CURRENT AFFAIRS
& ESSAYS OF THE MONTH

General Studies Mains Test Series 2022

Be "Mains Ready"

- PROVIDE AMPLE ANSWER WRITING
- ENRICH ANSWER WRITING SKILLS
- FLEXIBILITY TO TAKE EXAM
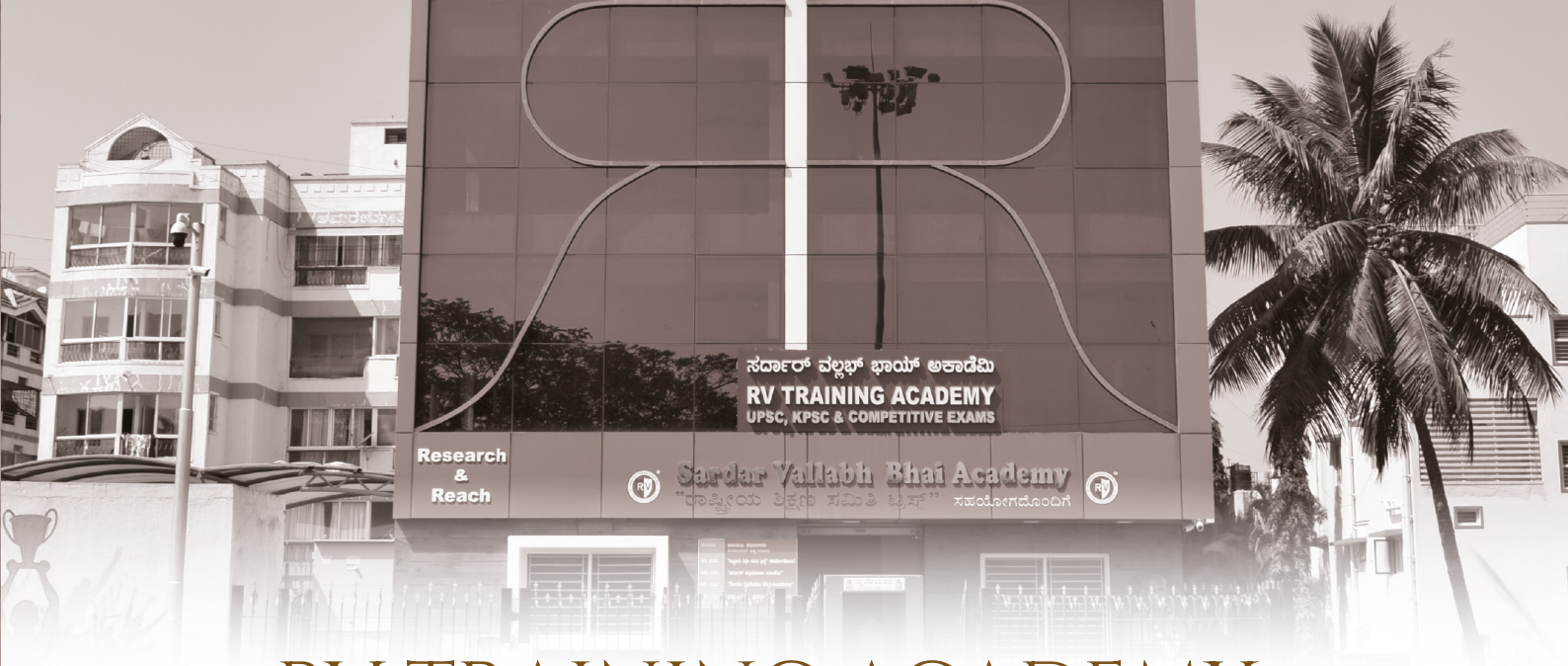- MULTI-LAYERED EVALUATION AND FEEDBACK
- DETAILED DISCUSSION
- PERSONALIZED MENTORING

Test Series begins from 25th June 2022

- 2.5 MONTHS
- 8 SECTIONAL TESTS
- 4 FULL LENGTH TESTS

RV TRAINING ACADEMY

A warm greeting from RV Training Academy!

The Civil Services offers a challenging career to ambitious students and is one of the reasons for many students opting civil services as a career.

The RV Training Academy, a unit of RV Educational Institutions was begun two years ago with a purpose of imparting quality and strategic coaching to civil service aspirants. The Academy takes pride in informing that the first batch of students has attempted the Prelims Examinations held in the month of June 2022. The RV Training Academy in furtherance to its vision and mission of empowering the young minds in becoming worthy citizens and leaders of tomorrow shall be starting a new batch for civil service aspirants.

The new batch shall commence from Monday, the 11th of July 2022. The training module for the students will start with the "Basic NCERT Foundation Course" a course designed to comprehend NCERT syllabus in alignment with UPSC to be followed by the "GS Foundation Course". The GS Foundation Course is the coaching imparted on the prescribed syllabus for Prelims, Mains and Interview process.

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

Central Administrative Tribunal

In News: The Central Administrative Tribunal is conducting a special drive across all the 19 Benches of the Tribunal for disposal of cases of most vulnerable section of applicants like the senior citizens /pensioners to celebrate 'Azadi ka Amrit Mahotsav'.

More on the Topic:

- The CAT was **created by the Act in 1985 under Article 323A of the Constitution of India.**

- The Tribunal derives its jurisdiction, powers, and authority from this Section. It was established via the **42nd Constitutional Amendment of the Constitution.**

- Tribunals under **Article 323A** can be **formed only through the Parliament and not the State Legislatures.**

- However, **Article 323B**, which deals with tribunals related to other maters enables such tribunals to be formed both by the Parliament and the State Legislatures.

The CAT exercises original jurisdiction over all service matters concerned with:

- Members of the all-India services.

- Persons appointed to any civil service of the Union or civil post under the Union.

- Civilians appointed to any defence services or posts related to defence.

- Employees of PSUs or public sector organizations were notified by the government.

- Members of the defence forces, officers, Supreme Court staff, the Parliament's secretarial staff are **not covered under the CAT.**

Why Tribunals have been established?

- Tribunals function as a parallel mechanism to the traditional court system.

- Allowing for specialized subject knowledge in disputes on technical matters.

- Reducing the burden on the court system.

Autonomous District Council

In News: The Khasi Hills Autonomous District Council has opposed the Meghalaya state's decision to hand over private land to resolve boundary dispute with Assam.

More on the Topic:

- **The Sixth Schedule of the Constitution of India** allows for the formation of autonomous administrative divisions which have been given **autonomy within their respective states.**

- Most of these autonomous district councils are located in North East India but two are in Ladakh, a region administered by India as a union territory.

- Presently, 10 Autonomous Councils in Assam, Meghalaya, Mizoram and Tripura are formed by virtue of the Sixth Schedule with the rest being formed as a result of other legislation.

Zonal Council

In News: The Eastern Zonal Council, comprising the states of Bihar, Odisha, West Bengal and Jharkhand, will hold a meeting in April at Kolkata.

More on the Topic:

- Zonal coucils are **Statutory bodies** established under the States Reorganisation Act 1956 and not constitutional bodies. They are only deliberative and advisory bodies.

- They are intended to promote interstate cooperation and coordination.
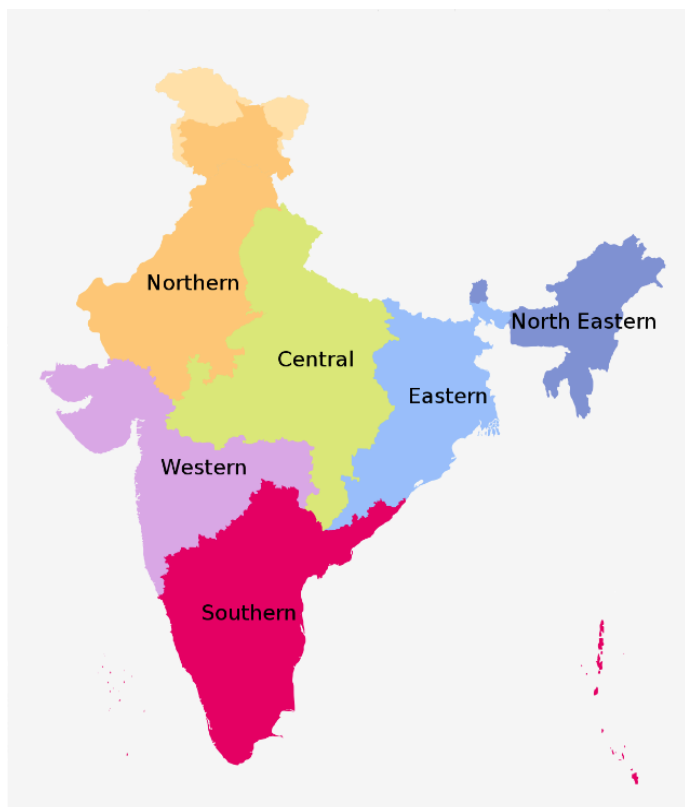
There are 5 five Zonal councils namely:

- **The Northern Zonal Council,** comprising the States of Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, National Capital Territory of Delhi and Union Territory of Chandigarh.

- **The Central Zonal Council,** comprising the States of Chhattisgarh, Uttarakhand, Uttar Pradesh and Madhya Pradesh.

- **The Eastern Zonal Council,** comprising the States of Bihar, Jharkhand, Orissa, and West Bengal.

- **The Western Zonal Council**, comprising the States of Goa, Gujarat, Maharashtra and the Union Territories of Daman & Diu and Dadra & Nagar Haveli.

- **The Southern Zonal Council,** comprising the States of Andhra Pradesh, Telangana, Karnataka, Kerala, Tamil Nadu and the Union Territory of Puducherry.

- The North Eastern States i.e. (i) Assam (ii) Arunachal Pradesh (iii) Manipur (iv) Tripura (v) Mizoram (vi) Meghalaya (vii) Sikkim and (viii) Nagaland are not included in the Zonal Councils and their special problems are looked after by **the North Eastern Council, set up under the North Eastern Council Act, 1972.**

Composition:

- The Union Home Minister is the Chairman of each of these Councils.

- The Chief Ministers of the States included in each zone act as Vice-Chairman of the Zonal Council for that zone by rotation, each holding office for a period of one year at a time.

- Members are the Chief Minister and two other Ministers as nominated by the Governor from each of the States and two members from Union Territories included in the zone

Aadhar: CAG Audit

In News: The Comptroller and Auditor General (CAG) of India, has pulled up the Unique Identification Authority of India (UIDAI) for various discrepancies.

More on the Topic:

- **Policy Errors:** The issues reported by CAG include problems with data-matching, errors in authentication, and shortfall in archiving.

- The data of Aadhaar card holders have not been matched with their Aadhaar number even after 10 years in some cases.

- UIDAI lacks a system to analyse the factors leading to authentication errors.

- UIDAI do not have a data archiving policy. It is considered as a major breach as UIDAI was maintaining one of the largest biometric databases in the world.

- UIDAI provided Authentication services to banks, mobile operators and other agencies free of charge till March 2019. This has led to revenue loss to the government.

- **The Privacy Concerns:** UIDAI has not ensured that the applications or devices used by agencies or companies for authentication "were not capable of storing the personal information of the residents, which put the privacy of residents at risk".

- The Authority had not ensured security and safety of data in Aadhaar vaults. They had not independently conducted any verification of compliance to the process involved.

- There is no assurance that all the Aadhaar holders in the country are 'Residents' as defined in the Aadhaar Act

- **Procedural Errors:** UIDAI has not prescribed any specific proof, document, or process to confirm whether a person who is applying for Aadhaar has resided in India for the period specified by the Rules.

