the new varieties could be developed in two to three years.**
- New guidelines will further improve the genome editing technology development and its practical applications.

About Genome Editing:

- Genetically modified organisms are the organisms in which genetic material has been altered in a way that does not occur in natural recombination.

- Genome editing is a group of technologies that gives scientists the ability to change an organism's DNA.

- **Genome is the complete genetic information of an organism** and genome editing is a type of genetic engineering in which DNA is inserted, deleted, modified or replaced in the genome of a living organism.

- In the field of genome engineering, **"CRISPR" or "CRISPR-Cas9" is used as a tool to target specific stretches of genetic code** and to edit DNA at precise locations.

Based on the nature of the edit that is carried out using site directed nuclease (SDN), the process is divided into three categories:

- **SDN1** introduces changes in the host genome's DNA through small insertions/deletions **without introduction of foreign genetic material.**

- In the case of **SDN 2**, the edit involves using a small DNA template to generate specific changes. Both these processes do not involve alien genetic material and the end result is indistinguishable from conventionally bred crop varieties.

- On the other hand, **SDN3 process involves larger DNA elements or full length genes of foreign origin** which makes it similar to Genetically modified organisms (GMO) development.

DRAFT E WASTE MANAGEMENT RULES

In News: The Environment Ministry has published Draft E-waste Management Rules. Following are included in the draft rules.

More on the Topic:

- Consumer goods companies and makers of electronics goods have to ensure **atleast 60% of their electronic waste is collected and recycled by 2023** with targets to increase them to 70% and 80% in 2024 and 2025 respectively.

- The rules also bring into effect **a system of trading in certificates, akin to carbon credits,** that will allow companies to temporarily meet their shortfalls.

- Along with specifying targets, the rules also lay out a system of companies securing **Extended Producer Responsibility (EPR) certificates.**

- These certificates **certify the quantity of e-waste collected and recycled in a particular year** by a company and an organisation may sell surplus quantities to another company to help it meet its obligations.

- Companies will have to register on an online portal and **specify their annual production and e-waste collection targets.**

About Compliance Mechanism:

- The chief entity that will coordinate the trade of EPR certificates and monitor if companies are meeting their targets is **the Central Pollution Control Board (CPCB).**

- **A Steering Committee (SC)** to be headed by the Chairman of the CPCB will oversee the overall implementation of these regulations.

- Companies that don't meet their annual targets will have to pay a fine or an 'environmental compensation'.

- Those that meet their targets with a year's delay will be refunded 85% of their fine, after two years, 60% and 30% after the second and third year respectively.

Responsible Agencies:

- The EPR requires **producers to set up e-waste exchange facilities** to facilitate collection and recycling, and assign specific responsibility to bulk consumers of electronic products for safe disposal.

- **The State governments have been entrusted with the responsibility of earmarking industrial space** for e-waste dismantling and recycling facilities, undertaking industrial skill development and establishing measures for protecting the health and safety of workers engaged in the dismantling and recycling facilities for e-waste.

India's E Waste Problem:

- According to the **Global E-Waste Monitor 2017,** India generates about 2 million tonnes (MT) of e-waste annually and ranks fifth among e-waste producing countries, after the U.S., China, Japan and Germany.

- Most of **India's e-waste is recycled by the informal sector** and under hazardous conditions and a thrust of the e-waste rules is to have more this waste be handled by the formal sector.

FIRST MOVERS COALITION

In News: India has joined First Movers Coalition to decarbonise carbon-heavy sectors.

More on the Topic:

- It is a global initiative aimed at decarbonising the heavy industry and long-distance transport sectors responsible for 30 per cent of global emissions.

- Led by the WEF and the US government, the First Movers Coalition targets sectors, including aluminium, aviation, chemicals, concrete, shipping, steel and trucking.

- The coalition's members have committed to purchasing - out of their total industrial materials and long-distance transport spending - a percentage from suppliers using near-zero or zero-carbon solutions, despite the premium cost.

INDIA'S FIRST GREENFIELD GRAIN-BASED ETHANOL PLANT

In News: Bihar has the distinction of being the first state in the country to set up a greenfield grain-based ethanol production plant.

More on the Topic:

- It would buy 130 tons of rice husk and around 145-150 tons of maize or rice from farmers every day.

Ethanol blending programme in India:

- The Centre had "launched pilot projects in 2001 wherein 5 percent ethanol blended petrol was supplied to retail outlets".

- Success of field trials eventually paved the way for the launching of the Ethanol Blended Petrol (EBP) Programme in January, 2003 for sale of 5 percent ethanol blended petrol in nine States and four UTs.

- The central government has also released an expert committee report on the Roadmap for Ethanol Blending in India by 2025.

- The roadmap proposes a gradual rollout of ethanol-blended fuel to achieve E10 fuel supply by April 2022 and phased rollout of E20 from April 2023 to April 2025.

- The government of India has advanced the target for 20 per cent ethanol blending in petrol (also called E20) to 2025 from 2030. E20 will be rolled out from April 2023.

Significance of Ethanol Blending (EB):

- It can potentially reduce the auto fuel import bill by a yearly $4 billion, or Rs 30,000 crore.

- EB will provides for farmers to earn extra income if they grow produce that helps in ethanol production.

- Ethanol is less polluting than other fuels and, per the NITI Aayog paper, "offers equivalent efficiency at lower cost than petrol".

- Use of ethanol-blended petrol decreases emissions such as carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NOx).

REM STAGE-IV EMISSION NORMS

In News: A formal notification extending the deadline for implementing the Trem Stage-IV emission norms for the farm sector would be issues shortly.

More on the Topic:

- Bharat Stage or BS Emission Standards are government-instituted emission standards that all motor vehicles have to comply with if they are to be sold and driven in India.

- Currently, all new vehicles sold and registered in India should be compliant with the BS-VI iteration of emission standards.

- The Ministry has notified amendment to Central Motar Vehicle Rules 1989 on 30th September, 2020 **deferring the applicability date for implementing the next stage of emission norms for tractors and Construction Equipment Vehicles.**

- There was also **change in the nomenclature of emission norms** from Bharat Stage (CEV/TREM) IV and Bharat Stage (CEV/TREM) V to TREM Stage-IV and TREM Stage-V for agriculture al tractors and other equipment.

Reason for change in date of implementation:

- Following stricter emission norms for farm equipment that conform to **Euro Stage IV norms** would mean that the prices of these equipment would have to be increased by 10-20% for the extra specifications.

- At a time, inflation is already high, raising the cost of equipment may result in squeezing farmers' income.

INDIAN UNIFORM CARBON MARKET

In News: India proposes to have its own uniform carbon market in one year as a large finance avenue for energy transition projects and emission reduction.

Clean Gain
India, **largest exporter** of carbon credits

Towards Net Zero by 2070

Finance avenue for carbon transition

Integrate ESCerts, RECs

Centre considering change in legislation to implement carbon trading scheme

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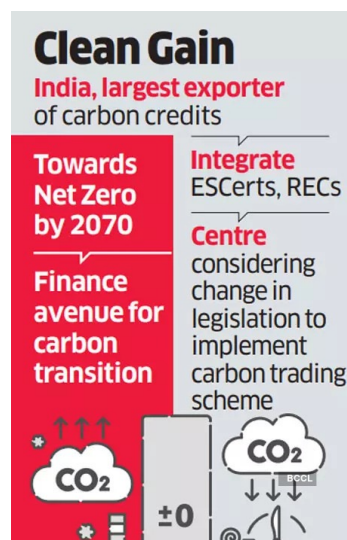
More on the Topic:

- India is the largest exporter of carbon credits.

- An analysis by Deloitte Economics Institute showed the **country could gain $11 trillion over 50 years by limiting rising global temperatures** and realising its potential to 'export decarbonisation' to the world.

- GOI is considering **a change in legislation for implementing the carbon trading scheme** that will subsume all such present tradeable certificates.

- The proposal is also to have **a closed market that doesn't allow export of such clean certificates** in international carbon markets.

About Carbon Trading:

- Emission trading for carbon dioxide and other greenhouse gases is a form of carbon pricing; also known as cap and trade or carbon pricing.

- It is an approach to limit climate change by creating a market with limited allowances for emissions.

- Basically, each country has a cap on the amount of carbon they are allowed to release. Carbon emissions trading then allows countries that have higher carbon emissions to purchase the right to release more carbon dioxide into the atmosphere from countries that have lower carbon emissions.

- The carbon trade also refers to the ability of individual companies to trade polluting rights through a regulatory system known as cap and trade. Companies that pollute less can sell their unused pollution rights to companies that pollute more.

Why We Have the Carbon Trade?

- When countries use fossil fuels and produce carbon dioxide, they do not pay for the implications of burning those fossil fuels directly.

- There are some costs that they incur, like the price of the fuel itself, but there are other costs not included in the price of the fuel. These are known as externalities.

- In the case of fossil fuel usage, often these externalities are negative externalities including health costs, (like the contribution that burning fossil fuels makes to heart disease, cancer, stroke, and lung diseases) and environmental costs, (like environmental degradation, pollution, climate change, and global warming).

- So, if a country is going to burn fossil fuels, and produce these negative externalities, the thinking is that they should pay for them.

- The carbon trade originated with the **1997 Kyoto Protocol,** with the objective of reducing carbon emissions and mitigating climate change and future global warming.

- At the time, the measure devised was intended to reduce overall carbon dioxide emissions to roughly 5% below 1990 levels by between 2008 and 2012.

CHENAB RIVER

In News: Prime Minister has laid foundation stone for the construction of the Rattle and Kwar hydroelectric project, located on river Chenab in the Kishtwar district of Jammu and Kashmir.

More on the Topic:

- The project will be implemented by Chenab Valley Power Projects Private Limited.

- The project includes a 436 ft tall gravity dam and two power stations adjacent to one another.

- The installed capacity of both power stations will be 850 MW.

- Pakistan has frequently alleged that it violates the Indus Water Treaty.

Indus water treaty:

- India and Pakistan signed the IWT along with the World Bank being a signatory. It was signed in Karachi in 1960.

- It gives control over the waters of the **three "eastern rivers", the Beas, Ravi and Sutlej** to India while control over the waters of the **three "western rivers", the Indus, Chenab and Jhelum** to Pakistan.

- The water of the first three rivers and their tributaries that India gets is its absolute Right.

- India is expediting strategically important hydropower projects in Jammu and Kashmir such as

- Ratle

- Bursar

- Pakal Dul

- Kiru

- And Kwar

- India has about 20 per cent of the total water carried by the Indus system while Pakistan has 80 per cent.

PANTANAL WET LAND

In News: The world's largest wetland, the Pantanal in South America, is at the risk of collapse.
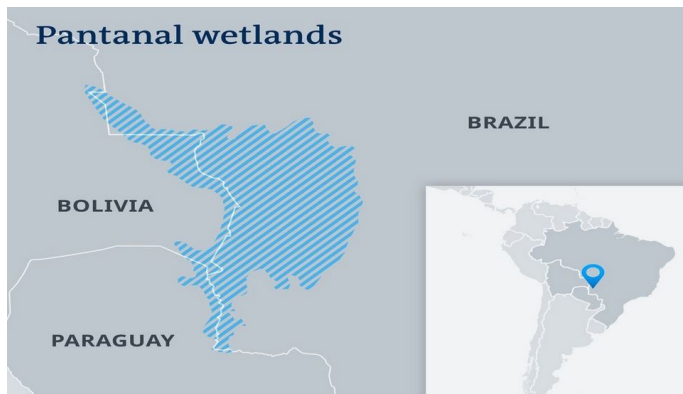
More on the Topic:

- The approval of **an increasing number of hydroelectric plants in the river basins** forming the Pantanal wetlands, which may cause significant changes in the hydrology and nutrient intake in the ecosystems.

- **The Pantanal is also threatened by climate change** on a global scale, deforestation in the Amazon rainforest and severe drought and massive fires.

- **At least 17 million vertebrates are estimated to have been killed immediately by wildfires** that burned a quarter of the Brazilian Pantanal in 2020.

- **Location:** The Pantanal **spans over 179,000 sq km in Brazil, Paraguay and Bolivia** and boasts one of the highest concentration of flora and fauna in South America.

ANANG TAL LAKE - DELHI

In News: Process for declaring Anang Tal lake as National Monument has initiated recently.

More on the Topic:

- Anang Tal is situated "to the north of **Jog Maya temple** and approximately 500 metres to the **Qutub Complex".**

- It has been a place of a general resort but now it is dried up and used for cultivation.

- Alauddin Khalji, in 1296-1316 AD, utilised the water of this tank when he built (Qutub) minar and extended the Qutub-ul-Islam mosque.

- **It dates back to 1,060 AD.**

- Tradition ascribes this tank to a **Tomar King, Anangpal II, the builder of Lal Kot.**

- He is known to have established and populated Delhi in the 11th century. **Lal Kot** ("Red Fort") or Qila Rai Pithora is a fortified complex in present-day Delhi, which includes the Qutb Minar complex.

ANCIENT FOREST AT THE BOTTOM OF A GIANT KARST SINKHOLE IN CHINA

In News: A cave exploration team has discovered an ancient forest at the bottom of a giant karst sinkhole in south China.

More on the Topic:

- The sinkhole has three big caves in the walls and its bottom has a well-preserved primitive forest with trees nearly 40 metres high.

- Sinkholes are **depressions formed in the ground when layers of the Earth's surface start collapsing into caverns.**

- They can occur suddenly and without warning, because the land under the surface of the Earth can stay intact for a period of time until the spaces get too big.

- Sinkholes **can be formed due to natural processes or human activity.** Typically, sinkholes **form in areas of "karst" terrains,** where the rock below the surface of the Earth can be easily dissolved by groundwater.

- Essentially, this means that when rainwater seeps into the ground, **the rock below the surface of the Earth starts dissolving,** leading to the creation of spaces.

- This process is a slow and gradual one and can sometimes take hundreds or thousands of years.

About karst geology:

- Karst geology covers about **13 per cent of eastern and southeastern Asia.** According to the United States Geological Survey (USGS), karst terrain is created from the dissolution of soluble rocks, mostly limestone and dolomite and is characterised by distinctive landforms such as caves, sinkholes and springs.

THE PEOPLE'S BIODIVERSITY REGISTER

In News: Kolkata became the first major metropolitan city in India to prepare a detailed register of biodiversity.

More on the Topic:

- The People's Biodiversity Register (PBR), **which details flora and fauna forms within the city as well as its land uses and human activities,** has been prepared by KMC's Biodiversity Management Committee (BMC).

- It was supervised by West Bengal's biodiversity board with the help of non-profits.

- The document will be key in fighting climate change in the eastern India's largest city- Kolkata.
- The Forest Survey of India's recent report had flagged the West Bengal Capital for the least greenery among all metro cities.

BLUE BLOB

In News: 'Blue Blob' near Iceland could slow glacial melting.

More on the Topic:

- A region of cooling water in the North Atlantic Ocean near Iceland is nick named as the "Blue Blob."
- It has likely slowed the melting of the island's glaciers since 2011 and may continue to stymie ice loss until about 2050.
- However, the study has also stated that the effects of climate change will catch up to the massive ice chunks if temperatures are not kept in check.

ENDOSULFAN

In News: Supreme Court directed Kerala government to distribute Endosulfan victims compensation.
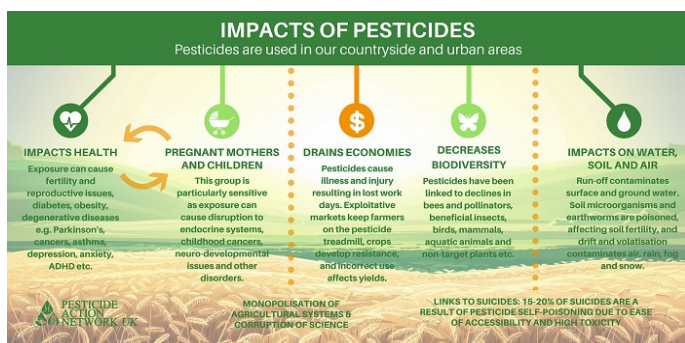
More on the Topic:

- Endosulfan pesticide was used widely on crops like cashew, cotton, tea, and fruits till 2011, after which its production and distribution were banned due to several reports of ill-effects on humans.

- According to the special cell's report, it was widely used in the Kasaragod district of Kerala from 1978 to 2001.
- The apex court's direction came on a contempt petition filed by eight victims.
- Endosulfan may affect **the central nervous system, blood, resulting in irritability, convulsions and renal failure.**
- The environmental risk assessment suggests that exposure to endosulfan could result in **both acute and chronic risks of concern for terrestrial and aquatic organisms.**
- Exposure to endosulfan has resulted in both **reproductive and development effects** in nontarget animals, particularly birds, fish and mammals.

ORGANIC AADHAAR

In News: Agricultural and Processed Food Products Export Development Authority (APEDA) is planning to roll out "Organic Aadhaar" for the farmers engaged in organic farming under the National Programme for Organic Production (NPOP).

More on the Topic:

- **Organic Aadhaar is similar to a voter ID card** in that it will provide the farmer in a growers group with exclusive protection of organic status and income.
- This will protect his rights to sell the produce at a higher price while maintaining his organic status.
- The idea is to create an identity for the farmer for the organic certification process based on Personal Aadhar and ULPIN.
- **Every plot of land in the country now has a 14-digit identification number** assigned by the government.
- Last year, the **Unique Land Parcel Identification Number (ULPIN) scheme** was launched in ten states and will soon be rolled out across the country. According to official sources, this could also become a powerful tool for identifying organic land.

Significance:

- The data element of Organic Aadhaar will become **the deep foundation for the integrity of India's organic agriculture.**
- Organic Aadhaar combined with Tracenet will create **a robust system for effectively planning and monitoring policy measures.**
- Tracenet system, which was launched in 2009, provides information on products exported from the country.
- Details about the farmer, his land, and the inputs used in the production of the product are made available through the system for products exported from India.

INDIA'S THREATENED AND ENDEMIC SPECIES

In News: According to a new study Kerala, Tamil Nadu and Karnataka host a large share of India's threatened and endemic species of amphibians, birds and mammals.

More on the Topic:

- The three states account for 51 per cent of the country's **species threat abatement and restoration (STAR) score.**

- The high STAR scores of the top three states (51 per cent combined) were primarily due to the presence of a number of endemic **amphibian species that are critically endangered like Indirana phrynoderma (Kerala Indian frog), Fejervarya murthii (Ghats wart frog), Indirana gundia (Gundia frog), Micrixalus kottigeharensis (Kottigehar dancing frog)** and others

- The high scores of the northeastern states of Arunachal Pradesh and Assam were due to the presence of a high number of threatened birds and mammals such as **Liocichla bugunorum and Biswamoyopterus biswasi.**

- "Species Threat Abatement and Restoration" is **a biodiversity metric based on The IUCN Red List of Threatened Species.**

- STAR **combines data on species, the threats they face and their risk of extinction,** to produce two complementary global data layers for threat abatement (START) and restoration (STARR).

- These can be used **to identify areas where actions to abate threats or undertake restoration can help reduce species extinction risk and contribute to conservation goals.**

- **A higher STAR score indicates greater presence of threatened species.**

- The score is **a measure of the contribution that investments can make to reduce species extinction risk.**

- It can help national and subnational governments, cities and other entities target their investments and activities to achieve conservation outcomes.

MONEY SPIDER, ANT-MIMICKING SPIDER

In News: Money spiders, commonly found in European meadows, have been reported for the first time in the country from the Muthanga range of the Wayanad Wildlife Sanctuary.