- UIDAI generated Aadhaar numbers with incomplete information, which, along with the lack of proper documentation or poor quality biometrics, have resulted in **multiple or duplicate Aadhaar cards being issued to the same person.**

- UIDAI does not have adequate arrangements with the postal department, due to which a large number of Aadhaar cards were returned to the government after they could not be delivered to their intended recipients.

- Aadhaar numbers with poor quality biometrics induces authentication errors. It is creating problems for Aadhar card holders.

About Aadhar:

- Aadhaar is a **12-digit individual identification number issued by the Unique Identification Authority of India** on behalf of the Government of India.

- This number will serve as a proof of identity and address, anywhere in India.

- Any individual who is a resident in India can enrol for Aadhar. Each Aadhar number will be unique to an individual and will remain valid for life.

- Aadhar is easily verifiable in an online, cost-effective way. Unique and robust enough to eliminate the large number of duplicate and fake identities in government and private databases.

About UIDAI:

- The Unique Identification Authority of India or UIDAI is an agency under the central government of India mandated to collect demographic and biometric information of the country's residents, store the data in a central database, and issue to each resident of the country a 12-digit unique identity number called Aadhaar.

- UIDAI was established as per the **Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016.**

- It comes under **Ministry of Electronics & IT.**

Criminal identification bill

In News: Criminal identification bill was cleared in the Lower House of the parliament. New debates on reforming Indian criminal justice system is gaining momentum.

In the eye of storm | The Criminal Procedure (Identification) Bill, 2022 would allow the police and prison authorities to store and analyse physical and biological samples, including retina and iris scans of convicts

- The bill seeks to repeal The Identification of Prisoners Act, 1920, whose scope was limited to recording finger impressions and foot-print impressions of limited category of convicts
- The new bill expands the scope of "measurements" to include iris, retina, signature, handwriting, biological samples and their analysis
- The records can be stored for 75 years
- It also proposes to record the details of persons detained under any preventive detention law. Opposition says this can be misused against political adversaries
- If a person with no criminal background is released without trial or discharged or acquitted by the court, all records of measurements so taken shall be destroyed from the records

More on the Topic:

- The Criminal Procedure (Identification) Bill, 2022 seeks to update a British-era law to enable police to collect samples of a person's biometric details, such as fingerprints and iris scans, if they have been arrested, detained or placed under preventive detention on charges that attract a jail term of seven years or more.

- The bill makes it mandatory for people to allow collection of finger impressions, palm print impressions, footprint impressions, photographs, iris and retina scans, physical and biological samples and their analysis, behavioural attributes, including signatures and handwriting, among others.

- The draft law also empowers the National Crime Records Bureau (NCRB) to collect, store and preserve these records for 75 years and share it with other agencies. Resistance or refusal to allow the collection of data is an offence.

Concerns:

- **Ambiguous Terms:** The phrase 'biological samples' is not described further, hence, it could involve bodily invasions such as drawing of blood and hair, collection of DNA samples.

- These are acts that currently require the written sanction of a magistrate.

- **Right to Privacy:** The Bill proposes to collect samples even from protestors engaged in political protests. The bill undermines the right to privacy of not only persons convicted of crime but also every ordinary Indian citizen.

- **In Conflict with Article 20(3):** The Bill implied use of force in collection of biological information, could also lead to narco analysis and brain mapping. It may violate Article 20(3), which protects the right against self-incrimination.

- Data Security: A cyber-attack may leak all the data.

- **Lack of Awareness:** The bill provides that an arrested person (not accused of an offence against a woman or a child) may refuse the taking of samples, not all detainees may know that they can indeed decline to let biological samples be taken.

- And it may be easy for the police to ignore such refusal and later claim that they did get the detainee's consent.

Way Ahead:

- The law enforcement agencies should ensure data protection measures.

- There should be mechanism to ensure consent of the detainee is ensured while collecting samples.

- The need is to have more experts to collect measurements from the scene of crime, more forensic labs, and equipment to analyse them to identify possible accused involved in a criminal case.

- The training of the investigation officers, prosecutors, judicial officers and collaboration with doctors and forensic experts need to be prioritised too.

Delimitation Commission

In News: The J&K Delimitation Commission proposed to increase six seats for the Jammu division and one for the Kashmir division, besides reserving 16 seats for the Scheduled Caste (SC) and Schedule Tribe (ST) communities in the Union Territory, evoking sharp reactions from the regional parties.

More on the Topic:

- Delimitation is an act or process of fixing limits or boundaries of territorial constituencies.

- The first delimitation exercise was carried out by the President (with the help of the Election

- Commission) in 1950-51.

- The Delimitation Commission Act was enacted in 1952.

- Under article 82, Parliament enacts a law for delimitation after every census.

- Under Article 170, States also get divided into territorial constituencies as per Delimitation Act after every Census.

Why Delimitation Exercise?

- Delimitation exercise is intended to provide equal representation to equal segments of a population.

- Fair division of geographical areas so that one political party doesn't have an advantage over others in an election.

Concerns:

- The constitution was amended to freeze the delimitation till 2026 in states and UT other than above mentioned UTs.

- This had led to a situation and many states having a representation in the parliament that is disproportionate to their population.

Way Ahead:

- In future if there is any move to increase seats for highly populated states, there is a need to build consensus as the move could have huge political ramifications.

Armed Forces Special Power Act

In News: The Central government has significantly reduced the footprint of the Armed Forces Special Powers Act (AFSPA), 1958 in the Northeast, withdrawing it entirely from 23 districts in Assam; and partially from seven districts in Nagaland, six districts in Manipur, and one district in Assam.

More on the Topic:

- Once the decision is notified in the gazette, AFSPA **remains in force in parts of these three states as well as in parts of Arunachal Pradesh and Jammu & Kashmir.**

- The Armed Forces Special Powers Act, 1958 is **an act of Parliament that gives the armed forces the power to maintain public order in "disturbed areas".**

- It gives the armed forces **the authority to use force or even open fire after warning a person who is found to be in contravention of the law.**

- A disturbed area is one where the **"use of armed forces in aid of civil power is necessary".**

- Under section 3 of the AFSPA, any area can be declared disturbed due to differences or disputes between members of different religious, racial, language, or regional groups or castes or communities.

- **The power to declare any territory "disturbed"** initially lay with the states, but passed to **the Centre in 1972.**

- The Act also allows the forces to arrest a person and enter and search premises without a warrant.

- The AFSPA also **protects security forces from legal proceedings unless cleared by the centre.**

- The Act applies not only to the three armed forces but also to paramilitary forces such as the Central Reserve Police Force (CRPF) and the Border Security Force.

- The move by the Centre to reduce the "disturbed" areas comes at a time when calls to repeal the Act have resurfaced in the aftermath of the death of 14 people in a botched anti-insurgency operation and retaliatory violence in Nagaland's Mon district on December, 2021.

Review of the Act:

- In 2004, the Central government appointed a **five-member committee headed by Justice B P Jeevan Reddy** to review the provisions of the act in the north eastern states.

- The committee submitted its report in 2005, which included the following recommendations:

- (a) AFSPA should be repealed and appropriate provisions should be inserted in the Unlawful Activities (Prevention) Act, 1967

- (b) The Unlawful Activities Act should be modified to clearly specify the powers of the armed forces and paramilitary forces

- (c) grievance cells should be set up in each district where the armed forces are deployed.

- The 5th report of the **Second Administrative Reforms Commission on public order** has also recommended the repeal of the AFSPA.

Supreme Court Observations:

- In the case of **Naga People's Movement of Human Rights vs. Union of India,** the validity of AFSPA was challenged before the Supreme Court and the five-judge bench concluded that the act cannot be considered as violative of the Constitution and the powers conferred under the section 4 and 5 of the Act are not arbitrary and unreasonable and therefore not in violation of the provisions of the Constitution.

- **The SC has provided guidelines to restrict AFSPA.** These are including, the army personnel are required to strictly follow minimum force, person arrested and taken to

- custody has to be handed over to the nearest police station within 24hours of such arrest. And the act has to be reviewed every six months by the state.

Arguments in Favour of AFSPA:

- The AFSPA is applied to an area **only when the ordinary laws of the land are found to be inadequate** to deal with the extraordinary situation perpetrated by insurgents spreading terror.

- **Insurgent movements in India have more or less been proxy-wars being waged against India by external actors** and this necessitates the deployment of armed forces in a counter-insurgency role with enhanced legal protection.

- **The army has, repeatedly, made it clear that it cannot operate without the AFSPA.** It needs special powers to tackle home grown and as well as foreign terrorists.

Arguments Against AFSPA:

- **The Act has been called draconian as it gives sweeping powers to the armed forces.** It allows them to open fire', even causing death, against any person in contravention to the law or carrying arms and ammunition.

- It gives them **powers to arrest individuals without warrants,** based on "reasonable suspicion", and also search premises without warrants.

- The Act further **provides blanket immunity to security personnel** involved in such operations: There can be no prosecution or legal proceedings against them without the prior approval of the Centre.

The Foreign Contribution (Regulation) Amendment Act, 2020

In News: The Ministry of Home Affairs (MHA) has extended the validity of FCRA registration of NGOs further.

More on the Topic:

- Registration under FCRA is mandatory for any NGO or association to receive foreign funds and it is renewed every five years.

- Latest 2020 amendments to FCRA mandated that registered NGOs must open a designated account in the main branch of the State Bank of India in the Capital in which the foreign contributions to their various causes would exclusively receive.

- According to the MHA, between 2016 and 2020, the government cancelled the FCRA licences of more than 6,600 NGOs and suspended those of about 264.

- FCRA is implemented by the Ministry of Home Affairs.

Significance of FCRA:

- FCRA regulates foreign donations and ensures that such contributions do not adversely affect the internal security of the country. The Act, first enacted in 1976 was amended in the year 2010 and then 2020.

- Intelligence Bureau (IB) inputs have shown that foreign funds entering India were used to fund activities that destabilise national peace and security.

- The inputs even indicated that the money was used to train naxals. There is an element of national security, integrity of the nation involved here.

Delhi Civic Bodies Bill

In News: Parliament has passed the Delhi Municipal Corporation (Amendment) Bill, 2022.

ARTICLE 239AA

- **69th Amendment 1991** inserted the Article 239AA in the Constitution. It granted special status to Delhi among Union Territories (UTs) by providing Legislative Assembly and a Council of Ministers responsible to such Assembly.

- **Public order, Police and Land** in NCT of Delhi fall within the domain of Union Government.

- For remaining matters of State List or Concurrent List, in so far as **any such matter** is applicable to UTs, the Legislative Assembly shall have power to make laws for NCT of Delhi.

More on the Topic:

- The bill seeks **to merge three municipal corporations** into a single entity in the national capital.

- The municipality wards will be redrawn and the number of council seats will be reduced to 250.

- **The word government will be replaced as central government.**

- New corporation would have **mandatory e governance system.**

- The new changes have been made according to **Article 239 AA of the constitution.**

- Article 239 AA empowers Parliament to legislate on any matter including subjects which assembly can legislate.

- **The 69th Amendment Act, 1992** has added two new Articles 239AA and 239AB under which the Union Territory of Delhi has been given a special status.

- Art. 239AA provides that the Union Territory of Delhi shall now be called the National Capital Territory of Delhi and its administrator shall be known as Lt. Governor.

Central Bureau of Investigation (CBI)

In News: Chief Justice of India has criticised CBI's credibility.

More on the Topic:

- The role of the CBI, along with the likes of the ED, the income tax department, and even the Election Commission of India has come under the scanner, especially in the last seven years.

- CJI has suggested that the need of the hour is to **"reclaim social legitimacy and public trust"** and the first step towards that "is to break nexus with political and executive."

Reforms Suggested:

- CJI expressed there is an immediate need for the creation of an autonomous umbrella organisation, to bring various central agencies like the CBI, Enforcement Directorate and the Serious Fraud Investigation Office under one roof.