Ant   Spider
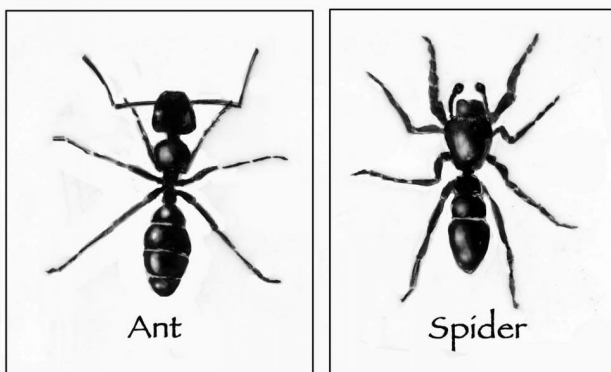
More on the Topic:

- The male and the female money spiders are typically 3 mm and 4 mm long respectively.

- Both sexes are dark brown and have irregular silver patches and black spots on elliptical abdomen. There are numerous fine black spines on their olive green legs. Eight dark eyes are arranged in two rows.

- Females build triangular webs in between dry tree twigs and feed on small insects, while males prefer to hide beneath dry leaves. Two or more male spiders can be found in the web of a single female.

- They have also discovered ant-mimicking spiders, belonging to the group of jumping spiders, from the Mananthavady range.

- **The ant-mimicking spider has been named Toxeus alboclavus.**

- They perfectly mimic ants by lifting their front pair of legs while walking as a mechanism to escape from potential predators. Only three species of this genus have been reported from India, and this is the first species reported from the Western Ghats.

MAYA'S PIT VIPER

In News: New species of venomous snake has been registered from Meghalaya.

More on the Topic:

- The new species is relatively common in Meghalaya, Mizoram and Assam.

- The discovery is significant because around 1.2 million people have lost their lives owing to snakebite and many more have lost their limbs in the last two decades in India.

- A discovery of a new venomous snake means a lot in the context of public health.

- Venom is a complex protein, mostly typical to a species and thus unravelling a new species will help understanding its venom and its impact on human life and perhaps will help save lives.

INDIA'S MISSING WOLVES

In News: Indian Wolves population is reducing.

More on the Topic:

- A new study estimates that there may be as few as 3,100 wolves in India.

- **This puts them in the same category of endangerment as tigers.**

- **Habitat loss is a primary threat to this species.**

- No wildlife sanctuary is dedicated to the preservation of the Indian wolf, and a recent study shows that less than 5% of open natural ecosystems in the country are protected.

- The wolf, unlike the tiger, is not a creature of forests. It requires vast areas, and manages to live in the interstices of agricultural spaces that are left fallow by farmers dependent on rainfall as their only source of irrigation.

- The survival of the Indian wolf depends on nomadic pastoralist communities.

- Wolves can be saved by protecting their natural habitat.

RAMGARH VISHDHARI SANCTUARY

In News: The Ramgarh Vishdhari Sanctuary in Rajasthan was notified as India's 52nd tiger reserve recently.
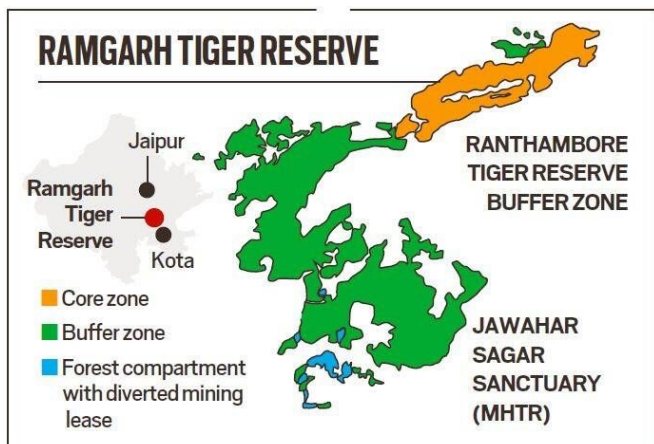
More on the Topic:

- It includes the tiger habitat between Ranthambore Tiger Reserve in the northeast and Mukundra Hills Tiger Reserve on the southern side and facilitates dispersal of tigers from Ranthambore Tiger Reserve.

- The floristic diversity of this new tiger reserve makes it **an important area for research and education.**

- **Historic and cultural sites like Bhimlat, Ramgarh palace** would encourage eco tourism and provide employment opportunities to local communities.

Tiger Statistics:

- India has **more than 70% of the world's wild tigers.**

- India is in a leadership position on the tiger front globally.

- The Project Tiger, launched in 1973, has grown to more than 50 reserves amounting to almost 2.2% of the country's geographical area.

PANGONG TSO LAKE

In News: India is closely monitoring the construction of a bridge by China on the Pangong Tso (lake) in eastern Ladakh.
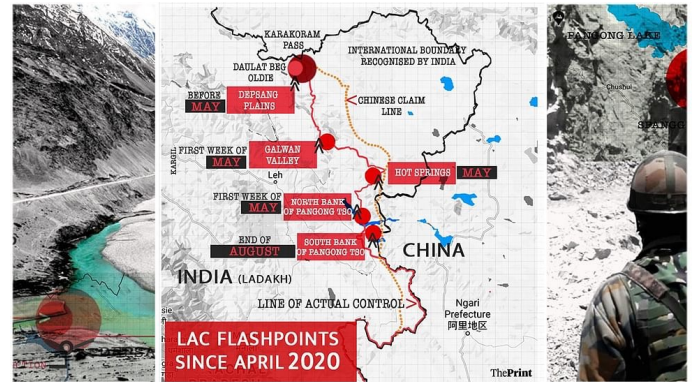
More on the Topic:

- China is constructing a second bridge in an area held by it around the strategically key Pangong Tso lake in eastern Ladakh and it could help the Chinese military to quickly mobilise its troops in the region.

- The official statement by Ministry of External Affairs said that both the bridges that are being constructed by China are in the area that has been illegally occupied by China since 1960s.

About Pangong Tso Lake:

- Pangong Lake is **an endorheic lake spanning eastern Ladakh and West Tibet.**

- It is divided into **five sublakes, called Pangong Tso, Tso Nyak, Rum Tso (twin lakes) and Nyak Tso.**

- Approximately **50% of the length of the overall lake lies within Tibet China, 40% in Ladakh India and the rest is disputed** and is a de-facto buffer zone between India and China.

- During winter the lake freezes completely, despite being saline water.

THE FRILLED SHARK

In News: Frilled Shark was caught by fishermen.

More on the Topic:

- The frilled shark is a pre-historic creature with 300 teeth that has been roaming the seas since the time of the dinosaurs.

- Dubbed the "living fossil", the creatures have hardly even changed over the last 80 million years.

- Its intimidating teeth and knowledge of the creature suggests they pose the biggest threat to other fish - having a hinged jaw to catch larger prey.

- It has been found in waters across the Atlantic and in waters off the coasts of Japan and Australia.

- But because the shark lives in extreme depths and is actually rarely caught, scientists are unsure of how many there are in population.

- Conservation Status: International Union for the Conservation of Nature list - species of least concern.

- But it was noted that increasing deep water commercial fishing could in fact increase the likelihood of the frilled shark becoming an unwanted catch.

48% OF BIRD SPECIES DECLINING GLOBALLY

In News: According to State of World's Birds report around 48% of bird species worldwide are known or suspected to be undergoing population declines.

More on the Topic:

- The report sighted following reasons as the cause for population decline.

- Human influenced factors such as loss or degradation of habitats, changes in land use, overexploitation, and climate change.

- The loss in avian diversity is no less alarming in India, where current annual trends available for the past five years have been estimated for 146 species.

- Of these, nearly 80% are declining in numbers, and almost 50% plummetting strongly.

- The Indian report had found that endemic species, birds of prey, and those dwelling in forests and grasslands were the most threatened.

- Although there are no confirmed recent continental extinctions in Asia, numerous threatened species have not been seen in recent years.

- For example, **the critically endangered Jerdon's Courser,** endemic to the Eastern Ghats in India, has not been seen since 2009.

State of World's Birds report:

- State of the World's Birds is **BirdLife International's flagship science publication,** using birds to assess the condition of our ecosystems as a whole.

LESSER FLORICAN AND GREAT INDIAN BUSTARD

In News: The Supreme Court has directed the installation of bird diverters on overhead power transmission lines at the States of Gujarat and Rajasthan for the protection of the endangered birds Great Indian Bustard and Lesser Florican.

More on the Topic:

- The existence of overhead power lines is one of the reasons for Great Indian Bustard and Lesser Florican getting killed.

- Lesser Florican is a small and slender bird species belonging to the bustard group, found in tall grasslands, for which Dehradun-based Wildlife Institute of India (WII) has launched **a recovery programme.**

- The Lesser Florican is protected under **Schedule 1 of the Wildlife (Protection) Act, 1972,**

- The bird is listed as **"Critically Endangered"** on the International Union for Conservation of Nature's Red List of Threatened Species.

- The Great Indian Bustard (GIB), **the State bird of Rajasthan,** is considered India's most **critically endangered bird.**

- It is considered the flagship grassland species, representing the health of the grassland ecology.

BIOLUMINESCENT FIRE FLIES

In News: The Anamalai Tiger Reserve (ATR) of Tamilnadu has witnessed bioluminescence event recently.
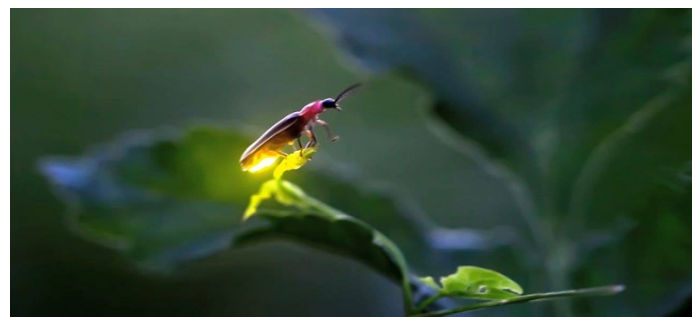
More on the Topic:

- A new species of synchronous fireflies has been identified in the Anamalai Tiger Reserve where several lakhs of fireflies have turned a large portion of the protected forest into an Avatar movie-like bioluminescent world.

- There are only 7 to 8 species of fireflies recorded in India.

- Firefly populations are on the decline across the world.

About Fire Flies:

- They are soft-bodied beetles commonly called fireflies, glow-worms, or lightning bugs for their conspicuous production of light, mainly during twilight, to attract mates.
- Fireflies produce a chemical reaction inside their bodies that allows them to light up. This type of light production is called bioluminescence.
- Unlike a light bulb, which produces a lot of heat in addition to light, a firefly's light is "cold light" without a lot of energy being lost as heat.

ERAVIKULAM PARK

In News: There has been a growth in the number of Nilgiri tahrs in Eravikulam National Park (ENP), the natural habitat of Nilgiri tahr in Munnar.

More on the Topic:

- The survival rate of Nilgiri tahr in Rajamala inside ENP is higher than in other habitats in the Munnar landscape.
- The Eravikulam National Park is situated in the **Kannan Devan Hills of the southern Western Ghats.**
- The Eravikulam National Park has **the highest density and largest surviving population of Nilgiri tahr,** the endangered mountain goat.
- Every twelve years, this place witness the mass flowering of **Neelakurinji flowers.**
- Existing populations of Nilgiri Tahr are under severe stress due to habitat loss and hunting.

Protection Status:

- IUCN Red List of Threatened Species status: Endangered
- Wildlife (Protection) Act of India, 1972: Schedule I

TOMATO FLUE

In News: Tomato flu is affecting children below the age of five in Kerala.

More on the Topic:

- Tomato flu is **a rare viral disease,** which causes red-coloured rashes, skin irritation and dehydration.
- The disease gets its name from the blisters it causes, which look like tomatoes.
- Tomato flu is affecting children below the age of five in Kerala.
- Like other cases of flu, **tomato fever is also contagious.**
- If someone is infected with this flu, they need to be kept in isolation as this could spread rapidly from one person to another.
- It is essential to prevent children from scratching the blisters caused by the flu. Proper rest and hygiene is also advised.
- Tomato flu is **a self-limiting one and there is no specific drug for this.**

SHIGELLA

In News: The Kerala health department has identified Shigella bacteria as the cause for the food poisoning incident in Kerala, which claimed the life of a 16-year-old girl and led to 30-odd others being admitted to hospital.
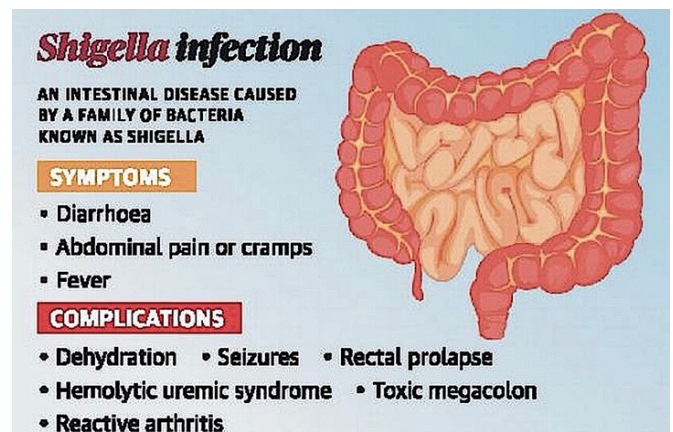
More on the Topic:

- Shigella is a bacterium that belongs to the enterobacter family — a group of bacteria that reside in the intestine, not all of which cause disease in humans.
- It mainly affects the intestine and results in diarrhoea, sometimes bloody, stomach pain, and fever.
- The infection spreads easily as it takes only "a small number of bacteria to make someone ill".
- It is easily spread by direct or indirect contact with the excrement of the patient.
- Shigellosis is not a very common infection like the typhoid and cholera.
- **The infection does not generally kill, unless the patient has a weak immune system** or the pathogen is resistant to the antibiotics that are prescribed.
- Products such as milk, chicken, and fish can get infected easily and must be kept at a proper temperature. **They must also be properly cooked to avoid infections.**
- **Washing hands and keeping hygiene also will help to avoid Shigella contamination.**

AFRICAN SWINE FEVER

In News: African Swine Fever was detected in Tripura.
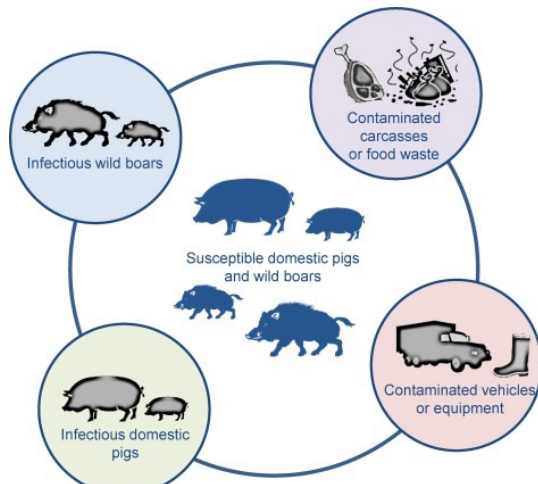
More on the Topic:

- It is a **highly contagious and fatal animal disease** that infects and leads to an acute form of hemorrhagic fever in domestic and wild pigs.

- It was first detected in Africa in the 1920s

- ASF is not a threat to human beings since it only spreads from animals to other animals.

- It is caused by a virus of the genus Pestivirus of the family Flaviviridae, which is closely related to the viruses that cause bovine viral diarrhoea in cattle and border disease in sheep.

- Mortality is 100%.

MONKEY POX VIRUS

In News: WHO has warned that monkey pox outbreaks will rise in the coming months.
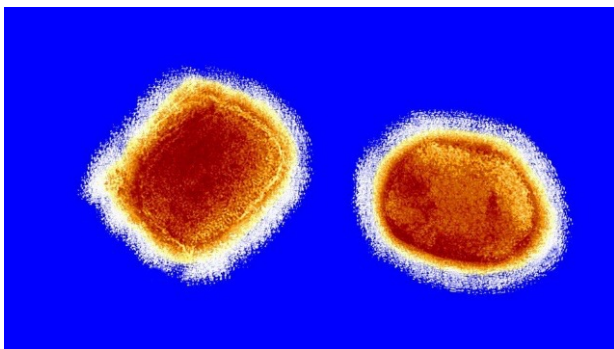
More on the Topic:

- Monkeypox is a viral infection that is more common in West and Central Africa. The first case of monkeypox in humans was recorded in 1970 in the **Democratic Republic of Congo** during a period of intensified effort to eliminate smallpox.

- Monkeypox belongs to the same family of viruses as smallpox. But Smallpox had a higher fatality rate than monkeypox.

- Smallpox **was declared eradicated worldwide in 1980.**

- There's a recent spike in cases as over 100 infections were con-

- The Monkeypox illness usually causes symptoms of fever, muscle aches and swollen lymph nodes. Chicken-pox-like rashes are also found on the hands and face.

- Transmission usually happens due to **close contact with infected animals** such as rodents and monkeys and is **limited between people.**

Treatment:

- There is **currently no specific treatment** recommended for monkeypox.

- **Vaccination against smallpox was about 85% effective** in preventing monkeypox.

- Thus, prior childhood smallpox vaccination may result in a milder disease course.

INDIA TO ELIMINATE MALARIA BY 2030

In News: India has developed a national framework for malaria elimination to achieve zero cases by 2027 and it will eliminate malaria by 2030.

More on the Topic:

- Malaria remains a deadly disease around the world, primarily affecting children below the age of five.

- In southeast Asia, India accounts for 80% of the region's malaria burden.

- Malaria parasites have a complex life cycle and we still don't fully understand the immune response to infection. What we know is that people who are repeatedly exposed to malaria develop immunity to the disease.

- The complexity of the malaria parasite makes developing a vaccine against any stage of the parasite a formidable challenge.

More on the Topic:

- Injecting **irradiated sporozoites** (an early stage of the malaria parasite that infects liver cells) or transferring antibodies from malaria-immune adults can protect others from infection.

- **The RTS,S also known as Mosquirix is the world's first WHO-approved vaccine against the type of malaria caused by the Plasmodium falciparum parasite.**

- The vaccine is based on a protein expressed on the surface of sporozoite, called **circumsporozoite protein (CSP).**
- Ongoing studies have shown the vaccine reduces deadly malaria by about 30%. Based on this, the WHO has recognised Mosquirix as a potentially complementary tool to fight the global malaria burden.

CANINE DISTEMPER VIRUS (CDV) VACCINE

In News: The Gujarat Biotechnology Research Centre has developed and completed the first trials of the Canine Distemper Virus (CDV) vaccine on guinea pigs and rats.

More on the Topic:

- The vaccine is being prepared for the Asiatic lion (Panthera leo persica) population in Gir National Park.
- In 2018 around 27 lions had succumbed to the disease.
- The vaccine would go through three trials before being administered on lions.
- Canine distemper is **caused by the paramyxovirus virus.** It spreads through body fluids like infected urine, blood and saliva.
- The virus **attacks the respiratory, gastrointestinal and nervous systems** of puppies and dogs and can be **transmitted to lions, tigers, leopards and other wild cats as well as seals.**
- The virus is also found in wild foxes, wolves, coyotes, raccoons, skunks, mink and ferrets. Its symptoms include dullness, lacrimation, cough, diarrhea and seizures.

HEPATITIS B

In News: Many countries including the US and UK reported mysterious cases of a few children being diagnosed with Hepatitis B.
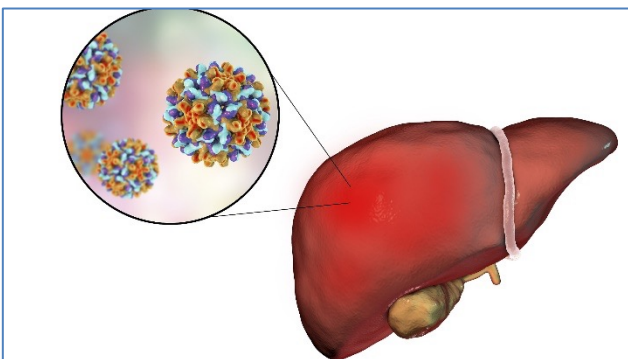
More on the Topic:

- Hepatitis B is an infection in the liver which happens because of the Hepatitis B virus or HBV. The virus usually spreads through blood, semen or other body fluids.
- It can be **prevented or protected against through vaccination.**
- When it is acute, the virus lasts a small time and doesn't always necessarily need treatments although it can get serious and lead to life-threatening diseases like organ scarring, liver failure and even cancer.