- **This umbrella institution will end the multiplicity of proceedings.**

- The CJI stated that there is **a need to separate autonomous wings for prosecution and investigation,** to ensure total independence.

- CJI also suggested **to ensure a reasonable check and balance in the institution's performance.**

- The State agencies must also be equipped to deal with increasing challenges in the field of investigation.

Central Bureau of Investigation:

- Central Bureau of Investigation (CBI) is the premier investigating police agency in India.

- It functions under **the superintendence of the Deptt. of Personnel, Ministry of Personnel, Pension & Public Grievances, Government of India** - which falls under the prime minister's office.

- However, for investigations of offences under the Prevention of Corruption Act, its superintendence vests with the Central Vigilance Commission.

- It is also the nodal police agency in India which coordinates investigation on behalf of Interpol Member countries.

- Its conviction rate is as high as 65 to 70% and it is comparable to the best investigation agencies in the world.

The National Commission for Protection of Child Rights

In News: The National Commission for Protection of Child Rights (NCPCR) has filed a notice against ICICI Bank in favour of four minor orphans who were asked to repay the loan amount taken by their parents succumbing to COVID-19.

More on the Topic:

- NCPCR is a statutory body under the administrative control of the

- Ministry of Women & Child Development, Government of India.

- NCPCR was set up in March 2007 under the Commissions for Protection of Child Rights (CPCR) Act, 2005.

- The Commission's Mandate is **to ensure that all Laws, Policies, Programmes, and Administrative Mechanisms are in consonance with the Child Rights perspective** as enshrined in the Constitution of India and also the UN Convention on the Rights of the Child.

- Under the CPCR Act, The Child is defined as a person in the 0 to 18 years age group.

FASTER (Fast and Secured Transmission of Electronic Records)

In News: Supreme court has launched digital platform 'Fast and Secured Transmission of Electronic Records'.

In this age of information and communication technology, we are still looking at the skies for pigeons to communicate the orders

JUSTICE N.V. RAMANA, CHIEF JUSTICE OF INDIA

More on the Topic:

- This move will **eliminate endless waiting to get a hard-copy of a Supreme Court order.**

- The platform would be **used by the court officials to instantly to send e-copies** of the orders through a secured electronic communication channel to intended parties.

- Through the use of this software orders that were passed by the **high courts (HC) and the Supreme Court (SC) will be transmitted safely without any third-party interference.**

- In this manner, without much loss of time, **bail orders would be received by all the concerned parties and quick necessary actions will be taken at their end.**

Government Schemes

National Rail Plan

In News: Indian Railways have prepared a National Rail Plan (NRP) for India – 2030.

More on the Topic:

- The Plan is to create a **'future ready' Railway system by 2030.**
- The NRP is aimed to formulate strategies based on both operational capacities
- and commercial policy initiatives **to increase modal share of the Railways in freight to 45%.**
- The objective of the Plan is to create capacity ahead of demand, which in turn would also cater to future growth in demand right up to 2050 and also increase the modal share of Railways to 45% in freight traffic and to continue to sustain it.

As part of the National Rail Plan, Vision 2024 has been launched for accelerated implementation of certain critical projects by 2024 such as:

- 100% electrification.
- Multitracking of congested routes.
- Upgradation of speed to 160 kmph on Delhi-Howrah and Delhi-Mumbai routes.
- Upgradation of speed to 130kmph on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes.
- Elimination of all Level Crossings on all GQ/GD route

'Finculvation'

In News: The India Post Payments Bank has launched Fincluvation,

More on the Topic:

- It is a platform to to promote innovative solutions in collaboration with fintech startups to accelerate financial inclusion among the underserved and unserved population.
- Startups will also be able to use the physical infrastructure that the department of posts has across the country.

Financial Inclusion:

- Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost (The Committee on Financial Inclusion, Chairman: Dr. C. Rangarajan).

Why Financial Inclusion?

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

Skill India

In News: Skill India, in association with the Directorate General of Training (DGT), is organising a day-long 'Apprenticeship Mela' across the country in more than over 700 locations.

More on the Topic:

- Under the initiative, the aim is to support the hiring of nearly one lakh apprentices and assist employers in tapping the right talent and develop it further with training and providing practical skillsets.

Significance of Apprenticeship:

- The National Policy of Skill Development and Entrepreneurship, 2015 launched by the 15, in 2015, recognises apprenticeship as a means to provide gainful employment to skilled workforce with adequate compensation.

- The aim is to fill the gap in supply and demand for skilled workforce and meet the aspirations of the Indian youth through gaining on-the-job training and securing better opportunities for employment.

Skill India Mission:

- It is an umbrella scheme that has many skilling schemes and programmes under it. The chief objective is to empower the youth of the country with adequate skill sets that will enable their employment in relevant sectors and also improve productivity.

E DAR (e Detailed Accident Report) Portal

In News: The Ministry of Roads, Transport and High-ways (MoRTH) has developed the portal named 'e-DAR' (e-Detailed Accident Report) to accelerate accident compensation claims.

'e-DAR' (e-Detailed Accident Report) Portal

More on the Topic:

- **Digitalised Detailed Accident Reports (DAR)** will be uploaded on the portal for easy access. The web portal will be linked to the **Integrated Road Accident Database (iRAD).**

- From iRAD, applications to more than 90% of the datasets would be pushed directly to the e-DAR.

- **Stakeholders like the police, road authorities, hospitals, etc., are required to enter very minimal information** for the e-DAR forms. Thus, e-DAR would be an extension and e-version of iRAD.

- **The portal would be linked to other government portals like Vaahan** and would get access to information on driving licence details and registration of vehicles.

- For the benefit of investigating officers, **the portal would provide geo tagging of the exact accident spot** along with the site map.

- This would notify the investigating officer on his distance from the spot of the incident in the event the portal is accessed from any other location.

- Details like photos, video of the accident spot, damaged vehicles, injured victims, eye-witnesses, etc., would be uploaded immediately on the portal.

- **Hotspots for accidents would also be identified** so as to obtain solutions to avoid accidents at these hotspots.

Rashtriya Gram Swaraj Abhiyan (RGSA)

In News: The Union Government has approved the continuation of Rashtriya Gram Swaraj Abhiyan (RGSA).

More on the Topic:

- Rashtriya Gram Swaraj Abhiyan (RGSA) was launched on 24th April 2018 as an umbrella scheme of the Ministry of Panchayati Raj, Govt. of India. It is a unique scheme proposed to develop and strengthen the Panchayati Raj System across India in the rural areas.

Objectives of RGSA:

- Develop governance capabilities of PRIs **to deliver on the SDGs.**

- Enhance capabilities of Panchayats for **inclusive local governance.**

- Enhance capabilities of Panchayats **to raise their own sources of revenue.**

- Strengthen Gram Sabhas to function effectively as the basic forum of people's participation, transparency and accountability within the Panchayat system.

- Promote devolution of powers and responsibilities to Panchayats according to the spirit of the Constitution and **PESA Act 1996.**

- **Promote e-governance** for administrative efficiency and improved service delivery.

- Recognize and incentivize PRIs based on performance.

'SVANidhi se Samriddhi' Programme

In News: Ministry of Housing and Urban Affairs (MoHUA) launched 'SVANidhi se Samriddhi' program in additional 126 cities across 14 States/ UTs.

SVANidhi se Samriddhi Program

More on the Topic:

- Street vendors have always been at the receiving end of the social and economic system for years and Covid-19 pandemic further aggravated their economic and social conditions.

- Keeping this in view, the PM Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi) – a central sector scheme has come as a big relief for them.

- This welfare programme covers lakhs of street vendors and their families, **linking them to the present welfare programmes of the Government of India,** so that they receive social security benefits also and could be able to holistically develop themselves.

- It is **an additional program of PMSVANidhi,** launched in January 2021 in 125 cities to map the socio economic profile of the PM SVANidhi beneficiaries and their families

Significance of the Programme:

- Despite the challenges posed due to COVID-19 pandemic in the year 2020-21, the program was huge successful providing social security benefits to lakhs of street vendors and their families and thereby protecting them from risks and vulnerabilities of life and livelihoods.

- In Phase 1, it covered approximately 35 Lakh Street vendors and their families.

- Phase 2 aims to cover 28 Lakh Street vendors and their families, with a total target of 20 Lakh scheme sanctions for FY 2022-23. The remaining cities would be gradually added to the program.

- PM SVANidhi is also aims to provide an affordable working capital loan to street vendors and has successfully crossed the 30 Lakh mark.

Mission Vatsalya

In News: Mission Vatsalya report was submitted by Ministry of women and child development.

More on the Topic:

- The ministry of women and child development classified all of its major schemes under 3 umbrella schemes: **Mission Poshan 2.0, Mission Vatsalya andmission Shakti.**

- **The objective of Mission Vatsalya** is to secure a healthy and happy childhood for every child in India; foster a sensitive, supportive and synchronized ecosystem for development of children; assist States/UTs in delivering the mandate of the Juvenile Justice Act 2015;

- **Mission POSHAN 2.0** is an Integrated Nutrition Support Programme.

- It aims to address the challenges of malnutrition in children, adolescent girls, pregnant women and lactating mothers.

- **Mission Shakti aims to ensure a lifecycle support system** for women through integrated care, safety, protection, rehabilitation and empowerment. It includes one stop centers, Mahila police volunteers, Gender budgeting etc.

Fortified Rice

In News: The Union Cabinet Committee on Economic Affairs approved a scheme to distribute fortified rice under government programmes by 2024.

More on the Topic:

- The Food Safety and Standards Authority of India (FSSAI) defines fortification as **"deliberately increasing the content of essential micronutrients** in a food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health".

- Rice fortification is a process of **adding micronutrients to regular rice.** The micronutrients are added keeping in mind dietary requirements.

"Mission Integrated Bio refineries"

In News: Union Ministry for Science and Technology has launched "Mission Integrated Bio-refineries".
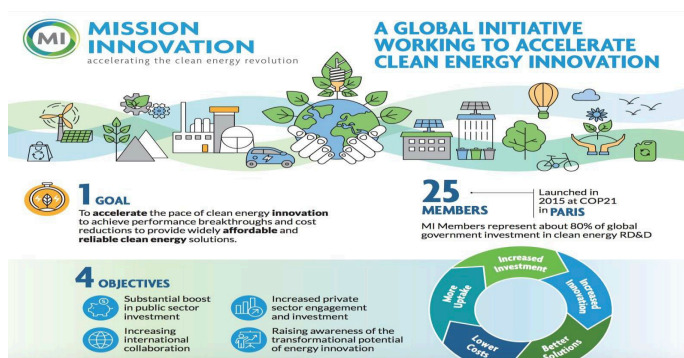
More on the Topic:

- It is a major **futuristic PPP (Public Private Participation) model initiative** for 'Clean Energy' solutions through Public-Private Alliances.

- The mission is a part of **India's commitment to a low-carbon future through "Mission Innovation."**

- **This is the 6th mission launched by mission innovation.**

- The goal of the mission is **to develop innovative solutions to accelerate the commercialization of integrated biorefineries, with a target of replacing 10% of fossil-based fuels, chemicals and materials with bio-based alternatives by 2030.**

- The mission is centred on technology advancement and cooperation, zero-waste bio-refinery for cost-effective production of sustainable bio-fuels with co-production of bio-based chemicals and materials, using biotechnological interventions.

- Mission Integrated Bio-refineries unites a dynamic and result-oriented partnership of countries, international organizations, academic institutions and civil society **to accelerate innovation for renewable fuels, and chemicals for a low-carbon future.**

Mission Innovation:

- Mission Innovation was announced on 30th November 2015, on the sidelines of the Paris Climate Agreement **to undertake ambitious measures to combat climate change.**

- It is a global initiative of 24 countries and the European Union to accelerate global clean energy innovation.

Khelo India Scheme

In News: The Ministry of Youth Affairs and Sports dedicated "Promotion of rural and indigenous/tribal games" vertical under Khelo India Scheme to the encouragement of rural sports activities in the country.

More on the Topic:

- Indigenous/traditional games of Mallakhamb (major traditional sports of Madhya Pradesh),

- Kalaripayattu, Gatka, Thang-Ta, Yogasana and Silambam have been identified for promotion under this component.

- Grants are sanctioned for infrastructure development, equipment support, appointment of coaches, training of coaches and scholarships under this Component.

More on the Selected Games:

- **Mallakhamb** is a traditional sport, originating from the Indian subcontinent, in which a gymnast performs aerial yoga or gymnastic postures and wrestling grips in concert with a vertical stationary or hanging wooden pole, cane, or rope. The word Mallakhamb also refers to the pole used in the sport.

- **Kalaripayattu** is a martial art based on the ancient knowledge of the human body.

- It originated in Kerala during 3nd century BC to the 2nd century AD. It is now practised in Kerala and in some parts of Tamil Nadu.

- **Gatka** is a traditional martial art form associated with the Sikh gurus.

- It imbibes sword and sticks fighting skills and self-control.

- It is considered as a battle technique.

- **Thangta** is a Manipuri art form.

- It combines ritual, demonstration and combat and involves a variety of dance forms and warrior drills.

- **Yogasana:** Ministry of AYUSH and Ministry of Youth Affairs and Sports announced the formal recognition of Yogasana as a competitive sport. Yogasana is an integral and important component of Yoga.

- **Silambam** is a weapon-based Indian martial art that originated in the Indian Tamil Nadu region. Tamil Sangam literature mentions this technique.

Pradhan Mantri Garib Kalyan Anna Yojana

In News: The Central Government has extended the Pradhan Mantri Garib Kalyan Anna Yojana, which aims to provide free foodgrain to poor citizens, till September 2022.

More on the Topic:

- During the ongoing crisis owing to Covid-19 Pandemic, Union Government announced Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) providing free food grains to the affected population.

- PMGKAY is a part of Pradhan Mantri Garib Kalyan Package (PMGKP) to help the poor fight the battle against Covid-19.

- The program is implemented by the **Department of Food and Public Distribution** under the Ministry of Consumer Affairs, Food and Public Distribution.

- **Its nodal Ministry is the Ministry of Finance**.

Salient Features of the scheme:

- The scheme **aims to feed the poorest citizens of India** by providing grain through the Public Distribution System, to all the priority households (ration card holders and those identified by the Antyodaya Anna Yojana scheme).

- PMGKAY provides 5 kg of rice or wheat (according to regional dietary preferences) per person and 1 kg of dal to each family holding a ration card.

- 80 crore individuals, i.e, roughly two-thirds of India's population would be covered under this scheme.

- The scale of this welfare scheme makes it **the largest food security program in the world**

Vinaya Samarasya Yojana

In News: The Karnataka government has announced Vinaya Samarasya Yojana, an awareness programme meant to eradicate untouchability in Gram Panchayats across the state..

More on the Topic:

- The scheme has been named after a three-year-old Dalit Vinay, whose family, residents of Miyapur village in Koppal district, was slapped a fine of Rs 25,000

- by the village leaders in September last year for the boy's "offence" of straying into a local temple.

- The plight of the Vinay family seems to have turned more abysmal, though. The village leaders, belonging to the locally dominant Ganiga community, stepped up "social boycott" of the victim Dalit family. Reeling under it, the family was forced to escape from the village leaving behind their house and agricultural land.

- The conviction rate in cases of atrocities against the Scheduled Castes (SCs) and the Scheduled Tribes (STs) has stood **at barely 7 per cent in Karnataka, as per recent data.**

Untouchability and Indian Laws:

- **The abolition of untouchability (Article 17)** was incorporated in Part III of the Indian Constitution's Fundamental Rights section.

- It provides security not only against the government but also against private individuals. The state has a legal obligation to take the appropriate efforts to ensure that it is not violated.

- **Untouchability is not defined in the Indian Constitution** or any act passed by the Indian Parliament. However, in one of its judgments, the Mysore High Court confirmed its meaning.

- According to the court, the subject matter of Article 17 is not untouchable in its literal or grammatical sense but the 'practice as it had developed historically in the country'.

- It refers to the social disabilities imposed on certain classes of persons because of their birth in certain castes. Hence, it does not cover the social boycott of a few individuals or their exclusion from religious services, etc.

Other Measures to End Untouchability:

- **The Untouchability Offences Act of 1955:** If untouchability is proven, a sentence of six months in prison or a fine of 500 rupees, or both, may be imposed.

- If a candidate for Parliament or a state election is found guilty, he/she will be disqualified.

- **The Protection of Civil Liberties Act 1976:** The Untouchability

Offenses Statute of 1955 was amended by this act.

- On proving charges, the sentence was raised to two years in prison or a fine of Rs. 2000, or both.
- **The Scheduled Caste and Scheduled Tribe Prevention of Atrocities Act, 1989**: Its principal goal is to avoid atrocities by increasing surveillance and collecting permits from upper castes, among other things.
- Provides victims with assistance and rehabilitation.

Digital Sansad App

In News: The Lok Sabha secretariat has launched a new app, Digital Sansad, that will make it easier for people to follow proceedings in Parliament, and also their own lawmakers.

More on the Topic:

- In addition, it will also help members of parliament access services such as checking personal updates like status of their notices, House bulletins, etc.
- As MPs are barred from using laptops inside the House, the app comes handy for parliamentary information for MPs during a debate in the House.
- In future, the MPs can log in for attendance, give questions for the Question Hour or submit notices for debates or adjournment motions.
- In addition to proceedings in the current House, people will also be able to access archival data related to all Lok Sabhas . They will be able to access speeches, debates, etc.

AVSAR Scheme

In News: Airport Authority of India (AAI) has taken an initiative to allocate space to Self Help Groups (SHGs) at its airports for selling/showcasing the self-made products of their region.

भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

More on the Topic:

- Under this scheme, an area of 100-200 square feet has been earmarked at each AAI operated airport.
- **The space is being allotted to the self- help groups, turn on turn basis, for a duration of 15 days.**
- Few outlets have already been commissioned wherein SHGs operated by local women, are **showcasing and marketing their homemade local products** like Puffed Rice, Packaged Papad, Pickles, Bamboo based Ladies Bag/Bottle/Lamp Sets, local artefacts, traditional craft, natural dyes, embroidery and indigenous weaves with contemporary design to the air travellers.

About Self Help Groups:

- Self-help Groups are **India's most powerful channels for empowering small and rural communities** to move from subsistence to sustainability. Government is constantly creating an atmosphere to strengthen the SHGs.
- Self Help Groups (SHGs) are small groups of poor people. SHGs promote small savings among their members. The savings are kept with the bank. This is the common fund in the name of the SHG.
- **The SHG gives small loans to its members from its common fund.**

Stand Up India Scheme

In News: Sixth anniversary of the Stand-Up India scheme is being celebrated recently.
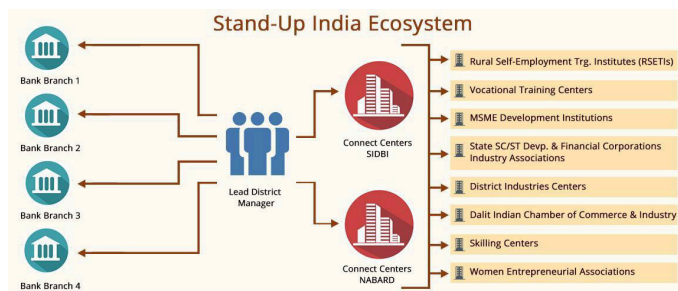
More on the Topic:

- Stand Up India Scheme was launched in April 2016 to **promote entrepreneurship at the grass-root level of economic empowerment and job creation.**

- The scheme is anchored by **Department of Financial Services (DFS), Ministry of Finance, Government of India.**

- This scheme seeks to leverage the institutional credit structure to reach out to the **underserved sector of people such as SCs, STs and Women Entrepreneurs.**

- The objective of this scheme is **to facilitate bank loans between Rs.10 lakh and Rs.1 crore** to at least one SC or ST borrower and at least one woman borrower per bank branch for setting up a Greenfield enterprise.

- The offices of SIDBI and NABARD shall be designated Stand-Up Connect Centres (SUCC).

Significance of the Scheme:

- Scheme has helped **nurture entrepreneurship amongst marginalised sections of the population** such as Scheduled Castes (SCs), Scheduled Tribes (STs) and women facing significant hurdles due to lack of advice/mentorship as well as inadequate and delayed credit for setting up greenfield enterprises.

Indian Economy

Draft guidelines for uniform right of way

In News: The Department of Telecommunications (DoT) has released draft policy guidelines to bring consistency in Right of Way-related procedures across states and spur the deployment of telecom infrastructure ahead of a pan-India roll out of fifth-generation or 5G technology.

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 inconsistencies around RoW across states have been a major pain point for telecom operators and tower companies.

- The 'Draft Policy Guidelines on Right of Way (RoW) for Establishment of Telecommunications Infrastructure' have been prepared by the central government for **outlining general principles related to RoW permissions**.

About the New Draft:

- In its draft guidelines, the telecom department has prescribed **the methodology for calculation of RoW area,** establishment of poles for the deployment of small cells, usage of street furniture for the deployment of small cells, mandatory in-building solutions (IBS), the provision of an online RoW portal and deemed approval, among other things.

- An applicant shall be required to submit to the authority **a self-declared intimation on the online RoW portal for the usage of street furniture for deployment of small cells, along with all the relevant details**

- DoT has prescribed, **central government authorities shall permit deployment of small cells on government buildings and structures free of cost**.

- The Telecom Regulatory Authority of India (Trai) has taken up **a pilot programme to use street furniture to accelerate the expansion of telecom infrastructure** in the wake of impending 5G commercial roll outs.

Account Aggregator System

In News: Five of 12 public sector lenders are working with their technology service providers to be part of Account Aggregator System.
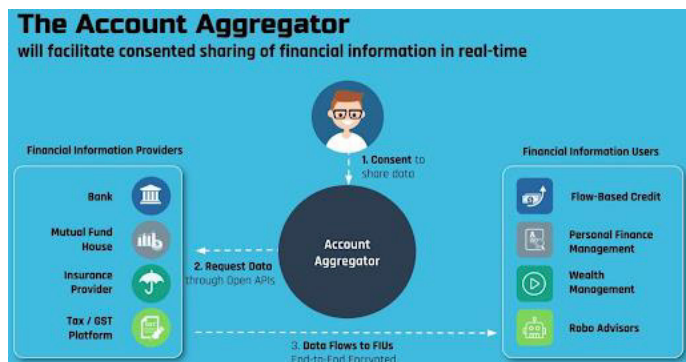
More on the Topic:

- An Account Aggregator (AA) is **a type of RBI regulated entity (with an NBFC-AA license)** that helps an individual securely and digitally access and share information from one financial institution they have an account with to any other regulated financial institution in the AA network.

- Data cannot be shared without the consent of the individual.

- There will be many Account Aggregators an individual can choose between.

- Account Aggregator replaces the long terms and conditions form of 'blank cheque' acceptance with a granular, step by step permission and control for each use of your data.

How will the new Account Aggregator network improve an average person's financial life?

- India's financial system involves many hassles for consumers today -- sharing physical signed and scanned copies of bank statements, running around to notarise or stamp documents, or having to share your personal username and password to give your financial history to a third party.

- The Account Aggregator network would replace all these with a simple, mobile-based, simple, and safe digital data access & sharing process. This will create opportunities for new kinds of services. Example: new types of loans.