PLAN BEE

In News: Despite Indian Railway's effort to keep elephants off the rail tracks through Plan Bee 48 Elephants died in 2019.

More on the Topic:

- In 2017, the Indian Railways launched a unique method called "Plan Bee" to keep elephants away from railway tracks.
- It is an amplifying system imitating the buzz of a swarm of honey bees.
- Through this device, the buzzing sound of bees will be audible from a distance of 600 metres.
- Elephants have long been known to be frightened by the buzzing of bees and stings.

CYCLONE ASANI

In News: Cyclone Asani is tipped to fizzle out before coming near the Bengal coast by May 12. It is the fifth cyclone on Bay of Bengal since 2020.
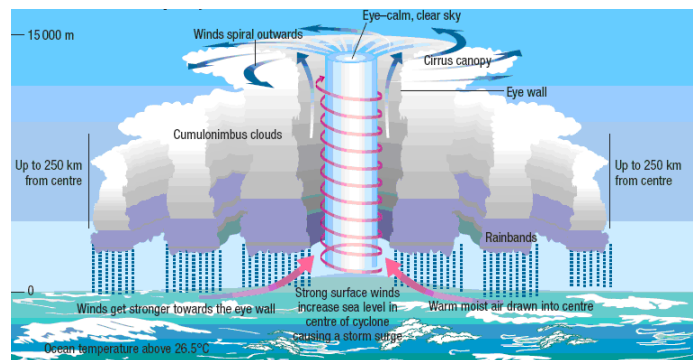
More on the Topic:

- Cyclone Asani, which developed over southeast regions of Bay of Bengal and intensified into a 'severe cyclone'.
- It was Started as a low-pressure area over south Andaman Sea.
- It was named by Sri Lanka. Asani means "wrath" in Sinhalese.

What is a Cyclone?

- A cyclone is **a general term for a weather system** in which winds rotate inwardly to an area of low atmospheric pressure.
- For large weather systems, the circulation pattern is in a **counter clockwise direction in the Northern Hemisphere and a clockwise direction in the Southern Hemisphere.**
- Types of cyclones include tropical cyclones, extratropical cyclones and tornadoes.

Why are more cyclones in Bay of Bengal?

- Warm air currents contribute to the development of cyclones by raising the surface temperature.
- The Bay of Bengal is a great target because it receives more rainfall and has slow breezes that maintain temperatures reasonably warm all year: about 28 degrees.

- The eastern coast of India receives cyclones that form not just in the Bay of Bengal, mostly around the Andaman Sea near the Andaman and Nicobar Islands, but also those travelling from the Pacific Ocean, where the frequency of 'typhoons', as these are called there, is quite high.

- Most of these cyclones weaken considerably after encountering a big landmass. Lack of much land mass before reaching Bay of Bengal increases the cyclones from Bay of Bengal.

- The relatively colder waters of the Arabian Sea are not conducive to the formation and intensification of cyclones.

- The western coast of India thus witnesses only those cyclones that originate locally or the ones, like Ockhi, that travel from the Indian Ocean near Sri Lanka.

How are the cyclones named?

- In 2000, a group of nations called **WMO/ESCAP (World Meteorological Organisation/United Nations Economic and Social Commission for Asia and the Pacific),** which comprised Bangladesh, India, the Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand, decided to start naming cyclones in the region.

- After each country sent in suggestions, the WMO/ESCAP Panel on Tropical Cyclones (PTC) finalised the list.

- The WMO/ESCAP expanded to include five more countries in 2018 — **Iran, Qatar, Saudi Arabia, United Arab Emirates and Yemen.**

- The list of 169 cyclone names released by IMD in April 2020 were provided by these countries — 13 suggestions from each of the 13 countries.

International Relations

INDO-PACIFIC ECONOMIC FRAMEWORK FOR PROSPERITY

In News: India has joined Indo-Pacific economic bloc "Indo-Pacific Economic Framework for Prosperity" led by US.
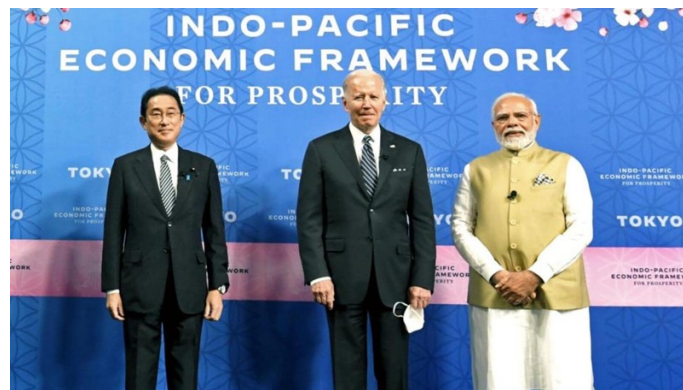
More on the Topic:

- It has a dozen initial partners. These countries include **India, Australia, Japan, Brunei, Indonesia, Korea, Malaysia, New Zealand, the Philippines, Singapore, Thailand, and Vietnam.** Together, these countries represent 40% of world GDP.

- New bloc is perceived as **an economic alternative to China's strategic footprint in the Indo-Pacific.**

- IPEF has identified four pillars as its objective.

- **Trade:** To build **high-standard, inclusive, free, and fair trade commitments** and develop new and creative approaches in trade and technology policy. Trade should promote sustainable and inclusive economic growth.

- **Supply Chains:** To improve transparency, diversity, security, and sustainability in our supply chains to make them more resilient and well-integrated.

- Readiness for and mitigate the effects of disruptions to supply chains to ensure business continuity; ensure access to key raw and processed materials, semiconductors, critical minerals, and clean energy technology.

- **Clean Energy, Decarbonization, and Infrastructure:** To accelerate the development and deployment of clean energy technologies to decarbonize our economies and build resilience to climate impacts. This involves deepening cooperation on technologies, on mobilizing finance, including concessional finance, and on seeking ways to improve competitiveness and enhance connectivity.

- **Tax and anti-corruption:** To enact and enforce "effective tax, anti-money laundering, anti-bribery schemes

Net Zero Alliance

In News: World Economic Forum has launched Indian CEOs' alliance to supercharge race to 'net-zero'.

More on the Topic:

- The Alliance **brings together chief executives from India's leading businesses.** It is part of the Forum's Climate Action Platform and will build upon learnings from global projects such as the Alliance of CEO Climate Leaders and the First Movers Coalition'

- The Alliance will serve as a high-level platform to support business leaders in planning and implementing plans and programmes to achieve climate targets, including net-zero economic growth.

- It will bring together the government, businesses and other key stakeholders to achieve the Indian Prime Minister's ambitious, five-part "Panchamrit" pledge.

Components of "Panchamrit" pledge:

- First- **India will reach its non-fossil energy capacity to 500 GW by 2030.**

- Second- India will meet **50 percent of its energy requirements from renewable energy** by 2030.

- Third- India will reduce the total projected carbon emissions by one billion tonnes from now onwards till 2030.

- Fourth- By 2030, India will **reduce the carbon intensity of its economy by less than 45 percent.**

- And fifth- by the year 2070, **India will achieve the target of Net Zero.** These panchamrits will be an unprecedented contribution of India to climate action.

NEW DEVELOPMENT BANK

In News: The New Development Bank (NDB), will open its first regional office in India at the Gujarat International Finance Tec-City (GIFT City).

More on the Topic:

- It is intended to cater to infrastructure and sustainable development needs of the country.

- The India office will focus on expanding its footprint in the country with planning and implementing new projects as well as monitoring them.

- The NDB has so far approved 21 Indian projects, involving funding of $7.1 billion.

About New Development Bank:

- The NDB was established by Brics countries -- Brazil, Russia, India, China, and South Africa and was formally opened in July 2015. Bangladesh, the United Arab Emirates, Egypt and Uruguay have since joined the bank.

- Projects within the scope of the NDB include transport, water and sanitation, clean energy, digital infrastructure, social infrastructure and urban development.

SCO RATS MEET

In News: India is hosting SCO-RATS meet.

More on the Topic:

- The meeting is taking place **under the framework of the SCO's Regional Anti-Terrorist Structure.**

- A major focus of the discussions was to be on the situation in Afghanistan, especially in dealing with the threat from terrorist groups active in the Taliban-ruled country.

- India is holding present chairmanship of RATS.

- The Regional Anti-Terrorist Structure (RATS), is headquartered in Tashkent, Uzbekistan.

- It is a **permanent organ of the Shanghai Cooperation Organisation(SCO)** which serves to promote cooperation of member states against the three evils of terrorism, separatism and extremism.

- It specifically deals with issues relating to security and defence.

About Shanghai Cooperation Organisation:

- The Shanghai Cooperation Organization is **a permanent intergovernmental body** formed on an international basis to enhance the economic, military, and political cooperation in The Eurasian region.

- The SCO currently comprises eight Member States namely China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan.

- It was created on 15 June 2001 in Shanghai (China).

PICK-AND-CHOOSE INDO-PACIFIC ECONOMIC FRAMEWORK

In News: USA is designing pick and choose Economic framework where participating countries can join IPEF without necessarily joining all the four pillars of the framework.

More on the Topic:

- IPEC is a platform which has been initiated by the US. It is envisioned as the platform for negotiation on a variety of economic issues arranged through its four pillars.

- IPEF's four pillars include **fair and resilient trade** (including digital, labour, environmental and other standards); **supply chain resilience; infrastructure, decarbonisation and clean energy; and tax and anti-corruption.**

- India sees the framework in a "positive light", and notes particular convergence when it comes to the supply chain resilience pillar, but it has sought flexibility in the framework to create incentives for countries to join it.

- India is understood to have concerns about some of the other pillars, **particularly trade**, and its implications.

- US's partnership with India was "critical" to progress on "clean energy and climate priorities, pandemic response, supply chain diversity and resilience, emerging technologies, investment screening, and other areas that are central" to IPEF.

- US considers India as a vital partner in our positive economic engagement in the region.

ASSOCIATION OF ASIAN ELECTION AUTHORITIES

In News: India has been unanimously elected as the new Chair of the Association of Asian Election Authorities (AAEA) for 2022-2024.

More on the Topic:

- The mission of the AAEA is to provide a non-partisan forum in the Asian region for sharing experiences and best practices among election authorities to discuss and act upon ways to promote open and transparent elections with the objective of supporting good governance and democracy.

- Currently 20 Asian Election Management Bodies(EMBs) are members of AAEA.

- Election Commission of India(ECI) is a founder member of EMB of the AAEA and also served on the Executive Board of the AAEA as the Vice Chair during 2011-13 and Chair during 2014-16.

MACOLIN CONVENTION

In News: The UN-Energy Plan of Action Towards 2025 was launched recently.

More on the Topic:

- The Macolin Convention is the other name for the Council of Europe Convention on the Manipulation of Sports Competitions.

- It is a multi-lateral treaty aimed at checking match-fixing.

- The convention was concluded in Macolin, Switzerland in 2014.

- A major focus of the convention is to prevent and punish illegal sports betting operations and to prevent conflicts of interest between legal sports betting operators and sports organizations.

UN-ENERGY PLAN OF ACTION 2025

In News: The UN-Energy Plan of Action Towards 2025 was launched recently.

More on the Topic:

- The UN-Energy Plan of Action sets out a framework for collective action that includes doubling annual clean energy investment globally, and facilitating electricity access for 500 million people, as well as clean cooking solutions for one billion.

- It identifies seven areas for work, ranging from scaling up efforts to close the energy access gap, to leveraging the power of data, digitalisation and visualisation for strengthening monitoring, tracking, accountability and communication of results.

- The plan of action will contribute to global roadmap for energy access and transition by the end of the decade, while also contributing to net zero emissions by 2050.

- The UN-Energy partnership brings together some 30 organizations working on all aspects of energy and sustainable development.

- With the launch of a UN-Energy Plan of Action Towards 2025, the UN took a major step towards catalyzing the large-scale action and support needed for the transition to clean, affordable energy.

Energy Compact Action Network:

- An Energy Compact Action Network was also launched to match governments seeking support for their clean energy goals with governments and businesses that have already pledged over $600 billion in assistance.

- The Network will also advance or expand coalitions supporting green hydrogen and a stronger role for women in leading and benefiting from the energy transition.

About UN Energy:

- UN-Energy is an interagency mechanism within the system of the United Nations related to energy.

- It was created after the 2002 World Summit on Sustainable Development in Johannesburg, and its purpose is to create a coherent approach towards a sustainable energy system especially in developing countries to meet Sustainable Development Goals.

WTO GOVERNMENT PROCUREMENT AGREEMENT

In News: India informed that Indian Government has "no plans" to join the government procurement agreement grouping of the World Trade Organization (WTO).

Potential benefits of participating in the Agreement

- ❑ A tool for achieving enhanced transparency and effective competition in national procurement markets: possibility of enhanced value for money
- ❑ International "stamp of approval" re: national procurement processes
- ❑ Possible significant export opportunities from access to markets that are currently foreclosed

More on the Topic:

- The Agreement on Government Procurement (GPA) is a plurilateral agreement under the auspices of the World Trade Organization (WTO) which regulates the procurement of goods and services by the public authorities of the parties to the agreement, based on the principles of openness, transparency and non-discrimination.

- The agreement was originally established in 1979 as the Tokyo Round Code on Government Procurement, which entered into force in 1981 under the auspices of the General Agreement on Tariffs and Trade.

- The GPA's membership is limited to the WTO Members that specifically signed the GPA or that have subsequently acceded to the Agreement.

India and Government Procurement Agreement:

- Government is one of the important consumers in terms of procurement for its various ministries. It contributes to 10 to 15% of the GDP of the country.

- Earlier, India never took up government procurement for bilateral or multilateral trade agreements in order to protect domestic firms.

- This was one of the bottlenecks in several key FTA negotiations, including the one with the EU.

- The India-UAE agreement, which came into effect on 1 May excludes government procurement for several union ministries.

- While this was the first time India had included government procurement in a free-trade pact, it is only limited to a few central ministries and excludes key sectors such as construction, infrastructure projects and health care, including medical devices and pharmaceutical products.

World Coal Association

In News: World Coal Association will promote sustainable coal mining in India
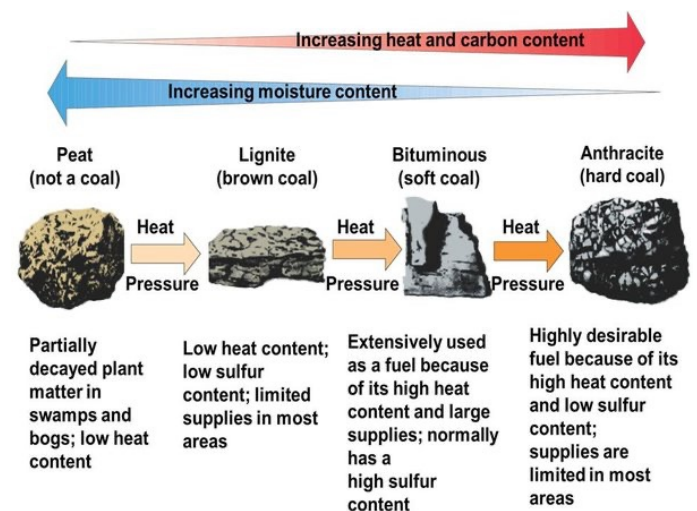
More on the Topic:

- The World Coal Association (WCA) is an international non-profit, non-governmental association based in London, United Kingdom.

- The association represents Global Coal Industry.

- Coal is a combustible black sedimentary rock, formed as rock strata called coal seams.

- Coal is mostly carbon with variable amounts of other elements; chiefly hydrogen, sulfur, oxygen, and nitrogen.

- Coal supplies about a quarter of the world's primary energy and two-fifths of its electricity.

- India has the fifth largest coal reserves in the world. It is the second largest producer of coal in the world, after China.

BATTERY PASSPORT

In News: German-funded consortium of carmakers and battery producers, including BMW will be developing a "battery passport".
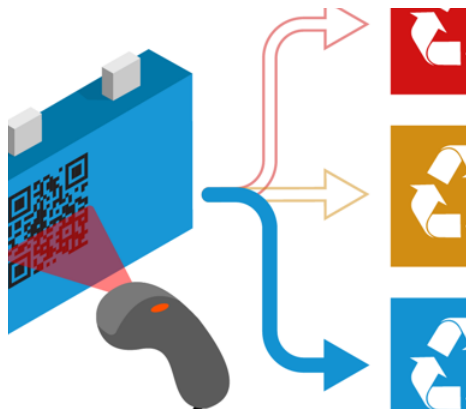
More on the Topic:

- The German consortium is the **first project in Europe to attempt to design a digital product to meet these regulations.**

- Batteries could carry a **QR code linking to an online database** where EV owners, businesses or regulators could access information on the battery's composition.

- This digital tool should also make it **easier to recycle raw materials inside batteries.**

- This move could **cut dependence on foreign suppliers** which control the vast majority of resources, like lithium and nickel, essential for battery production.

- It is intended to traces **the content and carbon footprint of batteries in Europe according to European commission mandates.**

Why Battery Passport?

- A European Commission proposal states that rechargeable electric vehicles, light transport and industrial batteries sold in Europe must disclose their carbon footprint from 2024 and comply with a CO_2 emissions limit from 2027.

- They must also disclose the content of recycled raw materials in those batteries from 2027, followed by requirements to use a minimum share of recycled cobalt, lithium, nickel and lead from 2030.

UN PEACE KEEPING MISSION

**In News:** Over 1,100 Indian peacekeepers serving with the United Nations Mission in South Sudan (UNMISS) were awarded UN medals, honouring them for their exceptional service in the strife-torn East African country.

More on the Topic:

- United Nations Peacekeeping is a joint effort between **the Department of Peace Operations and the Department of Operational Support.**

- **Every peacekeeping mission is authorized by the Security Council.**

- UN peacekeepers (often referred to as Blue Berets or Blue Helmets because of their light blue berets or helmets) **can include soldiers, police officers, and civilian personnel.**

- Peacekeeping forces are **contributed by member states on a voluntary basis.**

- Civilian staff of peace operations are **international civil servants, recruited and deployed by the UN Secretariat.**

- While decisions about establishing, maintaining or expanding a peacekeeping operation are taken by the Security Council, **the financing of UN Peacekeeping operations is the collective responsibility of all UN Member States.**

- Every Member State is legally obligated to pay their respective share towards peacekeeping. This is in accordance with the provisions of Article 17 of the Charter of the United Nations.

UNGA DRAFT RESOLUTION ON 'VETO POWER USE'

In News: India has expressed concerns over UNGA draft resolution on 'veto power use'.

More on the Topic:

- The United Nations General Assembly (UNGA) passed resolution which requires the Assembly to meet every time a veto is used in the UN Security Council.

- The resolution was adopted by consensus and it became Effective immediately.

- The United Nations Security Council veto power is **the power of the five permanent members of the UN Security Council (China, France, Russia, the United Kingdom, and the United States)** to veto any "substantive" resolution.

- They also happen to be the nuclear-weapon states (NWS) under the terms of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

`Why India has expressed Concerns?

- India said **though it supports any initiative that genuinely furthers the objective of achieving meaningful and comprehensive reform**, the current resolution "demands much more serious, in-depth, and inclusive deliberation than was allowed by the movers of this text".