- The individual's bank just needs to join the Account Aggregator network.

Can AAs view or 'aggregate' personal data? Is the data sharing secure?

- Account Aggregators cannot see the data; they merely take it from one financial institution to another based on an individual's direction and consent.

- Contrary to the name, **they cannot 'aggregate' your data.** AAs are not like technology companies which aggregate your data and create detailed profiles of you.

- The data AAs share is **encrypted by the sender and can be decrypted only by the recipient.** The end to encryption and use of technology like the 'digital signature' makes the process much more secure than sharing paper documents.

- Registering with an AA is fully voluntary for consumers.

What new services can a customer access if their bank has joined the AA network of data sharing?

- The two key services that will be improved for an individual is **access to loans and access to money management.**

- Through Account Aggregator, a company can access **tamper-proof secure data quickly** and cheaply, and fast track the loan evaluation process so that a customer can get a loan.

- Also, a customer may be able to access **a loan without physical collateral, by sharing trusted information on a future invoice or cash flow directly from a government system like GST or GeM.**

National Monetisation Pipeline

In News: In a short period of seven months since the launch of National Monetisation Pipeline, the government has garnered about Rs 96,000 crore through asset monetisation in financial year 2021-22 for the last fiscal.

More on the Topic:

- According to the report, assets worth Rs 23,000 crore were monetised in the roads and highways sector.

- Meanwhile, power sector generated Rs 9,500 crore, coal mining generated Rs 40,000 crore and mineral mining fetched Rs 18,700 crore.

About National Monetisation Pipeline:

- National Monetization Pipeline **aims to unlock value in brownfield projects** by engaging the private sector, transferring to them revenue rights and not ownership in the projects, and using the funds generated for infrastructure creation across the country.

- The NMP has been announced to provide **a clear framework for monetisation and give potential investors a ready list of assets to generate investment interest.**

- Union Budget 2021-22 has identified monetisation of operating public infrastructure assets as a key means for **sustainable infrastructure financing.**

- Currently, only assets of central government line ministries and Central Public Sector Enterprises (CPSEs) in infrastructure sectors have been included.

- Roads, railways and power sector assets will comprise over 66% of the total estimated value of the assets to be monetised, with the remaining upcoming sectors including telecom, mining, aviation, ports, natural gas and petroleum product pipelines, warehouses and stadiums.

About Monetisation:

- In asset monetisation, the government parts with its assets such as roads and coal mines for a specified period of time in exchange for a lump sum payment.

- At the end of the period, the assets return to the government. Unlike in privatisation, no sale of government assets is involved.

Standing Deposit Facility

In News: Reserve Bank of India (RBI) introduced the Standing Deposit Facility (SDF).

PROPOSED SYSTEM

- Banks park more than ₹7 trillion liquidity surplus with RBI
- Central bank has bonds worth up to ₹9 trillion to use as collateral

- Standing Deposit Facility can absorb this liquidity without issuing collaterals
- If introduced, it will have lower rate than reverse repo

More on the Topic:

- It is an additional tool for absorbing liquidity without any collateral.

- The main purpose of SDF is to reduce the excess liquidity in the system, and control inflation.

- Before RBI used to absorb liquidity through Reverse Repo Facility. This needs collaterals to be given.

- By removing the binding collateral constraint on the RBI, the SDF strengthens the operating framework of monetary policy.

- RBI do not have to give securities as collateral now.

- The SDF is also a financial stability tool in addition to its role in liquidity management.

- Both the standing facilities, the MSF (marginal standing facility) and the SDF will be available on all days of the week, throughout the year.

Significance of Standing Deposit Facility:

- The "extraordinary" liquidity measures undertaken in the wake of the pandemic, combined with the liquidity injected through various other operations of the RBI, have left a liquidity overhang of the order of Rs 8.5 lakh crore in the system.

- This has pushed up the retail inflation level in the system. The RBI will engage in a gradual and calibrated withdrawal of this liquidity over a multi-year time frame in a non-disruptive manner beginning this year.

Repo Rate:

- Repo rate is the rate at which the central bank of a country (RBI in case of India) lends money to commercial banks in the event of any shortfall of funds. Here, the central bank purchases the security.

Reverse Repo Rate:

- Reverse repo rate is the rate at which the RBI borrows money from commercial banks within the country. Here Commercial banks purchases security from RBI.

Domestic patent filings

In News: The number of domestic patent filing has surpassed the number of international patent filing during January-March 2022 for the first time in 11 years.

More on the Topic:

- 54 per cent of patents were filed by Indian applicants.

- There has also been a nearly five-fold jump in grant of patents in 2021-22 as compared to 2014-15.

- Similarly, patent examination time has reduced to 5-23 months now from 72 months in December 2016.

Government Initiative to improve Patent Filings:

- National Intellectual Property Rights Policy has led to more coordinated and systematic efforts to improve IPR ecosystem.

- India Innovation Index promotes Innovation.

- Patent filing fee has been reduced by 80 per cent for eligible educational institutions.

- There is a 10 per cent rebate in fees for online filing vis

- The ministry of commerce and industry has been conducting **awareness programmes** in schools, colleges and universities across India, including through **Atal Tinkering Labs**, to foster IP awareness and generation.

India's agricultural products export touched $50 billion

In News: India's agricultural products export touched a new milestone by crossing $ 50 billion for the financial year FY22. This would be the highest level ever achieved for agriculture exports.

India's agricultural products exports

	2021-22 ($ billion)	change y-o-y %
Rice	9.6	9
Marine products	7.7	30
Sugar	4.6	65
Spice	3.9	-
Buffalo meat	3.3	4
Raw cotton	2.8	48
Wheat	2.1	273
TOTAL*	50.2	20

*including other products
Source: DGCIS
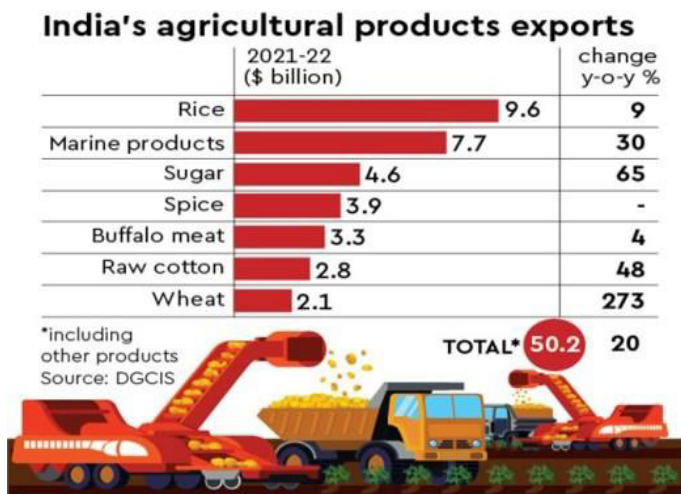
More on the Topic:

- New mile stone has been achieved in spite of unprecedented logistical challenges in the form of high freight rates, container shortages, etc.

- As per the data, **the highest ever exports have been achieved for staples like rice,** wheat, sugar and other cereals.

- Wheat has recorded an unprecedented **growth of more than 273%, jumping nearly four-fold.**

- India has captured **nearly 50% of the world's market for rice.**

- Exports of marine products also reached the highest ever benefitting the farmers.

Government Efforts to improve Agriculture Export:

- Sustained efforts on the part of the Department of Commerce and its various export promotion agencies **like APEDA, MPEDA, and various commodity boards.**

- To ensure that the farmers benefit from exports, **the Department of Commerce has made special efforts to provide export market linkage directly to farmers and FPOs.**

- **A Farmer Connect Portal** has been set up for providing a platform for farmers, FPOs/FPCs, and cooperatives to interact with exporters.

APEDA:

- Development Authority (APEDA) was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act, 1985.

- It functions under the Ministry of Commerce and Industry. The Authority has its headquarters in New Delhi.

FPOs:

- FPOs are voluntary organizations controlled by their farmer-members who actively participate in setting their policies and making decisions.

- Since 2011, government has intensively promoted FPOs under the Small Farmers' Agri-Business Consortium (SFAC), NABARD, state governments and NGOs.

Indonesia's Palm Oil Crisis and Implication for India

In News: The world's largest producer and exporter of palm oil is facing domestic shortages, leading to price controls and export curbs.

KEY STATISTICS
INDIA'S EDIBLE OIL CONSUMPTION AND IMPORTS

- **25** million tonnes Total edible oil consumption
- **9-10** million tonnes (40% of total consumption) Overall domestic production
- **15** million tonnes (60% of total consumption) Edible oil import
- **10** million tonnes in 2019 (40% of total oil consumption) Palm oil consumption (at its peak)
- **0.25** million tonnes (only 2.5% of overall consumption) Palm oil domestic production
- Over **9** million tonnes (more than 95% of total consumption) Palm oil import

Source: ICRA

More on the Topic:

- Indonesia produces nearly 60% of the total global output of Palm oil.

- It is also the world's No. 1 exporter of the commodity, followed by Malaysia.

- Palm oil is an edible vegetable oil derived from the fruit of the oil palms.

- The oil is used in food manufacturing, in beauty products, and as biofuel.

Why There is Palm oil crisis in the world:

- The possible reason has to do supply disruptions. Russia Ukraine war led to disruption in other cooking oils, especially sunflower and soyabean.

- Another factor is linked to petroleum, more specifically

the use of palm oil as a bio-fuel

- The Indonesian government has, since 2020, made 30% blending of diesel with palm oil mandatory as part of a plan to slash fossil fuel imports.

Implications for India:

- Indonesia has been India's top supplier of palm oil, though it was overtaken by Malaysia in 2021-22.

- The curbs will impact India adversely.

- The central government has taken steps to cool prices, including reducing import duties on palm, soybean oil and sunflower oil, and limiting inventories to prevent hoarding.

- India is trying to boost domestic production to overcome its dependence on imports. The government launched the National Mission on Edible Oils-Oil Palm to improve self-sufficiency.

Animation, Visual Effects, Gaming and Comics (AVGC) Promotion Task Force

In News: An Animation, Visual Effects, Gaming and Comics (AVGC) Promotion Task Force has been constituted with representatives from the centre, states and industry.

More on the Topic:

- The new task force is aimed at **placing India at the forefront of content** creation while promoting the AVGC sector in the country.

- It is created under **The Information and Broadcasting Ministry.**

- The task force would frame a national AVGC policy as well as Recommend national curriculum framework for Graduation, Postgraduate and Doctoral courses in AVGC related sectors.

- It would also **facilitate skilling initiatives** in collaboration with academic institutions, vocational training centres & Industry.

- It would look in to **Boosting employment opportunities as well as facilitating promotion and market development activities** to extend the global reach of the Indian AVGC Industry,

- It will **enhance exports and recommend incentives to attract FDI** in the AVGC sector.

Importance of the AVGC Sector:

- It will prepare India to play a larger role in **building Metaverse,** help in catering to the Indian market and in meeting global demand.

- A metaverse is **a network of 3D virtual worlds focused on social connection and it can be defined as a simulated digital environment that uses Augmented Reality (AR), Virtual Reality (VR), and blockchain,** along with concepts from social media, to create spaces for rich user interaction mimicking the real world.

- India is the second largest base of online gamers in the world after China.

- **AVGC Sector has immense potential to contribute to India' GDP.** Online casual gaming, which forms a large amount of the total gaming revenue, is projected to grow at a Compound Annual Growth Rate (CAGR) of about 29% over the next four years to reach revenues of Rs 169 billion by FY25.

- The potential for job opportunities in the AVGC sector is around 70,000 to 1.2 lakh job opportunities in the coming years.

Technical Textiles

In News: The government plans to set up a separate export promotion council for boosting shipments of technical textiles.

More on the Topic:

- Technical textiles are functional fabrics that have applications in industries such as automobiles, civil engineering and construction.

- The biggest players are the U.S., West European countries, China and Japan.

- India is the 6th largest producer of Technical Textiles with 6% Global Share, largest producer of cotton & jute in the world.

Government Efforts to promote Technical Textiles:

- In January 2019, **the government issued 207 HSN Codes for technical textiles** and in less than two years, India had become a net exporter of technical textiles.

- It also unveiled the **National Technical Textiles Mission** in 2021.

- As many as **92 technical textile items have been made mandatory** for use by government organisations covering agriculture, horticulture, highways, railways, water resources, and medical applications.

Sovereign Debt

In News: Global government debt is set to rise 9.5% this year to a record $71.6 trillion, driven by the United States, Japan and China.

More on the Topic:

- Despite an economic recovery, **borrowing will stay elevated** because of high debt rollover requirements and war in Ukraine.

- Rollover risk is a risk associated with the **refinancing of debt.** Rollover risk is commonly faced by countries and companies when a loan or other debt obligation (like a bond) is about to mature and needs to be converted, or rolled over, into new debt.

About Sovereign Debt:

- Sovereign debt is issued by a country's government to borrow money. Sovereign debt is also known as government debt, public debt, and national debt.

- Sovereign debt presents some unique risks not present in other types of lending.

- Several private agencies often rate **the creditworthiness of sovereign borrowers and the securities they issue**

- Countries with **stable economies and political systems** are typically viewed as better credit risks, allowing them to borrow on more favorable terms.

- Sovereign debt **may be owed to foreigners or to the country's own citizens,** and can be denominated in the domestic currency as well as foreign ones.

- Governments take on sovereign debt by issuing bonds, bills or other debt securities, or by taking out loans from other countries and multilateral organizations like the International Monetary Fund.

Counter Cyclical Capital Buffer

In News: The Reserve Bank of India (RBI) said that it is not necessary to activate 'Counter-Cyclical Capital Buffer' at this point in time.

More on the Topic:

- The 'CCyB' applies on banks to promote sustainable provision of credit to the economy in time of distress.

- The framework on 'CCyB' was put in place by the Reserve Bank in terms of guidelines issued on February, 2015.

- The guidelines said that 'CCyB' would be activated as and when the circumstances warranted, and that the decision would normally be pre-announced.

Objective:

- The countercyclical capital buffer is intended to protect the banking sector against losses that could be caused by cyclical systemic risks increasing in the economy.

- Countercyclical capital buffers require banks to hold capital at times when credit is growing rapidly so that the buffer can be reduced if the financial cycle turns down or the economic and financial environment becomes substantially worse.

- Banks can use the capital buffers they have built up during the growth phase of the financial cycle to cover losses that may arise during periods of stress and to continue supplying credit to the real economy.

- The rule was first introduced in Basel III as an extension of another buffer (called the capital conservation

buffer).

Basel Norms:

- Basel norms or Basel accords are the **international banking regulations issued by the Basel Committee on Banking Supervision.**

- The Basel norms is **an effort to coordinate banking regulations across the globe**, with the goal of strengthening the international banking system.

- In 2010, Basel III guidelines were released.

- These guidelines were introduced **in response to the nancial crisis of 2008.**

- A need was felt to further strengthen the system as banks in the developed economies were under-capitalized, over-leveraged and had a greater reliance on short-term funding.

Shrinkflation

In News: The Cadbury's Dairy Milk bars downsized the size or quantity of their products while keeping them at the same price in UK due to inflation.
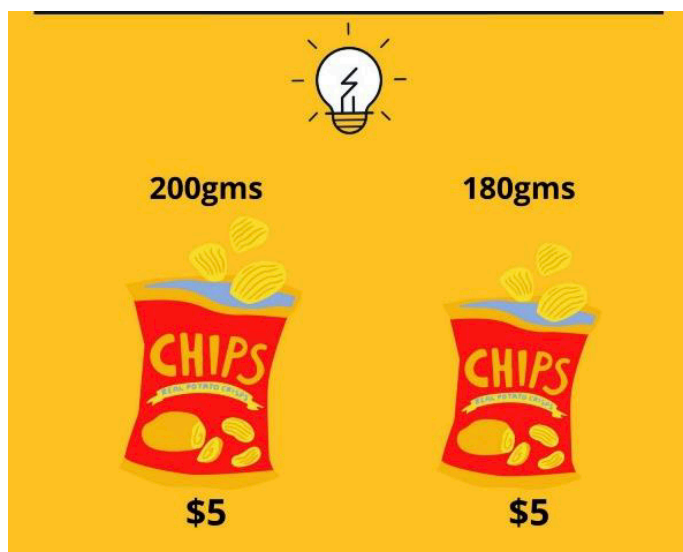
More on the Topic:

- "Shrinkflation" is a combination of the words shrink and inflation.

- The "shrink" refers to the change in the size of the product, while the "flation" part refers to inflation i.e.the rise in the price level.

- Shrinkflation is a form of hidden inflation. It refers to downsizing a product while keeping its price the same.

Dam Rehabilitation and Improvement Project

In News: The government has inked a loan pact with the World Bank for Dam Rehabilitation and Improvement Project.
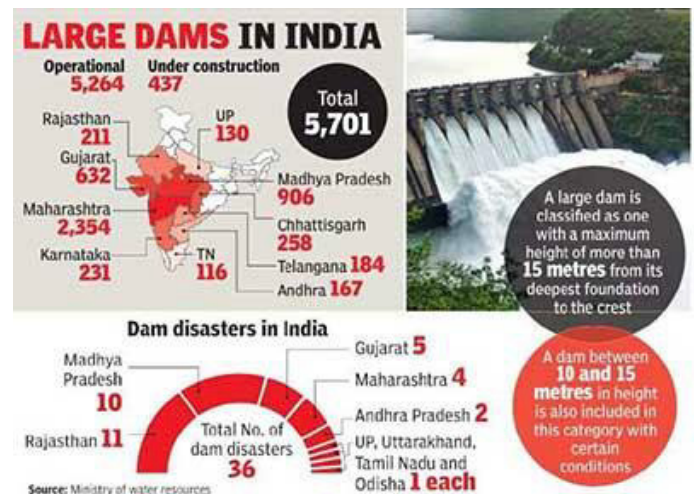
More on the Topic:

- The Central Water Commission as well as the government representatives from 10 participating states are part of the loan agreement.

- The funds will be used **to make the existing dam infrastructure safe in the country.**

- The USD 250 million project for the long-term is for **dam safety programme and improving the safety and performance of existing dams across various states of India.**

- The Second Dam Rehabilitation and Improvement Project (DRIP-2) will strengthen dam safety by building safety guidelines, bring in global experience, and introduce innovative technologies.

DRIP Phase II & Phase III envisages the following objectives:

- To improve the safety and performance of selected existing dams and associated appurtenances in a sustainable manner.

- To strengthen the dam safety institutional setup in participating states as well as at central level.

- To explore the alternative incidental means at a few selected dams to generate the incidental revenue for sustainable operation and maintenance of dams.

Significance of the Scheme:

- This new Scheme will **strengthen dam safety initiatives taken by Government of India** through physical rehabilitation of selected dams by addressing various concerns to improve safety and operational performance, institutional strengthening in various ways, incidental revenue generation for sustainable operation & maintenance of dams etc.

- The Scheme is designed to infuse global know-how, innovative technologies in dam safety.

- Another major innovation envisaged under the project,

that is likely to transform dam safety management in the country, is the introduction of a risk-based approach to dam asset management that will help to effectively allocate financial resources towards priority dam safety needs.

- Also, Scheme implementation **will equip the Indian dam owners to gear up their human resources** to comprehensively handle many important activities envisaged in proposed Dam Safety Legislation.

India's Space Economy

In News: A recent paper by researchers at the Centre for Development Studies and the Indian Institute of Space Science and Technology estimated Indian space economy is worth ₹36,794 crores, or 0.23% of GDP.

More on the Topic:

- The Economic Survey had mentioned that the Indian space sector is expected to capture a larger share of the global space economy, which closed at $447 billion in 2020.

- India accounts for **only about 2% of the space economy,** much behind the major players, the US and China.

- **About Space Economy:** The global space industry includes the industry's core activities in-space manufacturing and satellite operations.

- The main segments of the space economy include manufacturing, services from satellite operators and consumer services.

Indian Efforts to Improve Space Econoy:

- **Privatization of Space Sector:** In 2020, the Government approved participation of private enterprises across all phases of space activities.

- **Formulation of IN-SPACe:** The government also approved formation of the Indian National Space Promotion and Authorisation Centre (IN-SPACe), that would act as part of the Indian Space Research Organisation (ISRO) to help private players become independent actors instead of being solely vendors or suppliers.

- **Atal Tinkering Lab (ATL) space challenge:** NITI Aayog, in collaboration with ISRO and the Central Board of Secondary Education (CBSE), launched the Atal Tinkering Lab (ATL) space challenge as part of the Atal Innovation Mission in 2021.

- It is intended to boost participation of young people and students in the Indian space sector.

- **Encouraging FDI:** GOI is expected to announce a **revised foreign direct investment policy** for the Indian space sector that would open huge investment opportunities for foreign companies in ISRO.

- **ISpA:** In 2021, GOI, launched the ISpA. It would act as a single-window agency and open the Indian space sector to private enterprises and start-ups.

"Raising and Accelerating MSME"

In News: Cabinet has approved USD 808 million for "Raising and Accelerating MSME Performance" scheme.

More on the Topic:

- "Raising and Accelerating MSME Performance" (RAMP) is a **World Bank assisted Central Sector Scheme,** supporting various Corona Virus Disease 2019 (COVID) Resilience and Recovery Interventions of the Ministry of Micro, Small and Medium Enterprises (MoMSME).

- The programme **aims at improving access to market and credit**, strengthening institutions and governance at the Centre and State, improving Centre-State linkages and partnerships, addressing issues of delayed payments and greening of MSMEs.

- In addition to building the MoMSME's capacity at the national level, the RAMP program will seek to scale up implementation capacity and MSME coverage in States.

- The programme will bolster the **inadequately addressed blocks of capacity building, handholding, skill development, quality enrichment, technological upgradation, digitization, outreach and marketing promotion, amongst other things.**

- RAMP programme, through enhanced collaboration with States, will be **a job-enabler, market promoter, finance facilitator, and will support vulnerable sections and greening initiatives.**

Geo tagging of payment system touch points 2.0

In News: The Reserve Bank of India (RBI) has released the framework for geo-tagging of payment system touch points.

More on the Topic:

- Geotagging, or GeoTagging, is the process of adding geographical identification metadata **(geographical coordinates (latitude and longitude))** to various metadata.

- Under the framework, Banks/Non-bank PSOs shall **capture and maintain geographical coordinates for all payment touch points.**

- Further, geo-tagging in respect to PoS terminals and Paper-based/Soft QR Codes should be submitted to RBI.

- RBI has directed all banks and non-banks to maintain a registry with accurate location of all payment touch points across the country.

Why Geotagging of payment touch points are important?

- Geo-tagging of payment system touch points will enable proper monitoring of availability of payment acceptance infrastructure like Points of Sale (PoS) terminals, Quick Response (QR) codes, etc.

- In turn, such monitoring will support policy intervention to optimize the distribution of payment infrastructure.

- It provides insights on regional penetration of digital payments.

- It monitors infrastructure density across different locations.

- Also, geo-tagging identifies the scope for deploying additional payment touch points, and facilitates focused digital literacy programmes.