- India expressed support **to calls made by African countries to abolish the veto power as a matter of principle.**

- The main problem with the current system is **the capturing of governing capacity of international security relations by the elite class of countries.**

Need of the Hour:

- There is need **to expand permanent membership of UNSC.**

- The absence in the UNSC of the globally important countries – India, Germany, Brazil and South Africa - is a matter of concern.

- The resolution recently passed is not an answer to these problems.

- The elite decision-making structure does not suit the current global security needs.

- **All five permanent UNSC members have used the veto over the last 75 years to "achieve their respective political ends.**

- There is a longstanding acknowledgement of the need to expand the UNSC, both its permanent and non-permanent membership, to make it representative of the contemporary world, and not the world of its founding in 1945.

INDIA NORDIC SUMMIT

In News: Indian Prime Minister will take part in the 2nd India-Nordic Summit.

More on the Topic:

- The Summit will focus on subjects like post-pandemic economic recovery, climate change, innovation and technology, renewable energy, the evolving global security scenario and India-Nordic cooperation in the Arctic region.

- The Nordic countries are a geographical and cultural region in Northern Europe and the North Atlantic.

- It includes the sovereign states of Denmark, Finland, Iceland, Norway and Sweden; the autonomous territories of the Faroe Islands and Greenland; and the autonomous region of Åland.

INDIA EU TRADE AND TECHNOLOGY COUNCIL

In News: Prime Minister Narendra Modi and President of the European Commission has agreed to launch the EU-India Trade and Technology Council.

More on the Topic:

- It is aimed at closer cooperation on strategic aspects of emerging technologies and building trusted partnerships.

- The Trade and Technology Council will provide the political steer and the necessary structure to operationalise political decisions.

- It will also coordinate technical work, and report to the political level to ensure implementation and follow-up in areas that are important for the sustainable progress of European and Indian economies.

- The decision to set up a Trade and Technology Council will be the **first for India with any of its partners and second for the European Union** following the first one it has set up with the US.

UIGHURS

In News: The United Nations high commissioner for human rights is visiting China's northwestern region where the alleged human rights violation of Uighurs takes place.

Uyghur population in Xinjiang

Source: Xinjiang government
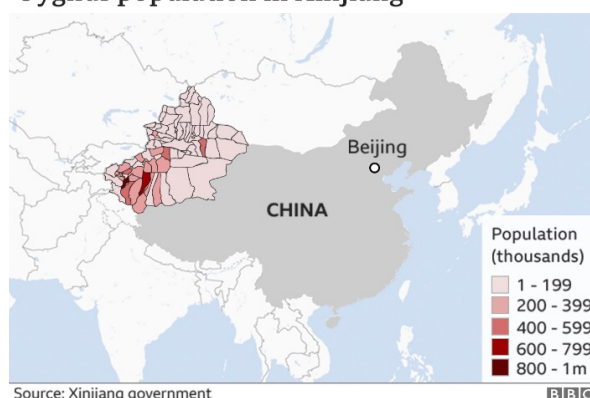
More on the Topic:

- **Uighurs is a predominantly Muslim Turkic people** who differ in religion, language, and culture from China's majority Han ethnic group.

- The Uighurs speak their own language, similar to Turkish, and see themselves as culturally and ethnically close to Central Asian nations.

- A significant population of Uighurs also lives in the neighbouring Central Asian countries such as **Uzbekistan, Kyrgyzstan and Kazakhstan.**

About the Problems faced by the Uighurs:

- UN Committee on the Elimination of Racial Discrimination released a ground-breaking report on conditions of Uighurs in 2018.

- The group revealed that more than 1 million Uighurs and other ethnic minorities had been detained in what it said were "counter-extremism camps".

- Uighur Muslims for decades, under the false accusation by the Chinese government of terrorism and separatism, have suffered from **abuses including persecution, forced detention, intense scrutiny, surveillance and even slavery.**

- Uighurs are also widely believed to be **victims of forced labour** in Xinjiang's massive cotton industry.

- Beijing has admitted the existence of the facilities but said they are vocational skills training centres and necessary to tackle "extremism".

CORPAT EXERCISE

In News: The fourth edition of the Indian Navy-Bangladesh Navy Coordinated Patrol (CORPAT) commenced in the Northern Bay of Bengal.

More on the Topic:

- The sea phase of the exercise would facilitate ships from both the navies to participate in intensive surface warfare drills, weapon firing drills, seamanship evolutions and coordinated air operations in a tactical scenario.

- The conduct of CORPATs has strengthened mutual understanding and enhanced interoperability between both the navies in countering transnational maritime threats.

Science and Technology

RNA GRANULES

In News: New studies have suggested that RNA granules may help in treating neurodegenerative disorders.

A protein to dissolve aggregates in the neurons
Knowledge obtained from yeast is very often applicable to humans

- Researchers at IISc Bangalore have identified a protein in yeast cells that dissolves RNA-protein complexes, also known as RNA granules
- This finding is critical for many neurodegenerative disorders such as Amyotrophic Lateral Sclerosis (ALS) and Frontotemporal Dementia (FTD)
- These neurodegenerative disorders are characterised by the accumulation of aggregates that resemble RNA granules. These aggregates are believed to contribute to the disease
- In yeast cells, a protein (Sbp1) promotes the disintegration of RNA granules. The protein dissolves only the P-bodies
- The study found that the Sbp1 protein helps in reducing the aggregates of human proteins involved in neurodegenerative disorders
- The next step is to experimentally test the effect of repeat sequences in genetically engineered mice
- This study once again suggests that knowledge obtained from yeast is very often applicable to humans

Naked: Unlike other structures in the cell, the RNA granules are not covered and confined by a membrane.

More on the Topic:

- The cytoplasm of any cell will contain structures made of messenger RNA (mRNA) and proteins known as RNA granules, in general.

- Unlike other structures in the cell (such as mitochondria), the RNA granules are not covered and confined by a membrane.

- This makes them highly dynamic in in nature, thereby allowing them to constantly exchange components with the surrounding.

- Messenger RNAs are converted to proteins (building blocks of the cell) by the process of translation.

- **RNA granules determine messenger RNA (mRNA) fate by deciding when and how much protein would be produced from mRNA.**

- Protein synthesis is a multi-step and energy-expensive process.

- Therefore, a common strategy used by cells when it encounters unfavorable conditions is to shut down protein production and conserve energy to deal with a stressful situation.

- RNA granules help in the process of shutting down protein production.

- This property has implication in treating diseases like Alzheimer's.

GREEN STEEL

In News: The Parliamentary Consultative Committee meeting for Ministry of Steel was convened recently to brainstorm on the topic "Transition towards Green Steel".

Carbon emissions from coal-based steel production

1 Tonne → 1.5–3 Tonne CO_2
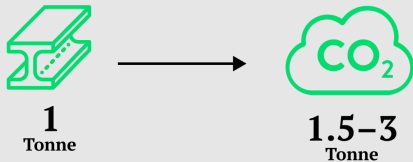
More on the Topic:

- The common takeaway was that **green steel is simply steel with the lowest carbon footprint currently possible,** which will vary from producer to producer and will continue to evolve over time.

- This can be done through **usage of gas in place of coal, recycling steel etc.**

- To move towards 'Green Steel', the Petroleum and Natural Gas Ministry has launched Pradhan Mantri Urja Ganga project in the Eastern India, which can provide gas to all the Steel plants, located in the area.

- The gas will help in replacing coal in steel making process as usage of coal leads to large amount of Carbon Dioxide (CO2) emissions.

Why Green Steel is important for India:

- Iron and Steel sector is specially challenging with regard **to reduction in Carbon Dioxide (CO2) emissions,** as use of fossil fuel based energy & reductant is deeply embedded in the production process.

- The emissions from the Indian iron & steel industry is higher primarily due to **higher usage coal based energy source and as reductant.**

- It is thus **imperative for the Indian steel industry to reduce its emissions substantially** and pressure to reduce it is growing by the day in view of the commitments made in the COP26.

STRATOSPHERIC OBSERVATORY FOR INFRARED ASTRONOMY (SOFIA) MISSION

In News: NASA would shut down the operations of Stratospheric Observatory for Infrared Astronomy (SOFIA) mission by end of 2022.

More on the Topic:

- SOFIA is a 2.7-meter infrared telescope sitting inside a Boeing 747SP airplane, flying at an altitude of 38,000-45,000 feet above the surface.

- It's the second-most expensive astrophysics mission.

- SOFIA was designed to observe cosmic objects in far-infrared wavelengths. This allows researchers to watch star formation by looking through huge, cold clouds of gas.

- SOFIA is a collaboration between NASA and the German Space Agency (DLR).

- Since its inception in 2014, SOFIA has been collecting data to understand star birth and death and the formation of new solar systems.

- It has also been keeping a close eye on planets, comets and asteroids in our solar system, nebulas and galaxies, celestial magnetic fields and black holes at the centre of galaxies.

'Black widow' system

In News: Astronomers has identified new 'black widow' system with a cannibalistic pulsar.

More on the Topic:

- It is a unique system that consists of **a pulsar (rapidly spinning neutron star) that is circling and slowly consuming a smaller companion star,** just like the female black widow spider does to its mater, hence the name.

Astronauts have previously identified about two dozen black widow binaries in the milky way galaxy but the newest candidate has the shortest orbital period yet identified.
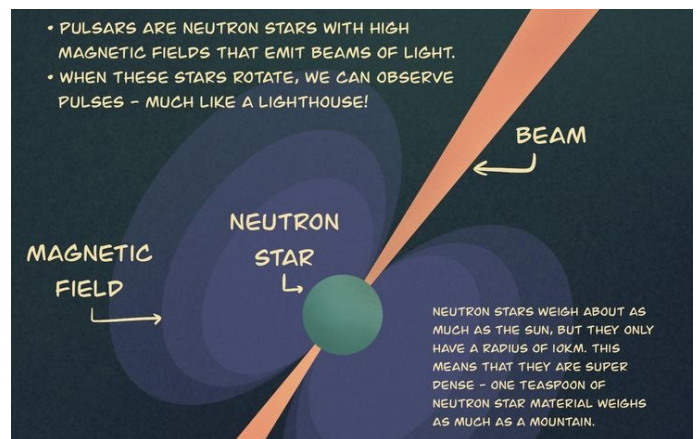
NASA'S VOYAGER MISSION

In News: The NASA's Voyager 1 and 2 are continuing its journey beyond our Solar System, 45 years after it was launched.
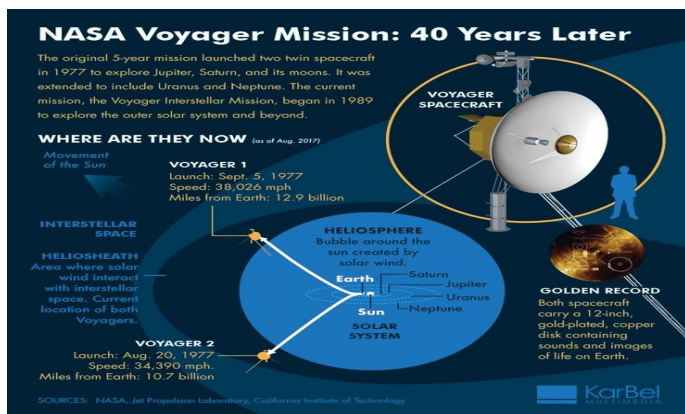
More on the Topic:

- The Voyager program is **an American scientific program** that employs **two robotic interstellar probes, Voyager 1 and Voyager 2.**

- Voyager 1 departed Earth on 5 September 1977, a few days after Voyager 2 and left our solar system in 2013.

- The mission objective of the Voyager Interstellar Mission (VIM) is to extend the NASA exploration of the solar system beyond the neighborhood of the outer planets to the outer limits of the Sun's sphere of influence, and possibly beyond.

- The Voyager spacecraft are **the third and fourth human spacecraft to fly beyond all the planets in our solar system.**

- **Pioneers 10 and 11 preceded Voyager in outstripping the gravitational attraction of the Sun but on February 17, 1998,** Voyager 1 passed Pioneer 10 to become the most distant human-made object in space.

Major Discoveries:

- At Uranus, Voyager 2 discovered a substantial magnetic field around the planet and ten more moons.

- **Its flyby of Neptune uncovered three rings and six hitherto unknown moons,** a planetary magnetic field and complex, widely distributed auroras. As of 2021 Voyager 2 is the only spacecraft to have visited the ice giants Uranus and Neptune.

HS200 SOLID ROCKET BOOSTER FOR GAGANYAAN MISSION

In News: The Indian Space Research Organisation (ISRO) on Friday successfully completed the static test of the human-rated solid rocket booster (HS200). The test was for ISRO's Gaganyaan programme.
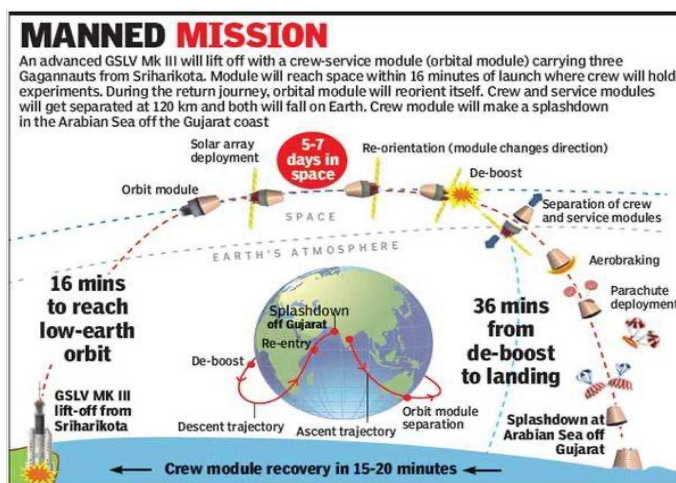
More on the Topic:

- HS200 rocket booster is the **human-rated version of the well-proven S200 rocket booster of GSLV Mk III** satellite launch vehicle.

- This full-duration test of the first stage of the launch vehicle marks a major milestone for the Gaganyaan.

- The booster engine is part of the **Geosynchronous Satellite Launch Vehicle MkIII (GSLV Mk III) rocket that will carry Indian astronauts to space.**

- The GSLV MK III rocket is **a three-staged vehicle.** The first stage is powered by solid fuel, the second by liquid fuel and the third is the cryogenic stage powered by liquid hydrogen and liquid oxygen.

- The S200 motor - the first stage of the LVM3 launch vehicle designed **to deliver 4,000 kg satellites to geosynchronous transfer orbit -** was configured as a strap-on rocket booster.

About Gangayaan:

- India's first manned space flight mission - 'Gaganyaan' - is expected to launch next year.

- The first crewed flight will entail two unmanned launches, the first of which is scheduled to begin in the second half of 2022 followed by the second launch at the end of the same year.

- The objective of the Gaganyaan program is **to demonstrate the indigenous capability to undertake a human space flight mission to LEO.**

- The payload will consist of

- Crew module which is the spacecraft carrying human beings.

- The service module is powered by two liquid-propellant engines.

- It weighs around 8000kg and will be equipped with emergency escape and emergency mission abort.

GPS-AIDED GEO AUGMENTED NAVIGATION

In News: An IndiGo aircraft landed at Kishangarh, using an approach process guided by India's own satellite-based augmentation system named GAGAN, or GPS-aided GEO Augmented Navigation.

FOR A SAFE AND SMOOTH FLIGHT

India becomes fourth nation to offer satellite-based navigation services to aviation sector

- GAGAN has been developed by ISRO and Airports Authority of India **over 15 years at an estimated cost of Rs.774 crore**
- The new navigation system **will benefit 50 operational airports in India for now**

ADVANTAGES

- Enhances capacity of the airspace **by reducing separation between aircraft**
- **Augments GPS signals over Indian land mass**, Bay of Bengal, Southeast Asia, Middle East and expanding up to Africa
- Streamlines airline operations, **increases air safety and fuel efficiency**

- GSAT-8 and GSAT-10 satellites will provide navigation signals
- Reference and uplink stations will verify GPS signals
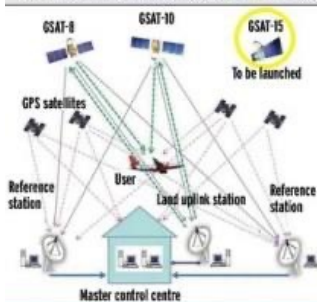- GPS receivers will help in precision guidance for landing of aircraft

More on the Topic:

- GAGAN is an Indian Satellite Based Augmentation System (SBAS) jointly developed by AAI and ISRO. It is the first such system developed for India and neighboring countries in the equatorial region.

- GPS (Global Positioning System) signals are not always pin-point accurate.

- GPS is susceptible to factors and disturbances such **as ionospheric interference, the location of the moving vehicle, and even the functioning of the GPS satellite, signal availability.**

- Using a technology known as the Satellite-Based Augmentation System (SBAS), GAGAN correct the errors in GPS signals and feed the corrected signals to the moving vehicle (GPS user), thus enabling precise navigation.

- **GAGAN corrects for GPS signal errors** caused by Ionospheric disturbances, timing and satellite orbit errors and also it provides vital information regarding the health of each satellite.

Other Services Provided by Gagan:

- AAI in coordination with Indian National Centre for Ocean Information Services (INCOIS) has implemented **GAGAN Message Service (GMS)** through which alert messages to fishermen, formers, and disaster affected people will be sent on the occurrence of natural disasters, calamities, such as flood, earthquake etc.

- The additional capabilities of GAGAN are also being explored to utilize it in non-aviation field such as **Railways, Surveying, Agriculture, Power sector, Mining etc.**

MARSQUAKE

In News: The U.S. space agency's InSight lander, which has been studying Mars' deep interior has recorded a roughly magnitude 5 temblor, the largest Marsquake detected to date.

Radius of Mars: 3,390km
Radius of core: 1,830km
Crust thickness: 24-72km

Note: Not to scale
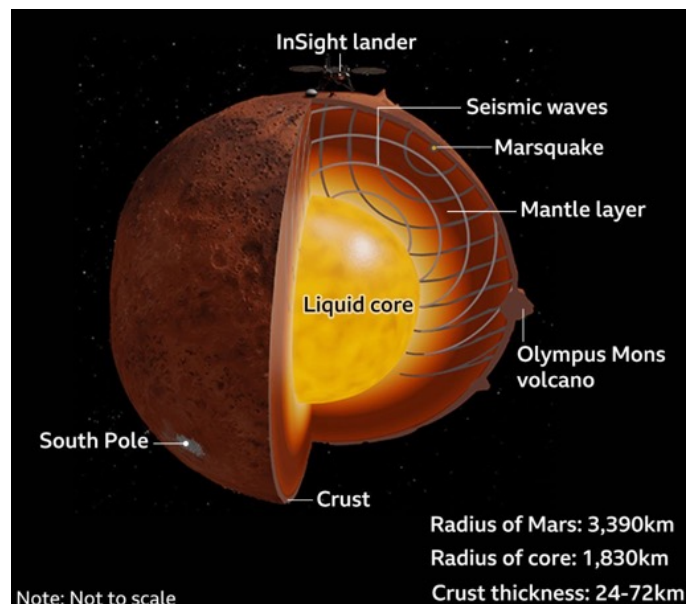
More on the Topic:

- A marsquake is a quake which, much like an earthquake, **would be a shaking of the surface or interior of the planet Mars** as a result of the sudden release of energy in the planet's interior, such as the result of plate tectonics,

- Just like earthquakes reveal information about our planet's interior structure, **Marsquakes can be used to probe what lies beneath Mars' surface.**

HYPERLOOP TECHNOLOGY

In News: Indian Railways has approved funding for IIT Madras' Hyperloop technology.