Oil Bonds and India's Oil Pricing Mechanism

In News: Petrol prices have crossed Rs 100 per litre in several Indian cities. Oil bonds are in the news related to this.
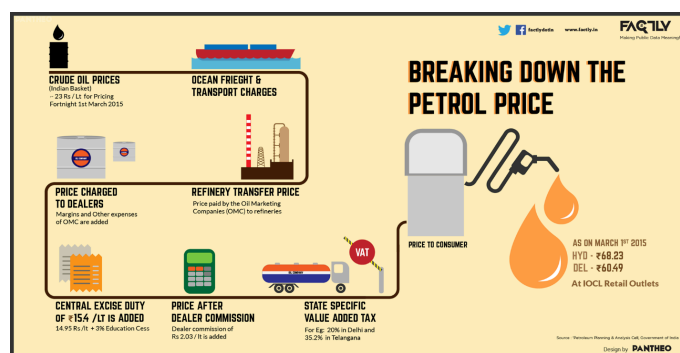
More on the Topic:

- Before the complete deregulation of petrol and diesel prices, oil marketing companies were faced with a huge financial burden as the selling price of petrol and diesel in India was lower than the international market price.

- The government subsidised the prices for transport fuels, LPG and kerosene through a mechanism to provide for oil marketing companies' under-recoveries.

- Oil bonds are special securities issued by the government to oil marketing companies in lieu of cash subsidy.

- These bonds are typically of a long-term tenure like 15-20 years and oil companies are paid interest.

- From 2004, oil prices started moving up, and the government restored **the cost-plus pricing system to protect consumers.**

- This 'under-recovery' is typically compensated through **fuel subsidies allocated in the Union budget**. However, between 2005 and 2010, the UPA government issued oil bonds to the companies amounting to Rs 1.4 lakh crore to compensate them for these losses.

Why Government has resorted to Oil Bonds?

- Compensation to companies through issuance of such bonds is typically used when the government is trying to **delay the fiscal burden of such a pay out to future years.**

- Governments resort to such instruments when they are in danger of **breaching the fiscal deficit target due to unforeseen circumstances** that lead to a collapse in revenues or a surge in expenditure.

- These types of bonds are considered to be **'below the line' expenditure in the Union budget and do not have a bearing on that year's fiscal deficit,** but they do increase the government's overall debt.

- However, interest payments and repayment of these bonds become a part of the fiscal deficit calculations in future years.

The Fuel Pricing Mechanism:

- The price of petrol and diesel in India is not determined by the actual costs incurred by PSU refiners. A formu

-la named the trade parity price (TPP) is used to price these products.

- It assumes that **80% of petrol and diesel is imported into India and 20% is exported.** So, petrol and diesel prices in India are determined based on prices of these fuels in the international market and not on the basis of crude oil prices.

- The international petrol and diesel prices generally move in line with crude oil prices. But it need not always be the case, given that demand and supply dynamics could be different.

- The TPP in dollars is converted to rupees. Then comes other costs and margins of the oil companies, dealer commission and taxes.

- From mid-June 2017, the pricing of petrol and diesel is done through **a 'daily pricing' mechanism**, based on a 15-day rolling average international rate. So, time lag has an effect too.

- Further, the weakening of the rupee against the dollar over the years has added to the fuel's cost.

- The Taxes:

- Taxes now account for about 60 per cent of the fuels' price. During the crude crash earlier in 2020, a cash-strapped Centre raised excise duty on petrol and diesel by Rs. 13-16 a litre.

- Many States too increased their sales tax/VAT.But when oil prices started rising, the taxes were not rolled back.

- So fuel prices increased, and customers bore the brunt.

Why Fuel Price Increase is Significant?

- Higher petrol and diesel prices don't just mean higher personal transport costs. They could also cause a price spike in a host of goods and services, given that these fuels play a big part in running the economy's wheels.

- Inflation is the most important consequence.

India's Edible Oil Import Dependence

In News: In a bid to contain the rising edible oil prices, India is looking to sign long-term contracts with Mercosur countries to import crude sunflower oil.

More on the Topic:

- Russia's invasion of Ukraine has disrupted imports from Europe's second-largest nation, which has resulted in a sharp spike in edible oil prices.

- **Mercosur, a Latin American trading bloc,** is composed of sovereign member states: **Argentina, Brazil, Paraguay and Uruguay.** India had signed the PTA with Mercosur in 2004.

India's Edible Oil Imports:

- India **imports 60 per cent of its edible oil requirements, and sunflower oil constitutes around 14 per cent of such imports.**

- In 2021, India imported 90 per cent of crude sunflower oil from Ukraine and Russia.

India's edible oil economy

- India is the world's largest importer of edible oil with a share of 20.7 per cent, followed by EU and China.

- 60% of edible oil requirement is met through imports and the share of palm oil is about 60% of the import bill.

- India is the second-largest edible oil consuming country.

Government initiatives to Improve Edible Oil Cultivation:

- National Edible Oil Mission-Oil Palm (NEOM-OP)

- Oil Palm Area Expansion under Rastriya Krishi Vikas Yojana

- Increasing the MSP of rapeseed-mustard up by 8.6 % recently

- Creation of buffer stock for oilseeds

- Cluster demonstration of oilseed crops

Minimum Support Price

In News: The Cabinet Committee on Economic Affairs has approved the Minimum Support Price (MSP) for raw jute for the 2022-2023 season.
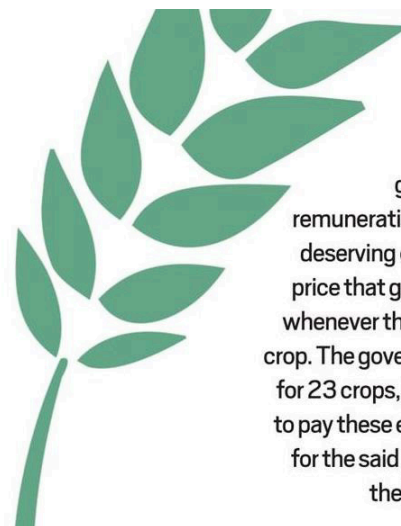
WHAT'S MSP

It is a "minimum price" for any crop that the government considers as remunerative for farmers and hence deserving of "support". It's also the price that government agencies pay whenever they procure the particular crop. The government now fixes MSPs for 23 crops, but is NOT legally bound to pay these even if open market rates for the said produce are ruling below their announced floor prices

More on the Topic:

- The announced price is in line with the principle of fixing the MSP at a level of **at least 1.5 times of the all-India weighted average cost of production** as announced by the government in the 2018-2019 Budget.

- It is also based on the recommendations of the **Commission for Agricultural Costs and Prices.** It assures a minimum of 50% as margin of profit.

- **The Jute Corporation of India (JCI)** will continue as the central government nodal agency to undertake the price support operation.

- In case of any losses in the operation, they would be fully reimbursed by the central government.

About MSP:

- MSP is the rate at which the government buys grains from farmers. Currently, it fixes MSPs for 23 crops grown in both Kharif and Rabi seasons.

- The MSP is fixed twice a year on the recommendations of the **Commission for Agricultural Costs and Prices (CACP),** which is a statutory body and submits separate reports recommending prices for kharif and rabi seasons.

About Jute Cultivation:

- India is the **world's largest producer of raw jute and jute goods,** contributing to over 50% and 40% respectively of global production.

- Temperature: Between 25-35°C.

- Rainfall: Around 150-250 cm.

- Soil Type: Well-drained alluvial soil.

- **Top Jute Producing States:** West Bengal > Bihar > Assam > Andhra Pradesh > Odisha.

- It is mainly concentrated in eastern India because of the rich alluvial soil of Ganga-Brahmaputra delta.

One nation one Fertilizer Policy

In News: The Centre's move to usher in a 'One Nation One Fertilizer' regime is being criticized.

Ministry of Chemicals & Fertilizers
Department of Fertilizers
Govt. of India

More on the Topic:

- Central government has said all fertiliser manufacturers will be required to sell their products under a single 'Bharat' brand.

- All the urea bags will have bar-code which will be read through bar code reading machine, which will be linked with POS machines.

- Fertilizer company will be eligible for subsidy only when the fertilizers bag is sold through bar code reading machines via PoS Machine under DBT.

Why this Move:

- The concept note proposing to require all urea manufacturers to sell their products under a single brand of Bharat Urea, seems to be motivated by the good intention of **pruning the subsidy bill that's now close to ₹1.5 lakh crore.**

- The selling price of urea is **statutorily capped at 10-20% of production costs.**

- Under the New Investment Policy 2012, urea units can be set up with the government providing subsidy support to manufacturers based on production costs plus a 12% assured return on equity.

- This is meant to enable producers to sell urea at artificially low prices.

- **An additional freight element** was added to this subsidy to help manufacturers transport their products to the end-user.

- The new policy argues that as urea is a commodity with negligible differentiation between players, **there's no real need for producers to transport their fertilizers cross-country.**

- This will save on freight subsidies of about Rs. 3,000 crores a year.

- One of the other objectives of "One Nation One Fertilizer" is **to stop the diversion of urea for industrial purpose.**

Concerns:

- The policy, if enforced, could prove **a serious impediment to India's bid for Atmanirbharta in fertilisers,** as it may **actively discourage private players** from committing to new projects in the coming years.

- With almost every aspect of fertiliser manufacturing controlled by the government, the sector already has very few private players.

Way Ahead:

- For the Centre to reap material savings in its subsidy bill, a far simpler solution exists. **Government can deliver the subsidy directly to farmers, decontrol urea, and leave the pricing to market forces.**

- With Direct Benefit Transfers now established as a workable way to deliver leakage-proof subsidies to targeted beneficiaries, the Centre must look to transition urea to a DBT regime that reimburses small farmers for their actual fertiliser use.

Sustainable Development Goal Localisation

In News: The Union Ministry of Panchayati Raj (MoPR) and the United Nations Development Programme (UNDP) have signed an agreement to collaborate in the areas of knowledge sharing and strengthening monitoring mechanisms for the localisation of the sustainable development goals.

More on the Topic:

- UNDP has been leading efforts **in partnership with NITI Aayog** and the State governments, notably Haryana, Karnataka, Nagaland, Punjab and Uttarakhand, to localise and accelerate the SDGs through its signature solution of Sustainable Development Coordination Centres.

- The achievement of Sustainable Development Goals by 2030 can happen only if we consider local context and situations.

- The MoPR-UNDP partnership will help in **keeping local priorities on top of the agenda,** while planning and implementing programmes.

About Sustainable Development Goals:

- Sustainable development can be defined as 'Development which meets the needs of the present without compromising the ability of future generations to meet their own needs'.

- The Sustainable Development Goals or Global Goals are a collection of **17 interlinked global goals designed to be a "blueprint to achieve a better and more sustainable future for all".**

- Three core elements of sustainable development are **economic growth, social inclusion and environmental protection.**

- The SDGs were set up in 2015 by the United Nations General Assembly and are intended to be achieved by 2030.

Ways and Means Advance

In News: In view of improvement in the pandemic situation, the Reserve Bank decided to reduce the Ways and Means Advances (WMA) for States and Union Territories (UTs).
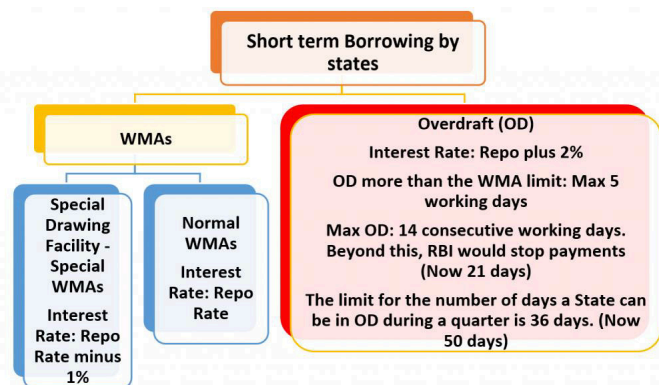
More on the Topic:

About Way and Means Advance:

- It is a facility for both the **Centre and states to borrow from the RBI.**

- These borrowings are meant purely to help them to tide over **temporary mismatches** in cash flows of their receipts and expenditures.