Travelling in a Tube

THE TECHNOLOGY

A capsule, with passengers, travels at speeds of more than **1200 KM/H** inside a vacuum tube

Vacuum tube has an area of **LOW PRESSURE INSIDE IT**

INDIA PLANS
Hyperloop can be built in India in **38 MONTHS**
Globally, **800 ENGINEERS** working on the Hyperloop, of which **25 ARE FROM INDIA**

It uses power from **RENEWABLE ENERGY** sources like solar energy, regenerative braking & wind power

These tubes stand on pylons that can **WITHSTAND** quakes & crashes

More on the Topic:

- A hyperloop is a super speed ground-level transportation system in which people could travel in a hovering pod inside a vacuum tube at speeds as high as 760 mph (1220 km/h).

- The propulsion is done through magnetic levitation, with the air capsules or pods gliding or levitating over the tracks.

- A maglev train system uses two sets of magnets; one for attracting and moving the train forward along the track, and another for repelling and pushing the train off the track.

Advantages of Hyperloop:

- Hyperloop is fully autonomous and sealed, so no driver-related error is anticipated.

- It functions in a sealed environment with almost no air resistance, the pods are expected to reach very high speeds unmatchable to existent transportation systems.
- Motion will not involve contact, so the vehicle will be virtually noiseless.
- The capital and operational costs of Hyperloop will be two-thirds that of high-speed rail.

INDIA'S FIRST 5G TEST BED

In News: Prime Minister has inaugurated the country's first 5G testbed recently.

More on the Topic:

- It intends to enable startups and industry players to test and validate their products locally and reduce dependence on foreign facilities.
- In the absence of a 5G testbed, startups and other industry players were required to go abroad to test and validate their products for installation in a 5G network.
- The testbed facility will be available at 5 different locations.
- The 5G testbed has been developed as a multi-institute collaborative project by eight institutes led by IIT Madras.

About Testbeds:

- A testbed is a platform for conducting rigorous, transparent, and replicable testing of scientific theories, computational tools, and new technologies.
- The term is used across many disciplines to describe experimental research and new product development platforms and environments.

About 5G:

- The fifth-generation mobile network is popularly known as 5G.
- It is the next generation of mobile internet connection and offers much faster data download and upload speeds.
- Through greater use of the radio spectrum **it will allow far more devices to access the mobile internet at the same time.**

Significance:

- 5G is the next level of mobile network that will shape the Fourth Industrial Revolution, or Industrial 4.0.
- 5G wireless technology is meant to deliver higher multi-Gbps peak data speeds, ultra low latency, more reliability, massive network capacity, increased availability, and a more uniform user experience to more users.
- Higher performance and improved efficiency empower new user experiences and connects new industries.

E BAND ALLOTMENT TO TELECOS

In News: The Digital Communications Commission's (DCC) recent decision backing allocation of premium `E band' airwaves exclusively to mobile carriers via the administrative route was criticized by various stake holders.2

More on the Topic:

- The tech companies and the broadband companies want the E-band spectrum to be opened up for everyone and not just be reserved exclusively for the telecom operators.
- The waveguide E band is the range of radio frequencies from 60 GHz to 90 GHz in the electromagnetic spectrum.
- These frequencies are equivalent to wave lengths between 5 mm and 3.333 mm. The E band is in the Extremely high frequency (EHF) range of the radio spectrum.
- **The E-band is a major solution of 5G's microwave transmission.**

VIRTUAL PRIVATE NETWORK (VPN)

In News: Cert-In, a wing of the Ministry of Electronics and Information Technology had mandated VPN to maintain all customer data for five years.

How VPN works?
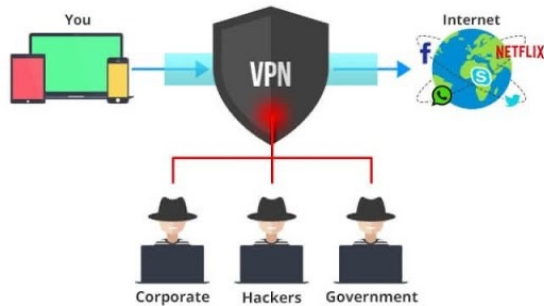
More on the Topic:

- **Virtual private network:** Any and all devices connected to the internet are a part of a large network of computers, servers and other devices spread across the world.

- To identify each device connected to the internet, service providers globally assign a **unique address to each such device called the internet protocol address or IP address.**

- It is this IP address that helps websites, law enforcement agencies and even companies track down individual users and their accurate location.

- A virtual private network, when switched on, essentially creates a safe network within the larger global network of the internet and masks the IP address of the user by rerouting the data.

- Acting as a tunnel, a VPN takes data originating from one server and masks it in a different identity before delivering it to the destination server.

- In essence, a VPN creates several proxy identities for your data and delivers it safely without disturbing the content of the data.

Why is anonymity or privacy so important for VPN providers and users?

- The main reason why privacy or anonymity is important for both VPN service providers and users is that **it helps to avoid being tracked, mostly by websites and cybercriminals.**

- Since VPN masks the location of a device from everyone, it also prevents government and law enforcement agencies from accurately identifying the location.

- **VPN has also been of vital importance in countries that try to suppress dissent.** By using VPNs, dissidents are able to spoof their location and stay safe.

What details does Cert-In want VPN service providers to keep and why?

- Cert-In has asked VPN service providers to maintain for five years or longer details such as the validated names of their customers, the period for which they hired the service, the IP addresses allotted to these users, the email addresses, the IP addresses and the time stamps used at the time of registration of the customers.

- Cert-In also wants VPN service providers to maintain data such as the purpose for which the customers used their services, their validated addresses and contact numbers, and the ownership pattern of the customers.

- One of the main reasons that Cert-In provided for seeking these details is that **it will help to effectively trace anti-social elements and cybercriminals** indulging in various nefarious activities online.

About CERT-In:

- CERT-In is the **national nodal agency for responding to computer security incidents** as and when they occur. The constituency of CERT-In is the Indian Cyber Community.

- **CERT-In was established in 2004** as a functional organization of the Ministry of Electronics and Information Technology.

'INTELLIGENT SOLUTIONS FOR ROAD SAFETY THROUGH TECHNOLOGY AND ENGINEERING' (IRASTE)'

In News: TA project called 'Intelligent Solutions for Road Safety through Technology and Engineering' (iRASTE) is being implemented in Nagpur to tackle the problem of road accidents.
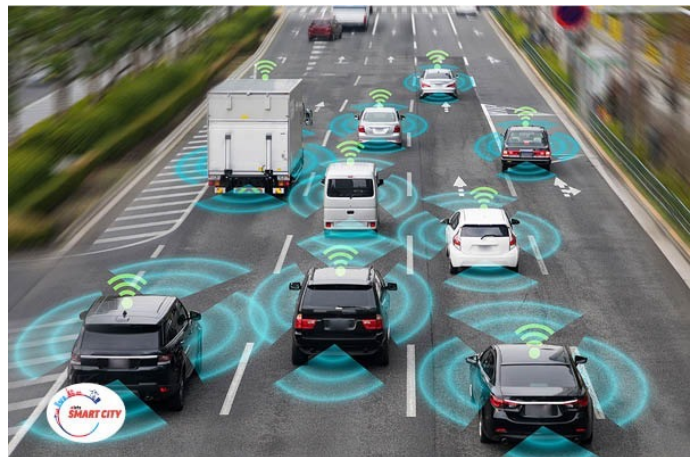
More on the Topic:

- The project is based on artificial intelligence (AI) and will help identify potential accident-causing scenarios while driving a vehicle.

- iRASTE will alert drivers about the potential accident with the help of the Advance Driver Assistance System (ADAS).

- The iRASTE project is being undertaken by the I-Hub Foundation, IIIT Hyderabad, supported by the Department of Science and Technology (DST) under its National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS).

- At present, iRASTE is being rolled-out in Nagpur but will be replicated in other cities too.

How iRASTE Works?

- The unique AI approach that **iRASTE uses could predict and identify risks on the road, and a collision alert system to communicate timely alerts to drivers,** to make several improvements related to road safety.

- The project (iRASTE) **will also identify 'greyspots',** by data analysis and mobility analysis by continuously monitoring dynamic risks on the entire road network.

- The need to identify 'greyspots' is of immense importance because if they remain unaddressed, **they can become blackspots (locations with fatal accidents).**

- Moreover, the system also **performs continuous monitoring of roads and designs engineering fixes to correct existing road blackspots** for preventive maintenance and improved road infrastructure.

Significance of the Project:

- It will help India achieve following targets.

- **Reduce road accident deaths by 50% by year 2024.**

- By 2030, all countries have national laws to restrict or prohibit use of mobile phones while driving.

- By 2030, all countries accede to one or more of core road safety-related UN legal instruments.

- India is signatory to **United Nation's Brasilia Declaration to reduce road fatalities.**

- The AI project **will also help in preparing a critical resource for future use** by researchers, startups, and industry, mainly in the areas of smart mobility, healthcare along with smart buildings.

- Further, not only will it help in reducing road accidents, but also create practical solutions, as a blueprint, suitable for Indian conditions.

MAGNETRON TECH

In News: Government is supporting indigenous development of high-powered Magnetron technology used mainly for cancer radiation therapy.

More on the Topic:

- Magnetron is a **type of vacuum tube device.**

- It is **compact and low-cost source of microwave power** as compared to other similar microwave tubes.

- It works on a principle of **crossed-field device, which uses the motion of electrons in perpendicular electric and magnetic fields** to generate microwave radiation, used for generating **Radio frequency (RF) Power Source in Linear Accelerator for Medical, non-destructive technology (NDT)** and other allied applications.

- NDT is a testing and analysis technique used by industry to evaluate the properties of a material, component, structure or system.

About Indian Medical Device Industry:

- Currently, India is the **fourth largest medical devices market in Asia,** after Japan, China and South Korea and positioned 20th in the global market.

- **India imports about 86% of its requirement** of medical equipment and almost 100% of high-end medical equipment.

PARAMPORUL

In News: PARAM PORUL, a state-of the art Supercomputer at NIT Tiruchirappalli dedicated to the nation under National Supercomputing Mission (NSM).

FEATURES
- Large storage capacity
- More than one CPU necessitated by physical limits of circuit technology
- Very fast input/output capability
- Fortran is the language most preferred for scientific programming
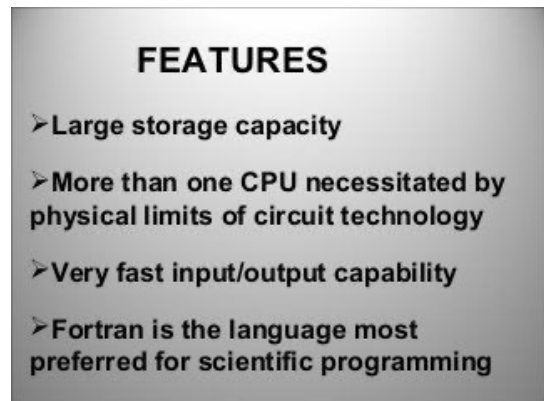
More on the Topic:

- It is a **joint initiative of Ministry of Electronics and Information Technology (MeitY) and Department of Science and Technology (DST).**

- PARAM PORUL supercomputing facility is established under **Phase 2 of the NSM,** where in majority of the components used to build this system have been manufactured and assembled within the country, along with **an indigenous software stack developed by C-DAC, in line with the Make in India initiative.**

- PARAM PORUL system is based on Direct Contact Liquid Cooling technology to obtain a high power usage effectiveness and thereby reducing the operational cost.

- Multiple applications from various scientific domains such as **Weather and Climate, Bioinformatics, Computational Chemistry, Molecular Dynamics, Material Sciences, Computational Fluid Dynamics etc. has been installed** on the system for the benefit of researchers.

- This high end computing system will be a great value addition for the research community.

NATIONAL DATA & ANALYTICS PLATFORM

In News: The NITI Aayog has launched the National Data & Analytics Platform (NDAP) for public use to make data accessible, interoperable, interactive, and available on a user-friendly platform.

More on the Topic:

- The platform hosts datasets from various government agencies, presents them coherently, and provides tools for analytics and visualisation.
- The NDAP follows a use-case based approach to ensure the datasets hosted on its platform are tailored to the needs of data users from government, academia, press, civil society, and the private sector.

Significance:

- The main value that NDAP adds is **making key foundational datasets interoperable** with each other.
- This will **enable easy cross-sectoral analysis and democratise the use of Indian government data.**
- All datasets are **standardised to a common schema,** which makes it easy to merge datasets and do cross-sectoral analysis.
- The rise of data and digital technologies are **rapidly transforming economies and societies,** with enormous implications for governments' daily operations.
- The portal will help policymakers, academics and researchers **to easily examine data without having to process it.**
- The portal **includes 200 datasets from more than 46 ministries** at the time of the launch.

THE DECLARATION FOR THE FUTURE OF THE INTERNET

In News: India has not signed The Global Declaration For The Future Of The Internet.

More on the Topic:

- The declaration intends **to keep the Internet open, free, and neutral.**
- The document is considered as an agreement **to prevent digital authoritarianism.**
- The countries that have signed the declaration include **the US, European Union, United Kingdom, Canada and France.**
- **India, China and Russia are among the large nations that are not part of this declaration.**

Principles of the Declaration:

- The Declaration's principles include commitments to protecting human rights and fundamental freedoms of all people and promote a global Internet that advances the free flow of information.
- It also includes advancing "inclusive and affordable" connectivity, promote trust in the global digital ecosystem and protecting and strengthening the multi stakeholder approach to governance that keeps the Internet running for the benefit of all.

Digital rights advocacy group Access Now Report – Observations:

- **India is the top country to impose internet shutdowns in 2021** for the fourth consecutive year.

- **A total of 182 internet crackdowns were reported globally in 2021.** Out of 106 shutdowns in India, 85 were reported in Jammu and Kashmir. India was one of among 18 countries that blocked mobile internet during protests.
- The number of countries that shut down the internet in 2021 **has increased to 34 from 29 in 2020.**

GENE BANK PROJECT

In News: To conserve native and endangered animals, crops, marine and biological species, Maharashtra has decided to set up a gene bank project.

More on the Topic:

- The 'Maharashtra Gene Bank Project' will work on seven themes -- marine, crop, veterinary, freshwater, grassland biodiversity, protection and management of forest right areas, and regeneration of forests.
- Apart from protecting biodiversity, the project will focus on mitigating the impact on the food chain due to climate change.
- It will tap into indigenous knowledge resources, work on documenting these species and the knowledge of local communities and preserve these genetic and molecular samples.

About Gene:

- Genes are **functional units of heredity** as they are made of DNA.
- **The chromosome is made of DNA containing many genes.**
- **Every gene comprises of the particular set of instructions for a particular function or protein-coding.** Speaking in usual terms, genes are responsible for heredity.
- **Genes control the functions of DNA and RNA.**
- There are about 30000 genes in each cell of the human body. DNA present in the gene comprises only 2 percent of the genome. Many studies have been made on the same that found the location of nearly 13000 genes on each of the chromosomes.
- **William Bateson** introduced the term genetics in the year 1905.

About Gene Banks:

- Gene banks are a **type of biorepository that preserves genetic material.**
- For plants, this is done by in vitro storage, freezing cuttings from the plant, or stocking the seeds (e.g. in a seedbank). For animals, this is done by the freezing of sperm and eggs in zoological freezers until further need.

Internal Security

## NATIONAL ANTI-TERRORISM DAY

In News: May 21st is observed as National Anti-Terrorism Day.

More on the Topic:

- The objective behind observance of this day is to wean away the youth from terrorism and the cult of violence by highlighting the sufferings of common people and showing as to how it is prejudicial to the national interest.

- The day commemorates former Prime Minister Rajiv Gandhi's assassination by a suicide bomber.

- After the assassination, the V.P. Singh government made an official announcement to observe May 21st as National Anti-Terrorism Day.

VIOLENCE, DEATHS BY NAXALS REDUCED SIGNIFICANTLY

In News: According to the annual report of the Ministry of Home Affairs for 2020-21, the Naxal violence has been reduced significantly.

India Naxal Affected Districts 2018
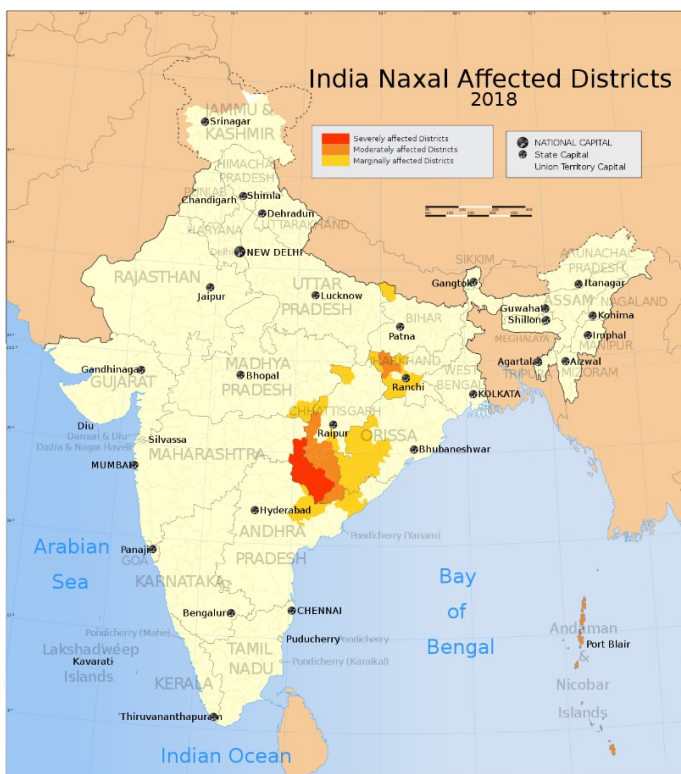
More on the Topic:

- Following are the excerpts from the report:

- Naxal violence was reported from 226 police stations in 53 districts spread across nine states in 2020 as compared to 328 police stations in 76 districts spread over 10 states in 2013.

- The last six years have seen a **significant decline in Left Wing Extremism (LWE) violence as well as the geographical spread of the LWE.**

- The declining trend which started in 2011 continues in 2020 as well.

- **The casualties to security forces declined by 17 per cent (52 to 43).**

Reasons Behind the Achievement:

- **The developmental outreach by the central government** has seen an increasingly large number of LWE cadres shunning the path of violence and returning to the mainstream.

- The overall improvement in the LWE scenario can be attributed to greater presence and increased capacity of the security forces across the LWE affected states, better operational strategy and better monitoring of development schemes in affected areas.

About Left Wing Extremism:

- The Naxalite–Maoist insurgency, officially referred to as the Left Wing Extremism (LWE), is an ongoing conflict between Maoist groups known as Naxalites or Naxals (a group of communists supportive of Maoist political sentiment and ideology) and the Indian government.

- **Reasons behind left Wing Extremism:** Inequitable development (example: The failure of land reforms especially land redistribution after independence, Socio-economic inequities, unemployment, despair about the future etc.), Displacement of people: (Eviction from lands traditionally used by tribals), Discrimination against tribals: Poor implementation of laws prohibiting transfer of tribal land to non-tribals in the Fifth Schedule areas.

Way Ahead:

- The law enforcement agencies **should not approach left wing extremism in a purely law and order point of view.**

- Improving the conditions of the poor and the tribal clearly need to be speeded up to eliminate LWE altogether.

- **Development of road and rail infrastructure** will not only enhance economic growth and development but will also help in countering Maoist propaganda.

- Surrendering ex Maoists should be provided with alternative livelihood opportunities as well as incentives.

- Through a holistic approach focusing on development and security related interventions, the LWE problem can be successfully tackled.

NATIONAL INTELLIGENCE GRID

In News: The Union home minister has inaugurated National Intelligence Grid (NATGRID) campus in Bengaluru.

Bridging Information Gaps

NATGRID to allow real-time availability of info from 21 citizen databases, such as income-tax returns, rail and air reservations, stock exchanges and bank account

TO ACT AS COMMON info exchange platform for 11 security agencies, including the IB, R&AW, Military Intelligence, Revenue Intelligence and National Intelligence Agency (NIA)

More on the Topic:

● **NATGRID is an intelligence sharing network** that collates data from the standalone databases of the various agencies and ministries of the Indian government.

● **It is a counter terrorism measure** that collects and collates a host of information from government databases including tax and bank account details, credit/debit card transactions, visa and immigration records and itineraries of rail and air travel.

● It will also have **access to the Crime and Criminal Tracking Network and Systems,** a database that links crime information, including First Information Reports, across 14,000 police stations in India.

● **Accessibility:** It will be a medium for 11 Central agencies such as the Intelligence Bureau (IB) and the Research and Analysis Wing (R&AW) to access data on a secured platform.

Indian Society/Social Issues/Social Justice

SUPREME COURT RECOGNISES SEX WORK AS A PROFESSION

In News: In a socially and historically path breaking order, the Supreme Court has recognised prostitution as a profession. This order has been issued based on Invoking SC's special powers under Article 142 of the Constitution.

More on the Topic:

● The important directions given by the court are:

● All those engaged in prostitution and their children are entitled to the same human "decency and dignity" as is available to others.

● They are also entitled with the "opportunities" to grow and advance in their lives guaranteed under **Article 21 of the Constitution -- right to life.**

● The police across the country **should refrain from being "brutal" and "violent" towards the sex workers** and "not to abuse them, both verbally and physically, subject them to violence or coerce them into any sexual activity".

● The government **should sensitise the police and other law enforcement agencies** about the rights of sex workers, who also enjoy all basic human rights and other rights guaranteed in the Constitution to all citizens.

● Any sex worker who is a **"victim of sexual assault" should be provided with all facilities available to a survivor of sexual assault,** including immediate medical assistance, in accordance with Section 357C of the Code of Criminal Procedure 1973.

● "No child of a sex worker should be separated from the mother merely on the ground that she is in the sex trade".

● Press Council of India should issue appropriate guidelines for the media to "take utmost care not to reveal the identities of sex workers, during arrest, raid and rescue operations for protecting the identities of sex workers from media exposure.

About Article 142:

● Article 142 provides discretionary power to the Supreme Court as it states that the Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it.

About Article 21:

● Article 21 of Indian Constitution provides for **"Protection of Life and Personal Liberty"** and reads as "No person shall be deprived of his life or personal liberty except according to procedure established by law."

- The fundamental right under Article 21 is one of the most important rights provided under the Constitution which has been described as **the heart of fundamental rights by the Apex Court in Unni Krishnans case.**
- The objective of the fundamental right under Article 21 is **to prevent encroachment upon personal liberty and deprivation of life** except according to procedure established by law.

HUMAN TRAFFICKING

In News: Railway Protection Force (RPF) has signed a Memorandum of Understanding (MoU) with Association for Voluntary Action (AVA) for a trafficking free nation.
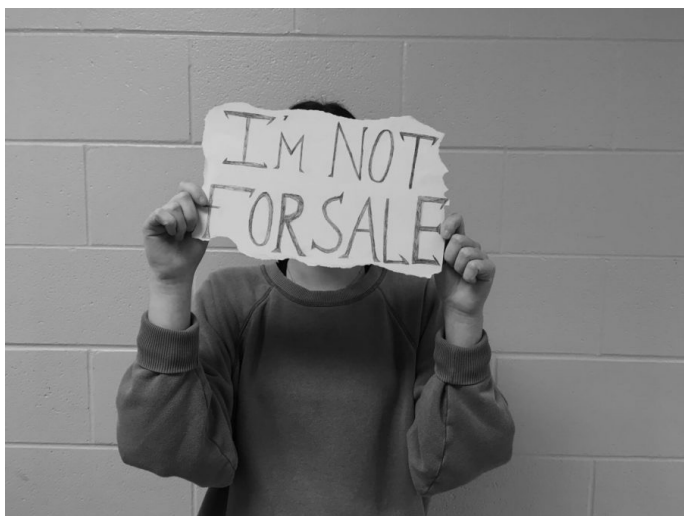
More on the Topic:
- Railway Protection Force has been discharging responsibility as mandated by the Standardized Operating Procedure **for rescue of children issued by Ministry of Railways** and working with other stakeholders **to rescue more than 50,000 children since 2018 under "Operation Nanhe Farishte".**
- It has recently launched **"Operation AAHT" to take stringent action against human trafficking** through rail and has been rescuing victims of Human Trafficking from the clutches of traffickers.
- In course of its action against traffickers, **it has rescued more than 1400 minors** including 298 minor girls from the clutches of traffickers.
- RPF has also set up **Anti Human Trafficking Units (AHTUs)** at more than 740 locations across India instructed to take action against Human Trafficking in coordination of other agencies in this field.

GOVERNMENT SOCIAL SECURITY SCHEMES

In News: Pradhan Mantri Suraksha Bima Yojana (PMJJBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMSBY) and Atal Pension Yojana (APY) complete 7 years of providing social security net.

More on the Topic:
- These three social security schemes are dedicated **to the welfare of the citizens, recognising the need for securing human life from unforeseen risks/losses and financial uncertainties.**
- In order to ensure that the people from the unorganised section of the country are financially secure, the Government launched two insurance schemes – Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY); and introduced Atal Pension Yojana (APY) to cover the exigencies in the old age.
- While **the PMJJBY and PMSBY** provide access **to low cost life/accidental insurance cover to the people, the APY** provides an opportunity for saving in the present for getting a **regular pension in old age.**

THE CHILD ONLINE SAFETY TOOLKIT

In News: The child online safety toolkit was launched recently by Britain-based NGO 5Rights that works to ensure that children's rights and needs are prioritised in the digital world.
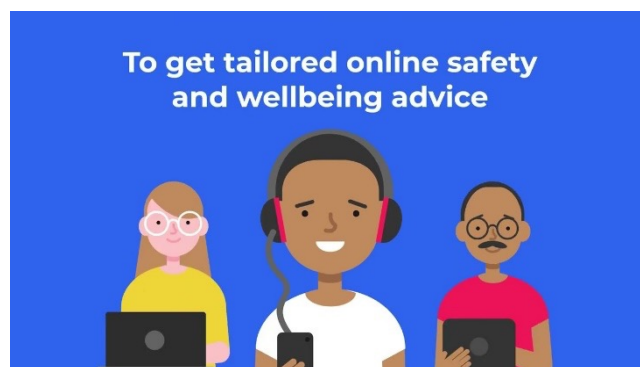
More on the Topic:
- The toolkit is conceived as a 'roadmap for policymakers and practitioners building a digital world that supports children and enables them to flourish, online and beyond.'
- It intends to guide policies to make the online world free from harm for children.
- It builds on existing international agreements and best practices, developed in consultation with international experts from a range of backgrounds.

- It has accessible worksheets and resources both online and in print to help make child online safety a reality.
- The following important international agreements and frameworks would be implemented if the tool kit is utilised effectively.
- **The Sustainable Development Goals (SDGs)**
- The United Nations Convention on the Rights of the Child (UNCRC) – It has a clause on digital rights of the children.
- **WeProtect Global Alliance** which is a global movement of more than 200 governments, private sector companies and civil society organisations working together to transform the global response to child sexual exploitation and abuse online.
- The International Telecommunication Union's Guidelines on Child Online Protection.
- **UNICEF's Draft Policy Guidance on Artificial Intelligence (AI) for Children.**

Significance of the Toolkit:

- There are contents online that is obscene, vulgar, immoral and of sexual nature. Kids need to be protected from seeing them as it'll be a bad influence on them.
- Child sexual exploitation and abuse are also major concerns, not only offline but also online.
- It can be dangerous if a child ends up clicking on the link intended for phishing or malware. It is a way in which criminals get sensitive information like username, password, phone number, address etc.
- Cyberbullying is bullying that takes place over digital devices like cell phones, computers and tablets. Kids can end up interacting with a cyberbully through chats and emails.

SIDE EFFECTS OF FORTIFIED RICE

In News: Distribution of fortified rice may harm Adivasi population of Jharkhand.

WHAT IS FORTIFIED RICE?

Fortification is the practice of deliberately increasing the content of an essential micronutrient, i.e. vitamins and minerals (including trace elements) in food to improve its nutritional quality and provide a public health benefit with minimal risk to health

➤ The fortification factor does not last for more than 45 days, so it isn't advisable to store fortified rice for long	➤ According to National Family Health Survey, 78.7% children and 75% in the district are anaemic and suffer from malnutrition	➤ In the first phase, fortified rice will be distributed in Badangi, Bobbili, Ramabhadrapuram and Terlam mandals

More on the Topic:

- The government has approved the Centrally Sponsored Pilot Scheme on "Fortification of Rice & its Distribution under Public Distribution System" for a period of 3 years beginning in 2019-20.

- Iron-fortified rice distribution has shown **adverse health impact among Adivasi populations** suffering from sickle-cell anaemia and thalassemia.
- **Thalassemia, sickle cell anaemia and malaria patients already has excess iron in the body.**
- Tb patients are unable to absorb iron.
- If the patients with above mentioned diseases consume fortified rice **their immunity and normal physiological functions may get impaired.**
- Jharkhand's sickle cell anaemia and Thalassemia patient numbers are twice the national average.

About Fortification:

- Food fortification or enrichment is the process of adding micronutrients to food. It can be carried out by food manufacturers, or by governments as a public health policy which aims to reduce the number of people with dietary deficiencies within a population.

ASHA WORKERS

In News: The WHO has recognised India's 10.4 lakh ASHA workers as 'Global Health Leaders' for their efforts in connecting the community to the government's health programmes.

About Fortification:

- **ASHA workers are volunteers from within the community** who are trained to provide information and aid people in accessing benefits of various healthcare schemes of the government.
- They act as **a bridge connecting marginalised communities with facilities such as primary health centres, sub-centres and district hospitals.**
- The role of these community health volunteers under the National Rural Health Mission (NRHM) was first **established in 2005.**
- ASHAs are primarily married, widowed, or divorced women between the ages of 25 and 45 years from within the community. They must have good communication and leadership skills; should be literate with formal education up to Class 8, as per the programme guidelines.

Significance of their Contribution:

- They go **door-to-door in their designated areas creating awareness** about basic nutrition, hygiene practices, and the health services available.

- They focus primarily on ensuring that women undergo **ante-natal check-up, maintain nutrition during pregnancy, deliver at a healthcare facility, and provide post-birth training** on breast-feeding and complementary nutrition of children.

- They also **counsel women about contraceptives and sexually transmitted infections.**

- ASHA workers are also tasked with ensuring and motivating children to get immunised.

- They also provide medicines daily to **TB patients** under directly observed treatment of the national programme.

- They are also tasked with **screening for infections like malaria during the season.**

- The health volunteers are also tasked with informing their respective primary health centre about any births or deaths in their designated areas.

- ASHA workers were **a key part of the government's pandemic response,** with most states using the network for screening people in containment zones, getting them tested, and taking them to quarantine centres or help with home quarantine.

Problems Faced by ASHA's:

- Their remuneration is only between Rs 6,000 to Rs 8,000 a month.

- They are considered as volunteers and not as permanent government employees.

- They need to be paid matching their service and should be included in the social security benefit net.

JIVHALA

In News: The Maharashtra Department of Prisons has launched a loan scheme for inmates serving sentences in jails across the state. The credit scheme titled Jivhala.

More on the Topic:

- It is being offered by the Maharashtra State Cooperative Bank. The pilot was introduced for prisoners at Yerawada Central Jail in Pune, and will gradually be extended to nearly 60 prisons across the state.

- While the loan will be disbursed in the name of the inmate, it will be issued to designated family members.

- In the initial phase, a loan of Rs 50,000 will be given at a 7 per cent interest rate. Of the interest the bank earns, one per cent will be given back to the system as a contribution to the Prisoners' Welfare Fund.

- The loan will be provided without any requirement of mortgage or guarantor.

REHABILITATION OF CHILDREN LIVING ON STREETS

In News: The Supreme Court directed the States and Union Territories (UTs) that have not yet framed their own policies to rehabilitate children in street situation (CISS) to immediately implement the Standard Operating Procedure for Care and Protection of Children in Street Situation 2.0 framed by the National Commission for Protection of Child Rights (NCPCR) for the time being.

More on the Topic:

- GOI informed the Supreme Court that there are 1.5 million children who are living in the streets. Only 17,000 children were identified.

- Supreme Court advised to identify the remaining children in the street.

Challenges Faced by Street Children:

- 1) Missing care and protection of responsible adults,

- 2) Forced to work to eat every day,

- 3) Work in risky occupations on the streets,

- 4) Poor health and illness due to poor living condition,

- 5) Exposure to drug and substance abuse,

- 6) Low level of access to medical care or education and
- 7) Lack of Identity to link with Social Security Schemes.

About Standard Operating Procedure (SOP) for Children Living on Streets:

- It aims to strengthen the processes and interventions that work towards the welfare of children on the streets and their families.
- **The street children have been divided into three broad categories:**
- 1) those who are living on the streets all alone and with no support,
- 2) those who spend most of their time on the streets but go home to a slum at night and
- 3) those whose entire families live on the streets.
- After categorising, they are produced before **the Child Welfare Committee (CWC).** The CWC lists the needs of the child like health care, education, etc.
- Also, it makes a thorough inquiry about the child. The committee then provides proper solution.
- This includes **providing Aadhar to the child, temporary shelter, counselling, enrolment of the child in Anganwadi centre, individual care plan, social investigation of the family, etc.**

Disaster Management

INTERNATIONAL CONFERENCE ON DISASTER RESILIENT INFRASTRUCTURE

In News: The Coalition for Disaster Resilient Infrastructure (CDRI) in partnership with the United States Agency for International Development (USAID) has commenced the International Conference on Disaster Resilient Infrastructure 2022.

More on the Topic:

- The ICDRI 2022 has brought together more than 20 member countries, international organisations, and institutions on a single platform.
- **CDRI is a multi-stakeholder global partnership of national governments, UN agencies and programmes, multilateral development banks, the private secto**r, academic and knowledge institutions.
- CDRI is led and managed by national governments, where knowledge is generated and exchanged on different aspects of disaster resilience of infrastructure.
- The CDRI Secretariat is based in New Delhi, India.

About Disaster Resilient Infrastructure:

- As the name implies, disaster resilient infrastructure include vital buildings, public communal facilities, transit systems, telecommunications, and power systems that are strategically designed to withstand the impact of a natural disaster like a flood, earthquake, or wildfire.
- Disaster resilient architecture is one of the pivotal aspects of risk management and disaster preparedness.

Benefits of disaster resilience:

- Statistical evidence suggests **disaster prevention has helped limit loss of life** to disasters in a number of developed and developing countries
- The cost of property damage from all hazards between 1970 and 2008 totalled US$2,300 billion, but that **effective disaster prevention had curtailed an upward trend.**

- community-based DRR had a **positive impact on social resilience** through altering attitudes and behaviours towards risk.
- Increased disaster resilience has in some cases been associated with behaviours that **preserve the natural environment.** At the borders between Kenya, Ethiopia and Somalia, collaborative local approaches to resilience have helped preserve pasture and water resources.
- It has also been argued that **addressing vulnerability by building resilience is more cost-effective than emergency relief.**

Reports and Indices

GLOBAL REPORT ON FOOD CRISES

In News: The Global Report on Food Crises 2022 was released recently by the Global Network Against Food Crises (GNAFC). The GNAFC is an international alliance formed by the European Union, United Nations and other governmental and non-governmental agencies.

The 3 x 3 approach to addressing food crises

More on the Topic:

- At least 155 million people faced acute hunger in 2020, including 133,000 who needed urgent food to prevent widespread death from starvation.
- Two-thirds of the people in those crisis levels were in 10 countries – **Congo, Yemen, Afghanistan, Syria, Sudan, northern Nigeria, Ethiopia, South Sudan, Zimbabwe and Haiti.**
- The 133,000 facing starvation, death and destitution were in **Burkina Faso, South Sudan and Yemen.**
- **The number of people facing acute food insecurity and requiring urgent food, nutrition and livelihoods assistance is on the rise.**
- 60% to 80% of the 155 million people facing acute food insecurity depend on agriculture, but last year FAO was able to assist only about 30%.

Why the Food Insecurity has been aggravated?

- The magnitude and severity of food crises last year worsened as a result of protracted conflicts, the economic fallout of the COVID-19 pandemic, and weather extremes that exacerbated "pre-existing fragilities."

Way Forward suggested by the Report:

- Greater prioritisation of small hold agriculture and focussing on sustainability.
- Three dimensions to be implemented at global, regional and country level (3x3 approach) building on existing structures

World Press Freedom Index

In News: India has slipped 8 places on the World Press Freedom Index 2022. With a global score of 41, India has gone down to the 150th position from 142 last year.

WORLD PRESS FREEDOM INDEX
INDIA SLIPS TWO PLACES
Source: Civilsdaily

India made its debut on this index in 2013 at 140 out of 180 nations. The rankings gradually improved, reaching 136 in 2017. However, it has since slipped back to 140 this time. South Asia, in general, features poorly on the index, with Pakistan dropping three places to 142, and Bangladesh dropping four places to 150
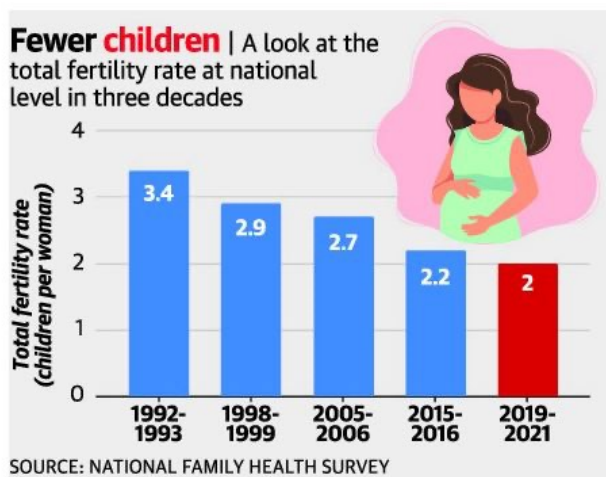
Situation
Good
Satisfactory
Noticeable
Difficult
Very serious

Rank	Countries	Score	Rank	Countries	Score
1	Norway	7.82	10	Costa Rica	12.24
2	Finland	7.90	33	UK	22.23
3	Sweden	8.31	48	USA	25.69
4	Netherlands	8.63	106	Nepal	33.40
5	Denmark	9.87	140	India	45.67
6	Switzerland	10.52	142	Pakistan	45.83
7	New Zealand	10.75	149	Russia	50.31
8	Jamaica	11.13	150	Bangladesh	50.74
9	Belgium	12.07	177	China	78.92

More on the Topic:

- The index is being released by **Reporters Without Borders(RSF)** on May 3, which is observed as the World Press Freedom Day, assesses the state of journalism in 180 countries and territories.

- Norway with a global score of 92.65 is at the top of the list followed by Denmark and Sweden.

- **The parameters for Ranking** include pluralism, media independence, media environment and self-censorship, legislative framework, transparency, and the quality of the infrastructure that supports the production of news and information.

NATIONAL FAMILY HEALTH SURVEY

In News: The NFHS-5 National Report which lists progress from NFHS-4 (2015-16) to NFHS-5 (2019-21) has been released recently.

Fewer children | A look at the total fertility rate at national level in three decades

SOURCE: NATIONAL FAMILY HEALTH SURVEY

More on the Topic:

- **Total Fertility Rate:** The Total Fertility Rate (TFR), an average number of children per woman, has further declined from 2.2 to 2.0 at the national level between National Family Health Survey (NFHS) 4 and 5.

- There are only five States in India which are above replacement level of fertility of 2.1 — Bihar (2.98), Meghalaya (2.91), Uttar Pradesh (2.35), Jharkhand (2.26) Manipur (2.17).

- **Institutional Birth and Immunisation:** Institutional births having increased from 79% to 89% in India and in rural areas around 87% births being delivered in institutions and the same is 94% in urban areas.

- More than three-fourths (77%) children age 12-23 months were fully immunised, compared with 62% in NFHS-4.

- **Stunting:** The level of stunting among children under five years has marginally declined from 38% to 36% in the country since the last four years. Stunting is higher among children in rural areas (37%) than urban areas (30%) in 2019-21.

- **Sustainable Development Goals:** NFHS-5 shows an overall improvement in Sustainable Development Goals indicators in all States/Union Territories (UTs).

- **Obesity:** Compared with NFHS-4, the prevalence of over-weight or obesity has increased in most States/UTs in NFHS-5. At the national level, it increased from 21% to 24% among women and 19% to 23% among men.

- **Sex ratio:** As per the fifth round of the National Family Health Survey (2019-21), the sex ratio of the population (females per 1000 males) for the country was estimated as 1020.

About National Family Health Survey:

- The National Family Health Survey (NFHS) is a large-scale, multi-round survey conducted in a representative sample of households throughout India. Three rounds of the survey have been conducted since the first survey in 1992-93.

- **Each successive round of the NFHS has had two specific goals:**

- a) to provide essential data on health and family welfare needed by the Ministry of Health and Family Welfare and other agencies for policy and programme purposes, and

- b) to provide information on important emerging health and family welfare issues.

STATE OF INEQUALITY IN INDIA REPORT

In News: The State of Inequality in India Report was launched recently.

Labour force partipation rate (%)
Rural ■ Urban
2017-18 2018-19 2019-20

Unemployment rate (%)
■ Rural ■ Urban ■ All India
2017-18 / 2018-19 / 2019-20

Health infra
	2005	2019-20
Sub Centres (SC)	1,46,026	1,55,404
Primary Health Centres (PHC)	23,236	24,918
Community Health Centres (CHC)	3,346	5,183

Spending on health
	Rural	Urban
Government hospital	₹4,290	₹4,400
Private Hospital	₹27,000	₹38,000

Gross enrollment ratio
Education level	2019-20	2018-19
Primary (I-V)	102.74	101.25
Upper primary (VI-VIII)	89.67	87.74
Secondary (IX-X)	77.9	76.9
Higher Secondary (XI-XII)	51.42	50.14

Wealth concentration*
Maximum	States/UT	
Chandigarh		80.80
Delhi		62.80
Punjab		62.00
Goa		55.90

Minimum	States/ut	
Bihar		3.300
Tripura		6.200
Meghalaya		6.300
Assam		6.400
Odisha		7.300
Jharkhand		8.800
West bengal		9.400

Quantile (%); *in the highest quintile

Household facilities (% of households)
■ Electricity access ■ Improved sanitation access
■ Improved drinking water access ■ Clean cooking fuel
NFHS-4 (2015-16): 88, 48, 90, 44
NFHS-5 (2019-21): 97, 70, 96, 59

Source: PLFS, UDISE, NFHS

More on the Topic:

- The State of Inequality in India Report was released by Dr Bibek Debroy, Chairman, Economic Advisory Council to the Prime Minister (EAC-PM).

- **Income Distribution:** With a first-time focus on income distribution to understand the capital flow, the report emphasises that wealth concentration as a measure of inequality does not reveal the changes in the purchasing capacity of households.

- **The share of the top 1% accounts for 6-7% of the total incomes earned,** while the top 10% accounts for one-third of all incomes earned.

- In 2019-20, among different employment categories, the highest percentage was of self-employed workers (45.78%), followed by regular salaried workers (33.5%) and casual workers (20.71%).

- **Health and Infrastructure:** In the area of health infrastructure, there has been a considerable improvement in increasing the infrastructural capacity with a targeted focus on rural areas.

- **Nutritional deprivation in terms of overweight, underweight, and prevalence of anaemia** (especially in children, adolescent girls and pregnant women) remains areas of huge concern requiring urgent attention, as the report states.

- Additionally, low health coverage, leading to high out-of-pocket expenditure, directly affects poverty incidences.

- **Education:** Education and household conditions have improved enormously due to targeted efforts through several social protection schemes, especially in the area of water availability and sanitation that have increased the standard of living.

- It is emphasised that education and cognitive development from the foundational years is a long-term corrective measure for inequality.

- **The Gross Enrolment Ratio** has also increased between 2018-19 and 2019-20 at the primary, upper primary, secondary and higher secondary.

- **Household Conditions:** In terms of improvement in household conditions, emphasis on providing access to sanitation and safe drinking water has meant leading a dignified life for most households.

- According to NFHS-5 (2019-21), **97% of households have electricity access, 70% have improved access to sanitation, and 96% have access to safe drinking water.**

GLOBAL TRAVEL AND TOURISM DEVELOPMENT INDEX

In News: India was ranked at the 54th place in a global travel and tourism development index.

Travel & Tourism Development Index framework

Enabling Environment	Travel and Tourism Policy and Enabling Conditions	Infrastructure	Travel and Tourism Demand Drivers	Travel and Tourism Sustainability
Business Environment	Prioritization of Travel and Tourism	Air Transport Infrastructure	Natural Resources	Environmental Sustainability
Safety and Security	International Openness	Ground and Port Infrastructure	Cultural Resources	Socioeconomic Resilience and Conditions
Health and Hygiene	Price Competitiveness	Tourist Service Infrastructure	Non-Leisure Resources	Travel and Tourism Demand Pressure and Impact
Human Resources and Labour Market				
ICT Readiness				

More on the Topic:

- This rank is down from 46th in 2019, but still remained on the top within South Asia.

- Japan has topped the global charts, followed by the US, Spain, France, Germany, Switzerland, Austraila, UK, Singapore and Italy in the top ten.

- The Index is published by World Economic Forum.

- The Travel and Tourism Development Index assesses 117 economies, identifying key factors in enabling the sustainable and resilient growth of travel and tourism economies.

GLOBAL REPORT ON ASSISTIVE TECHNOLOGY (GREAT)

In News: First Global Report on Assistive Technology (GReAT) was released recently.

More on the Topic:

- The GReAT report was developed in response to the World Health Assembly resolution on improving access to assistive technology adopted in May 2018.

- The global impact of the **WHO-UNICEF Global Report on Assistive Technology** will be unprecedented.

- According to the report, almost one billion children and adults with disabilities and older persons in need of assistive technology denied access.

- Affordability is the major barrier to access. Around two thirds of people with assistive products reported out-of-pocket payments for them.

STATE OF (UN)EMPLOYMENT IN INDIA

In News: The Data from the Centre for Monitoring Indian Economy (CMIE) shows that India's labour force participation rate (LFPR) has fallen to just 40% from an already low 47% in 2016.

More on the Topic:

- An LPR of 40 per cent means that over 60 per cent of the employable workforce are not even looking for work.
- Labour participation rate is a measure of the country's working-age population, which is either working or actively seeking work.

What are the reasons Sighted?

- Closure of micro and small enterprises like tailoring, beauty parlours, stationary shops, among others during the COVID-19 pandemic has resulted in people quitting the labour force.
- Millions of Indians, especially women, are dropping out of the labour force, tired and disappointed with their failure to find jobs because there are no jobs available.

What the Government Data Says?

- The authentic data source of employment / unemployment indicators in India are released by the Union Ministry of Statistics and Programme Implementation (MoSPI) through Periodic Labour Force Survey (PLFS), according to which LPR has increased steadily from 49.8 per cent in 2017-18 to 53.5 per cent in 2019-20.
- The data is, however, from the most recent PLFS which was done in the period of July 2019 to June 2020. It does not capture the increase in unemployment in the aftermath of the pandemic.

Ancient and Modern India, Art and Culture

CITIZENSHIP TO CHAKMA AND HAJONGS

In News: The National Human Rights Commission (NHRC) has requested the union government and the government of Arunachal Pradesh to "take appropriate action on Chakma and Hajong citizenship, as directed by the Supreme Court.
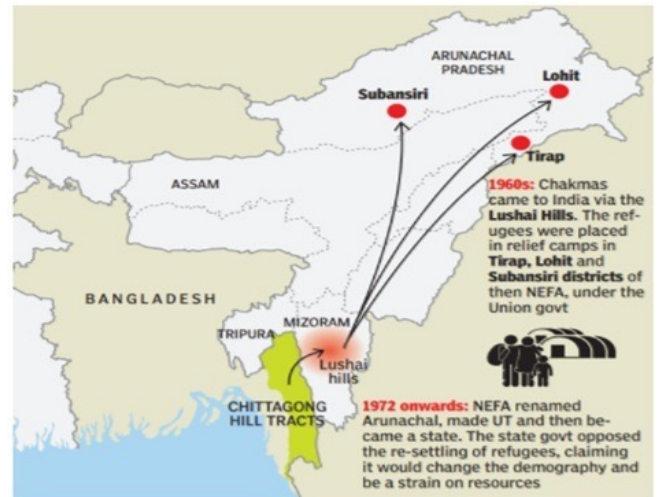
More on the Topic:

- The Chakmas and Hajongs **had lived in the Chittagong Hills Tracts of East Pakistan,** which is now Bangladesh. They fled their homes when their land was submerged by the Kaptai dam in the 1960s.
- The Chakmas, who are Buddhist, and the Hajongs, who are Hindus, **had faced religious persecution in Bangladesh.**
- After they migrated to India, the government settled a majority of them in Arunachal Pradesh.
- In 2015, the Supreme Court had asked the Centre to grant citizenship to the Chakma and Hajong refugees.
- But several organisations and civil society groups in Arunachal Pradesh were against it, saying the decision would change the demography of the state and affect the minority status of the tribal population.

VADNAGAR

In News: Gujarat government has announced that the historic city of Vadnagar will soon be turned into a heritage destination.
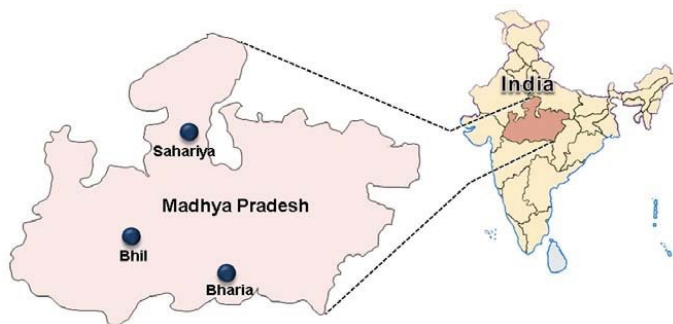
More on the Topic:

- Vadnagar town is located in **Mehsana district in Gujarat.** It is a historically important town, with a history of continuous human settlements, dating back to the third and fourth centuries.

- The ancient town is rich in heritage, culture and holds many important archaeological treasures. **Vadnagar was earlier known as both Anatapura and Anandapura.**

- Vadnagar is also **one of the important Buddhist sites in India.**

- There used to be ancient Buddhist monasteries, the proof of which was found in the discovery of **images of Bodhisattva,** dating back to the third and fourth centuries.

MADHYA PRADESH'S SAHARIYA TRIBE

In News: The rising food inflation is hurting the weakest the most in India; Sahariyas are one of the most affected.

More on the Topic:

- Sahariya Adivasis are classified as a **'Particularly Vulnerable Tribal Group'** by the government.

- The Sahariya live in around eight districts of MP.

- The tribe has been battling **acute poverty and malnutrition for long.**

- Now, the record increase in prices of food items means that basic staples like pulses and vegetables are out of their reach on most days, thus making them even more vulnerable.

- The Sahariya migrate to work as agricultural labourers in different areas of MP, Rajasthan and Uttar Pradesh during the sowing and harvesting seasons of paddy, wheat, mustard and potato.

- During the remaining 6-7 months, they try to live off their earnings or try to find work in their villages.

- They speak **Munda language.**

LUMBINI

In News: Prime minister of India would visit Lumbini on the occasion of Buddha Purnima.

More on the Topic:

- In Lumbini PM Modi will offer prayers at the sacred Mayadevi Temple and, separately, participate in the shilanayas (foundation stone-laying) ceremony of the Centre for

- Buddhist Culture and Heritage, built with Indian assistance.

- Budha Purnima falls on the Poornima (full moon) of the Hindu month Vaishakha (April or May).

- It marks the birth anniversary of Gautam Buddha, founder of Buddhism.

About Lumbini:

- Lumbini is currently located in the **Kapilavastu district of Nepal.** It is the birthplace of Buddha.

- At the time of the birth of Buddha, Lumbini was a part of Shakya Janapada, which was a republic.
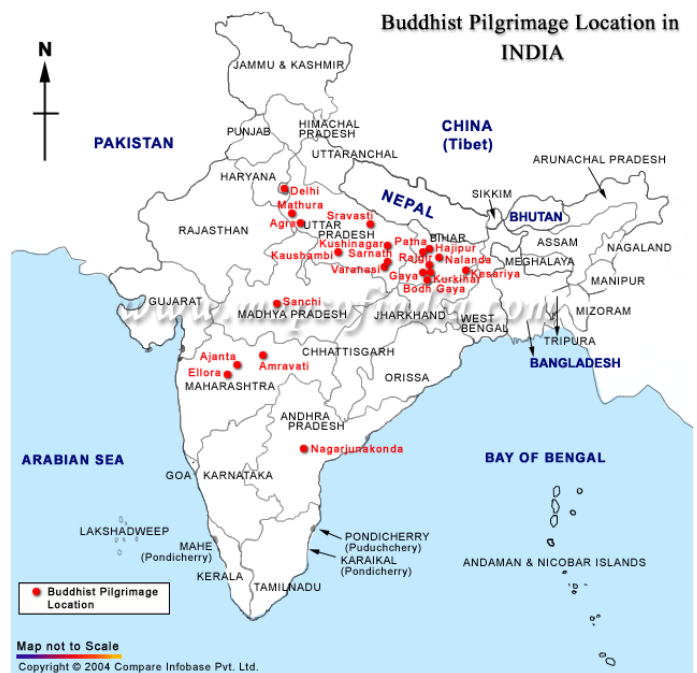
KANHERI CAVES

In News: The Union Minister for Tourism, Culture and Development of the North Eastern Region (DoNER) has inaugurated the Kanheri Caves on the occasion of Buddha Purnima.

More on the Topic:

● The Kanheri caves comprise more than 110 different rock-cut monolithic excavations and is one of the largest single excavations in the country.

● These excavations were primarily undertaken during the **Hinayana phase of Buddhism** but also has several examples of the **Mahayana stylistic architecture** as well as few printings of the Vajrayana order.

● The name Kanheri is derived from 'Kanhagiri' in Prakrit and occurs in the Nasik inscription of **the Satavahana ruler Vasisthiputra Pulumavi.**

More About Kanheri Caves:

● Inside the Kanheri caves, **there is a large Vihara (prayer hall) and stupas.** The caves consist of about 109 Buddha Viharas, specially designed for the Bhikshus.

● There are magnificent **relics of Buddha and the Bodhisattvas and pillared corridors** of the prayer halls.

● **Chaitya Griha serves the purpose of worship halls.** Buddhist shrines featuring Buddhist paintings and carvings on them. There are more than 30 unfinished paintings of Buddha.

INDIANS KNEW THE USE OF IRON 4200 YEARS AGO

In News: According to iron implements discovered during excavations in a small hamlet named Mayiladumparai, Tamil Nadu, the Iron Age in the Southern Indian state of Tamil Nadu stretches back to 4,200 years.

More on the Topic:

● Dense forests were converted into fertile lands only after humankind began realising the use of iron.

● This finding has answered questions relating to the start of agricultural activity in Tamil Nadu.

About Significance of the Discovery:

● Iron is not known to have been used in the Indus Valley, from where the use of copper in India is said to have originated (1500 BCE).

● Non-availability of copper for technological and mass exploitation forced other regions to remain in the Stone Age.

● Copper was useful in many ways but these were **brittle and not as strong as iron tools would be.**

● When iron technology was invented, it led to **the production of agricultural tools and weapons,** leading to production required for a civilisation ahead of economic and cultural progress.

● With the latest evidence tracing our Iron Age to 2000 BCE from 1500 BC, we can assume that our cultural heritage were laid in 2000 BCE.

● And the benefit of socio-economic changes and massive production triggered by the iron technology gave its first fruit around 600 BCE — the Tamil Brahmi scripts.

● The Tamil Brahmi scripts were once believed to have originated around 300 BCE, until a landmark finding in 2019 pushed the date back to 600 BCE.

● The report released by the government also spoke about **references in Sangam literature on iron, the use of iron, and to the methods of making iron weapons.** Literature refers to iron as 'blacksmiths' and 'blacksmiths with strong hands'.

BHOJSHALA MONUMENT

In News: The Madhya Pradesh High Court issued notices to the Centre, state government, Archaeological Survey of India (ASI), and other parties on the dispute over the monument of Bhojshala.
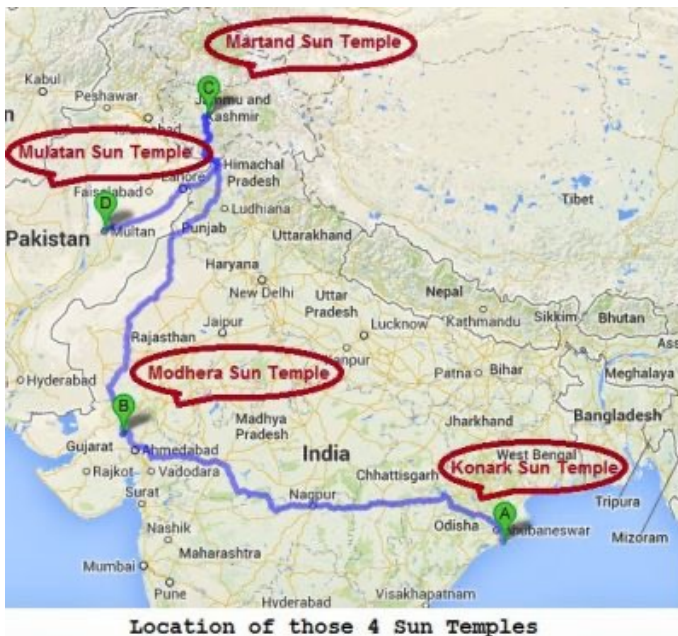

More on the Topic:

● Bhojshala is an ASI-protected monument, which Hindus believe is a temple of Waghdevi (Saraswati), while the Muslim community treats it as Kamal Maula Mosque.

● As per the arrangement made by the ASI, Hindus perform puja on the premises every Tuesday, while Muslims offer namaz in the complex on Fridays.

● The petitioners submitted historic facts about Bhojshala and its photos before the high court to challenge the ASI's arrangement.

● The Bhojshala is an historic building located in Dhar, Madhya Pradesh, India.

● The name is derived from the celebrated **king Bhoja of the Paramāra dynasty of central India,** a patron of education and the arts, to whom major Sanskrit works on poetics, yoga and architecture are attributed.

● The term Bhojashala became linked to the building in the early 20th century; the architectural parts of the structure itself date mainly to the 12th century, with the Islamic tombs in the campus added between the 14th and 15th century.

MARTAND SUN TEMPLE

In News: Holding prayers at the ruins of the eighth-century ancient Martand Sun temple at Mattan raised concerns.

Location of those 4 Sun Temples

More on the Topic:

● As a norm, no religious prayers are held at the ASI-protected sites across India unless it is an operational place of worship.

● The eighth-century Martand Temple is one of the oldest sun temples in India and a symbol of invaluable ancient spiritual heritage.

● Built by Lalitaditya Muktapida in the 8th Century AD, the Martand Sun Temple is said to have been an excellent specimen of Kashmiri architecture and one of the holiest shrines for the Kashmiri Pandits.

● The temple was destroyed by Sikandar Shah Miri in the 14th Century AD and the ruins are now marked as a "site of national importance" by the Archaeological Survey of India.

RAKHIGARHI EXCAVATION

In News: ASI's excavation at Harappan site of Rakhigarhi has revealed drainage system, copper and gold jewellery.

More on the Topic:

● Rakhigarhi is a 5,000-years-old Harappan site in Haryana's Hisar district.

● New excavations have revealed the structure of some houses, lanes and drainage system, and what could possibly be a jewellery-making unit.

● The excavation has also revealed pieces of copper and gold jewellery, terracotta toys, besides thousands of earthen pots and seals.

● These evidences suggest suggest that a meticulously planned Harappan city thrived here.

● DNA samples also collected from two human skeletons unearthed at the site and have been sent for scientific examination.

● The outcome of which might tell about the ancestry and food habits of people who lived in the Rakhigarhi region thousands of years ago.

About Harappan Civilisation:

● The Indus Valley Civilisation (IVC), also known as the Indus Civilisation,was a Bronze Age civilisation in the northwestern regions of South Asia, lasting from 3300 BCE to 1300 BCE, and in its mature form from 2600 BCE to 1900 BCE.

● Together with ancient Egypt and Mesopotamia, **it was one of three early civilisations of the Near East and South Asia,** and of the three, the most widespread.

● Its sites spanning an area stretching from today's northeast Afghanistan, through much of Pakistan, and into western and northwestern India.

● **It flourished in the basins of the Indus River.**

Personlities in News

RAJA RAM MOHAN ROY

In News: The Ministry of Culture held inaugural ceremony to commemorate the yearlong celebration of the 250th Birth Anniversary of Raja Ram Mohan Roy recently. It will continue till next year 22nd May.

More on the Topic:

- Raja Ram Mohan Roy was a great social reformer, a thinker, an educator, a journalist, and a visionary. 2022 marks his 250th birth anniversary.
- Rammohan Roy was born in **1772 in Radhanagar, a small village in Bengal.**
- As a young man he had studied Sanskrit literature and Hindu philosophy in Varanasi and Persian, Arabic and Koran in Patna.
- He was a great scholar Roy who mastered several languages including English, Latin, Greek and Hebrew.
- He is remembered as **the father of the modern Indian renaissance** as he was one of the first liberals in India.
- Ram Mohan Roy was **one of the first to try to estimate the economic drain of India** by the Britishers.
- He was given the title of Raja by Akbar II, the Mughal emperor.

Contribution towards Religious Reforms:

- Rammohan Roy struggled persistently against social evils. He argued that ancient Hindu texts the Vedas and the Upanishads upheld the doctrine of monotheism. To prove his point, he translated the Vedas and five Upanishads into Bengali.
- **In 1849 he wrote Gift to Monotheism in Persian.** Rammohan Roy was a staunch believer in the philosophy of Vedanta (Upanishads) and vigorously defended the Hindu religion and Hindu philosophy from the attack of the missionaries.
- He only wanted to mould Hinduism into a new cast to suit the requirements of the age.

- In 1829 Rammohan Roy founded a new religious society known as the **Atmiya Sabha which later on came to be known as the Brahmo Samaj.**
- This religious society was based on the twin pillars of rationalism and the philosophy of the Vedas. **The Brahmo Samaj emphasised human dignity, criticised idolatry and denounced social evils like sati.**
- He opposed the rigidity of the caste system because it destroyed the unity of the country.

Contributions Towards Social Reforms:

- As a social reformer, Rammohan Roy fought relentlessly against **social evils like sati, polygamy, child marriage, female infanticide and caste discrimination.**
- He organised a movement against the inhuman custom of sati and helped William Bentinck to pass a law banning the practice (1829). It was the first successful social movement against an ageold social evil.
- Rammohan Roy was one of **the earliest propagators of modern Western education.** He looked upon it as a major instrument for the spread of modern ideas in the country. He was associated with **the foundation the Hindu College in Calcutta** (which later came to be known as the Presidency College). He also maintained at his own cost an English school in Calcutta.
- In addition, he established **a Vedanta College where both Indian learning and Western social and physical science courses were offered.**
- He also recognised **the importance of vernaculars for spreading new ideas.** He compiled a Bengali grammar and developed an easy and modern style of Bengali prose.

Contributions Towards Journalism:

- He himself published journals in Bengali, Persian, Hindi and English to educate the public on various current issues.
- Ram Mohan found three journals- The Brahmanical Magazine (1821); The Bengali weekly, Samvad Kaumudi (1821); and the Persian weekly, Mirat-ul-Akbar.

DADA SAHEB PHALKE

**In News:** Birth anniversary of Dada Saheb Phalke was celebrated recently.
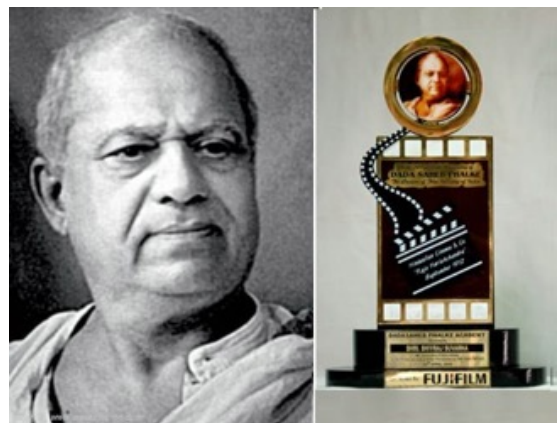
More on the Topic:

- He is known as "Father of Indian Cinema".
- Dadasaheb Phalke directed India's first feature film Raja Harischandra (1913).
- He was an Indian producer, director, and screenwriter.
- Dada Saheb Phalke Award was instituted by the Government of India in 1969 in his honour for a lifetime contribution to Indian cinema.

SHRI NARAYANA GURU

In News: Prime The Prime Minister participated in the inaugural ceremony of year-long joint celebrations of the 90th anniversary of Sivagiri Pilgrimage and Golden Jubilee of Brahma Vidhyalaya. Both are initiated by Shri Narayana guru.
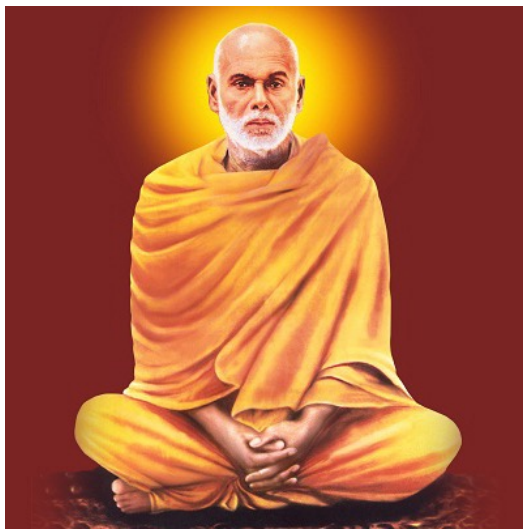
More on the Topic:

- Guru was **a philosopher, spiritual leader and social reformer** in India.
- He led a reform movement against the injustice in the caste-ridden society of Kerala in order to promote spiritual enlightenment and social equality.
- The Guru was born into an Ezhava family, in an era when people from backward communities like the Ezhavas faced social injustice in the caste-ridden Kerala society.
- **Shri Narayana Dharma Paripalana Yogam** (also known as SNDP Yogam) is an Indian spiritual organization that was formally founded by Padmanabhan Palpu in 1903, with the guidance of Shri Narayana Guru.
- **Vaikom Satyagraha (1924–25)** was a social protest in erstwhile Travancore against untouchability and caste discrimination in Hindu society of Kerala.

Places in news

RAMBAN TUNNEL

In News: Centre has constituted 3-member team to probe incident of Ramban tunnel collapse.

More on the Topic:

- The tunnel is located on the Jammu-Srinagar National Highway in Ramban district.
- The area is also prone to frequent landslides.

KHERSON REGION

In News: Russia is planning to set up army base in Ukraine's Kherson region.

More on the Topic:

- Russia invaded Ukraine in February, seizing in particular the Kherson region which is adjacent to Crimea, the peninsula which Moscow has controlled since an earlier conflict in 2014.
- It has installed a new administration there and started introducing the Russian rouble as a currency.

LITHUANIA

In News: India will Open Mission in Lithuania. This move has irked Chinese government.

More on the Topic:

- Last year China has cut diplomatic ties with Lithuania after the nation has allowed Taiwan to open its representative office using its name.

- China called it a **violation of the "One China Policy".** China has also unofficially boycotted products from Lithuania, whether it is sourced directly or indirectly from the country.

- China alleges that Lithuania is acting in concert with the American efforts of containment by using the Taiwan card, and to spread discord between China and Europe.

- 'One China Policy' means that countries seeking diplomatic relations with the People's Republic of China (PRC, Mainland China) must break official relations with the Republic of China (ROC, Taiwan) and vice versa.

- Location: Lithuania, is a country in the **Baltic region of Northern Europe.** It is one of three Baltic states and lies on the eastern shore of the Baltic Sea.

MOZAMBIQUE

In News: India and Mozambique have decided to step up efforts to counter terrorism and initiate de-radicalization measures amid growing acts of terrorism.

More on the Topic:

- **Significance:** Indian is having significant energy and mining investments in Mozambique.

- The country has **100 trillion cubic feet of proven natural gas reserves,** the third-highest proven natural gas reserves in Africa, after Nigeria and Algeria.

- It also has strategic significance for India since it is located close to **Seychelles and Mauritius,** India's strategic partners for decades.

- China has a big presence in Mozambique. India has to step up cooperation with Mozambique to have diplomatic advantages.

- Mozambique Location: Mozambique is a southern African nation whose long Indian Ocean coastline is dotted with popular beaches.

- **The Mozambique Channel is the part of the Indian Ocean between Madagascar and Mozambique.** It is considered a choke point in the Indian Ocean.

Essays of The Month

BEST FOR AN INDIVIDUAL IS NOT NECESSARILY BEST FOR SOCIETY

In order to create a civilized society in this individualist age, we must recognize the essence of collectivism. Hobbs was criticized for viewing people like beasts without the demands of society for self-actualization. He believed that individualistic tendencies were animistic ways of all against all that would lead to anarchy. M.K.Gandhi said "Be the change you want to see in the world" though individualism is to some extent acceptable, general societal thinking is the only way for the mass to progress. According to a latest survey, less than 5% of the Indian population retains well over 60% of the national wealth. Even though this is desirable for those selected people, when society is taken into account as a whole, the disparity is stark. Redistributing finances could lower infrastructure deterioration, hunger-related fatalities, and hardship.

Reservations in India are another controversial subject that is now in the media. In order to right historical wrongs done to their community, reservations are beneficial to an individual. However, they are opposed since the rules prevent many qualified applicants from landing employment or getting into outstanding academic institutions. What is beneficial for an individual is often not perceived as being good for society. Similarly, what is best for one nation may not be best for all other nations combined? Rich countries have historically harnessed and exploited natural resources. The developing countries will be most affected by the issue because of the escalating catastrophe in the name of development. Let us see this by taking examples. Imagine being stranded in a desert with five of your friends. The amount of water that each of you can drink at one sitting is limited. At least three of you would die if each of you only considered what was best for oneself, but if you shared it evenly, none would die. This leads us to the essay's main idea: what is best for an individual is not always great for society.

Let's look at another perspective before drawing any conclusions. Due to opposition from the community, a Dalit woman was forced to withdraw her name from the panchayat election. It is against the societal expectations in her village to nominate a Dalit woman. This indicates that what is best for society may not always be best for an individual.

Therefore, a lot of questions are raised at this stage. Should one favour their own interests over those of society, or vice versa? How can this confusion be asserted?

Since moral ideals and a sense of fulfilment for any progressive society have been lacking, as a result of which India's educational system is plagued with dilemmas. We judge knowledge by test scores, which, when added up at the individual level, are the most accurate since they can lead to high-paying professions. Each culture has a unique history, which is also one of the best teachers. As we have seen in the past, fascism and authoritarianism were the only preferred political regimes prior to the Enlightenment. Although it to establish political power, it was detrimental for society as a whole. Our economic situation has not been spared, much like the politics. Our society's advancement has slowed down in the pursuit of rapid economic expansion and materialism . Globalization and industrialization have lifted per-capital income while also increasing societal inequality. Demand for space has increased as a result of growing population. This has led to land degradation and global warming, as evidenced by the current catastrophe of Amazonian deforestation. People are increasingly choosing nuclear families since living spaces are getting smaller. Despite being beneficial on an individual level, it is destroying our social values. Because of this, familial ties are now unstable. We've seen time and time again how the government distributes necessary medications through cumbersome licensing. Individual drug manufacturing is not in the best interest of society as a whole. Similar to this, because society allows such hierarchy, the cast system is very prominent in Indian society.

Returning to the two examples from the beginning, let's use the utilitarian and the categorical imperative theory. According to utilitarian theory, in the first case, it would appear that sharing a water bottle equally would be the optimal course of action because it would benefit the greatest number of individuals. The second example shows how the categorical imperative theory might be used to reject prevailing cultural norms since they infringe on the rights of Dalit women.

Society is the soul if the individual is the body. It implies that what is best for an individual may not be best for society, but we must also understand the opposite side of the coin. The delicate balance between the individual and society must be retained.

Darshan N Bhat
Student, RVTA

BEST FOR AN INDIVIDUAL IS NOT NECESSARILY BEST FOR SOCIETY

"Shared joy is a double joy and shared sorrow is half sorrow".

According to McGee, society is the largest indistinguishable unit of interacting individuals who share a pattern of social organization that regulates their interaction. No human being is known to have developed in isolation because man is a social being. Society always provides an opportunity and a chance for individual's growth, vis-à-vis the individual must contribute for upbringing the society in all spheres.

In the arena of Egoism in philosophy, we come across a saying that human being is inherently selfish in nature. He can do anything to get self-satisfaction and self-pleasure. In an act of alms also they try to please themselves. This egoism is in a way not bad but excessive egoism will definitely lead to conflict within the society.

Logically the best for an individual lies in his interests. Generally, wealth forms the individual's best interest in the present world. In Baltic countries individuals contribute to the nation's prosperity and the state provides enough opportunities for individual growth. In such societies, both individuals and societal interests go hand in hand and it will definitely lead to an ideal and prosperous society.

Contrasting to this, according to Oxfam Report 1% of world's billionaires have more wealth than collective wealth of 7 billion global populations. This remains same in the Indian context too, because top 10% of rich people possess more wealth than 70% of Indians. This data reveals to us the fact that individualism has negative impact on inclusive society.

Other individualistic acts like tax evasion by high net worth individuals, corrupt practices in public offices, industrialists dumping the factory waste without treating it, terrorism, naxalism and extremism, unethical advertisements in television will definitely yield best for an individual but, they result in chaos in the society and promote negativity in an organization.

Society has implicit balancing mechanisms whenever an imbalance arises due to individualism. According to Marxism, whenever there is inequality between haves and have-nots, the haves dominate and have-nots revolt. The primary law of the land also contains Directive Principles of State Policy as social and economic justice instructions to the state.

Can best for individual lead to best for society?

Our civilizations have the crux of this idea that we are social beings and our society must progress and prosper. Haves must always contribute for welfare of have-nots. Best for society is in inclusive, sustainable and prosperous growth of all.

Great individuals like Mahatma Gandhi and Subhash Chandra Bose, always strived towards welfare of the society. Sarvodaya model of Jayprakash Narayan revealed the idea behind a stable society. We can reckon the work of billionaires around the world contributing a part of their huge capital for benefit of the poorest.

The difficult times like COVID-19 pandemic have shown us the reason why one should not always be individually focused. Having empathy towards other individuals will actually make us societal beings. Few enthusiastic and principle driven individuals like Ratan Tata, Sonu Sood, Armstrong Pame, Baba Amte, Sudha Murthy and others revolutionized the art of helping the weaker sections of the society. They share their benefits to all sections of the society from which they get profits. This act of repayment is vital.

Since we are living in an economy where values of products are decided by market forces, some individuals exploit the weaker classes by taking illegitimate and unethical way. This creates social inequality which will definitely affect the moral fabric of the society, further resulting in class conflicts and rebellions as rightly noticed by Karl Marx.

However, from the society point of view having common vision and charter for its members is vital. Members should honestly contribute for the welfare of all. Society will thereby create the best opportunities for all and is a win-win situation for both individual interests and interest of society at large.

In this way we can conclude that the best for an individual is not necessarily best for the society. We must always strive to achieve equitable, inclusive, just and humane society by optimizing and orienting our individual interests for welfare of society. Utilitarian approach suggests us that society must always strive for maximum good for maximum number of people.

Ramesh Bodhaswami
Student, RVTA

GEO ECONOMICS IS THE NEW GROUP POLITICS

From time immemorial, geo-economics has been the reason for expanding territories from Mahajanapadas to the British ruling India for 200 years and now in the name of soft loans. Economics is mainly on the topography of the land, soil, climate and the coastline extension which facilitates trade and commerce which strengthens one's leadership in the global outlook.

Let's take the example of Sri Lanka which has crippled due to a crisis in the trap of check-book diplomacy putting at stake the entire population of the island nation. The world consistently turning the tables on energy consumption from nonrenewable to renewable is a curse for India's neighbour as it has to depend on technology transfer from other countries pledging its sovereignty which is true for other African nations. The resources, be it from fishing, ports, power plants etc are now the need of the hour to achieve the global pledge of carbon neutrality. Pakistan is none the less on the same card- from vaccines to partner in Belt and Road initiatives of China which is keen on regaining its global superiority through string of pearls as well.

The tropically neglected diseases which are a grave curse to the African nations that China too neglects and has concentrated on only profits that can be made through this peninsular continent from its long stretch of coastline to have military bases. If scientific issues are blown to air and ensures its self-esteemed ideologies has been implemented in the land of constant internal conflicts.

The other superpower in the Pacific i.e., the US which lives on ammunition as it is self-satisfied with socio, economic and defence needs which came as a boon from Russia- Alaska is also playing the same game of strategic diplomacy with Pacific Ocean islands and in the west in the name of NATO. The era of cold war though seemed to have ended in 1990s is now taking a new form with the ongoing Russia- Ukraine war, isolating itself from the issue of two fully established sovereign states cannot be a call of the US. It interferes through supply of weapons and influencing the very political decisions of the Russian neighbour. This only makes these superpowers to lobby in the UNGA if any resolution has been passed against them. The sanctions that has been imposed on Russia is purely to isolate it financially, a tool which is used frequently by the US in the case of Iran and many West Asian countries etc., curtailing their global appearance symbolically and asserting its supremacy in abiding international laws.

Now looking at the Latin American countries which have a great reserve of oil and a constant conflict of the disputed Falk island- it's not true when someone says none of the countries are the allies of some superpower. Currently the influence of Britain has reduced significantly since WW-II as it has made enough out of imperialism, but not vanished as it still claims many Indian Ocean islands as its colonies with domination status or direct rule.

India, land of first civilisation has a significant role to play in South Asia with historically united stretch of land now a part of SAARC. Having china and Pakistan as its neighbours in the north and northwest to economically distressed Sri Lanka to the south has its land on stake to the claimed piece of land in Aksai Chin, China casting shadow on Northeast regions and Sikkim, Pakistan occupied Kashmir to territorial water for fishing in Palk Strait etc. The neutral and sovereign stand of our country will ensure the problems be solved to permanently establish peace through dialogue as in the case of Russia-Ukraine war.

Technology transfer, economic crises, defence equipments, lifesaving vaccines, loans etc are now the new bait for neo-colonisation.

To conclude, historical losses are now the reason for the polarisation of the countries with assumed superpowers through economics for personal gains will only be a new platform for another global crisis.

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