- In that sense, they aren't a source of finance per se. Section 17(5) of the RBI Act, 1934 authorises the central bank to lend to the Centre and state governments subject to their being repayable "not later than three months from the date of the making of the advance".

How much does the RBI charge on these advances?

- The interest rate on WMA is the **RBI's repo rate, which is basically the rate at which it lends short-term money to banks.** That rate is currently 4.4%.

- The governments are, however, allowed to draw amounts in excess of their WMA limits.

- The interest on such overdraft is 2 percentage points above the repo rate, which now works out to 6.4%. Further, no state can run an overdraft with the RBI for more than a certain period.

The financial position of states:

- The proportion of state deficits in the general government deficit has gone up in recent years.

- The financial position of states was precarious even before the lockdown. The gross fiscal deficit of 22 states, as per latest available data, rose from 2.4% of their GSDP (gross state domestic product) in 2018-19 to 2.9% in 2019-20.

- Fiscal slippage in recent years has also led to **deterioration in the quality of expenditure,** with a rise in revenue expenditure (but not Capital Expenditure).

- What this means is that **higher fiscal deficits have not augmented state capacity,** which can push growth.

- One reason for higher expenditure in the last fiscal, for instance, was **a sharp rise in salaries.** States employ more people than the Central government. **Debt waivers** are another reason.

- Since state governments are increasingly raising resources from the bond market, higher issuance can complicate fiscal management.

How to Improve State Finances?

- Factors likely to have significant implications for fiscal consolidation at the States' level include **implementation of GST, States' own efforts towards mobilising non-tax revenues and prioritisation and rationalisation of expenditure.**

- For credible progress towards fiscal consolidation, **States need to amend their FRBM Acts.** They also need to review their tariff policies, especially those relating to the power and irrigation sectors.

- For successful implementation of GST, the Centre and the States need to agree on certain issues and equip themselves with **administrative capacity and IT infrastructure.**

- **Better allocation of expenditure along with improved transparency and accountability** through strict audit procedures is also necessary to ensure improved fiscal management.

- States need to put in place **an effective forecasting and monitoring mechanism for cash inflows and outflows** so that a need-based approach is followed for market borrowings and the interest cost of cash surpluses is minimised.

Purchasing Power Parity

In News: A recent International Monetary Fund (IMF) working paper suggests that $3.2 on purchasing power parity (PPP) basis per person per day could be made an official poverty line since India has almost eliminated extreme poverty at $1.9 PPP

What Is Purchasing Power Parity?

A theoretical exchange rate that allows you to buy the same amount of goods and services in every country

Example: If you want to live cheap, and you can move to any country in the world, compare prices of a Big Mac

Government agencies use it to compare the output of countries that use different exchange rates

the balance

More on the Topic:

- PPP is an economic theory that compares different countries' currencies through a **"basket of goods" approach.**

- According to this concept, two currencies are in equilibrium known as the currencies being at par when a basket of goods is priced the same in both countries, taking into account the exchange rates.

- It is the rate at which the currency of one country would have to be converted into that of another country to buy the same amount of goods and services in each country.

- The PPP exchange rates are constructed to ensure that the same quantity of goods and services are priced equivalently across countries.

- PPP exchange rates are used **to convert the national poverty lines** from some of the poorest countries in the world to determine the Global Poverty Line.

About Poverty Line:

- The conventional approach to measuring poverty is to specify a minimum expenditure (or income) required to purchase a basket of goods and services necessary to satisfy basic human needs and this minimum expenditure is called the poverty line.

- For poverty estimation in India, the **Tendulkar committee** computed poverty lines for 2004-05 at a level that was equivalent, in PPP terms, to Rs 33 per day.

Farm loan waivers

In News: Almost 40 per cent of 'highly distressed farmers' from the states of Uttar Pradesh, Punjab and Maharashtra had not received any benefit from the farm loan waivers.

More on the Topic:

- It was found out by a joint study conducted by the National Bank for Agriculture and Rural Development (NABARD) in collaboration with the Bharat Krishak Samaj.

What are Farm Loan Waivers?

- Farm loans may be crop loans or investment loans taken to buy equipment. Both farmers and banks reap a good harvest when all is well. **But when there is a poor monsoon or natural calamity, farmers may be unable to repay loans.**

- The rural distress in such situations often prompts States or the Centre to offer relief in the way of reduction or complete waiver of loans.

- Essentially, the Centre or States take over the liability of farmers and repay the banks.

Why is it important?

- Agriculture in India has been facing many issues — **fragmented land holding, depleting water table levels, deteriorating soil quality, rising input costs, low productivity.**

- Add to this vagaries of the monsoon. **Output prices may not be remunerative.** Farmers are often **forced to borrow to manage expenses.**

Why it is bad Idea?

- The NABARD study revealed that the waivers increased the chances of wilful defaults by farmers (between 68 to 80 per cent respondents in the three states agreed) and the waiver pushed honest farmers to default on agricultural loans.

- Such measures can erode credit discipline and may make banks wary of lending to farmers in the future.

- It also makes a sharp dent in the finances of the government that finances the write-off.

- Loan waivers cost tax payers.

- The larger worry is that these costs may not be one time, as politicians may use farm loan waiver as a populist measure to win elections.

Way Ahead:

- Making agriculture sustainable by reducing inefficiencies, increasing income, reducing costs and providing protection through insurance schemes should be the priority.

- Agrarian distress and farmers' income will be addressed much better if States undertake and sincerely implement long-pending reforms in the agriculture sector with urgency.

- There is also a need for creative engagement through which the surplus workers in the farming sector can be taken away to more productive sectors.

NIDHI Companies

In News: The Ministry of Corporate Affairs (MCA) has amended rules governing Nidhi companies.

More on the Topic:

- Public companies desiring to function as Nidhis must obtain prior declaration from the central government before accepting deposits.

- It is a company registered under the Companies Act, 2013.

- A Nidhi company, especially popular in southern states like Tamil Nadu, is a non-banking financial company. The core business of Nidhi companies is borrowing and lending money between their members.

- It works on the principle of mutual benefits that are regulated by the Ministry of Corporate Affairs.

- Reserve Bank of India(RBI) has powers to issue directives for them related to their deposit acceptance activities.

- However, since these Nidhis deal with their shareholder-members only, RBI has exempted them from the core provisions of the RBI Act and other directions applicable to NBFCs.

NBFC Guidelines

In News: In a slew of regulatory frameworks, the Reserve Bank of India (RBI) laid down a set of rules for non-bank financiers on large exposures, lending to directors and sought additional disclosures in their notes to accounts.
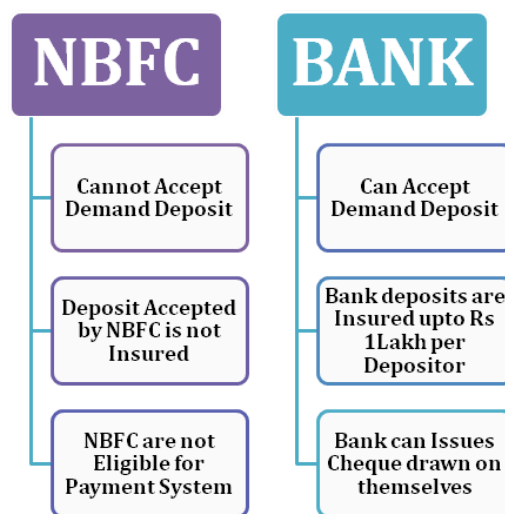
More on the Topic:

- Aggregate exposure of an upper layer NBFC to any entity must not be higher than 20% of its capital base, although the board can approve an additional 5% to take it to 25%.

- RBI guidelines set out norms for lending by NBFCs to their directors and senior employees.

- Unless sanctioned by the board of directors, NBFCs in the middle and upper layer should not grant loans of ₹5 crores and above to their directors or relatives of directors.

- The list of exclusion would also include any firm in which any of their directors or their relatives is interested as a partner, manager, employee or guarantor.

- NBFCs will have to ensure that potential real estate borrowers have obtained prior permission from government for the project, wherever required.

About NBFCS:

- NBFC is a company incorporated as per the Companies Act,2013, or any other previous act. NBFC is governed by both the Ministry of Corporate Affairs and the RBI.

- Though NBFC provides financial services, it is different

from Banks in many ways. **It cannot accept public deposits by allowing people to open savings/current accounts with it.**

- However, NBFCs can receive deposits under any arrangement or scheme in one lump sum or regular contributions or some similar method. An NBFC, also, **cannot issue cheques and drafts, drawn on itself.**

- NBFCs provide **credit and loans at the micro-level.** That is mainly to small, medium scale enterprises, to help them overcome their liquidity cash insufficiency.

Ethanol Projects

In News: The government has invited fresh applications from those firms that have acquired land for ethanol projects and obtained environmental clearance to set up new distilleries or expansion of existing distilleries.
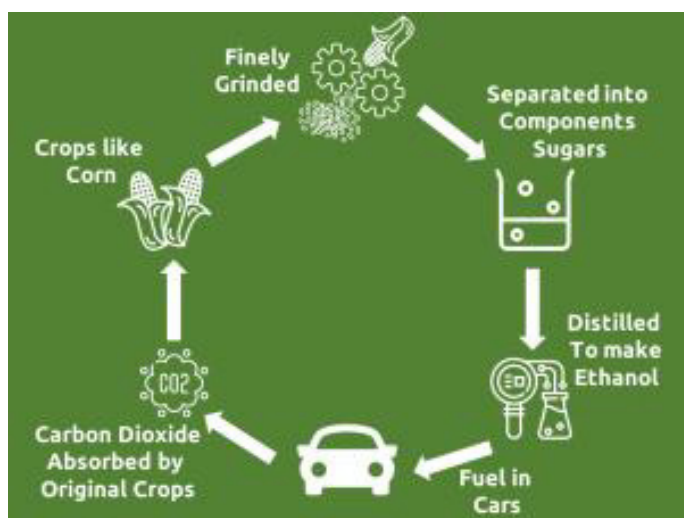
More on the Topic:

- **New grain-based distilleries would come up in deficit states like northeastern states**. This would help in the distributed production of ethanol.

- Ethanol production capacities are **required to be enhanced to about 1700 crore litre to achieve 20 per cent blending by 2025.** Opening of the window would help in augmentation of ethanol production capacities.

About Ethanol:

- Ethanol is **an organic chemical compound.**

- It is a volatile, flammable, colourless liquid with a characteristic wine-like odour and pungent taste.

- Ethanol can be produced from crops that have high starch content like sugarcane, maize, wheat, etc.

- In India, ethanol is mainly produced from sugarcane molasses by the fermentation process.

About Ethanol as a Fuel:

- Ethanol can be mixed with the gasoline to form different blends.

- As the ethanol molecule contains oxygen, **it allows the engine to better combust the fuel.**

- It results in **fewer emissions** and thereby reducing the occurrence of environmental pollution.

- Since ethanol is produced from plants that harness the power of the sun, ethanol is also considered **a renewable fuel.**

- Government of India has released **an expert committee report on the Roadmap for Ethanol Blending in India by 2025.**

- It proposed a gradual rollout of ethanol-blended fuel to achieve E10 fuel supply by April 2022.

- It proposed a phased rollout of E20 (20 percent ethanol blending in petrol) from April 2023 to April 2025.

Poison Pill Strategy

In News: Twitter is trying to fend off a hostile takeover bid by one of its shareholders and world's richest man, Elon Musk through poison pill strategy.
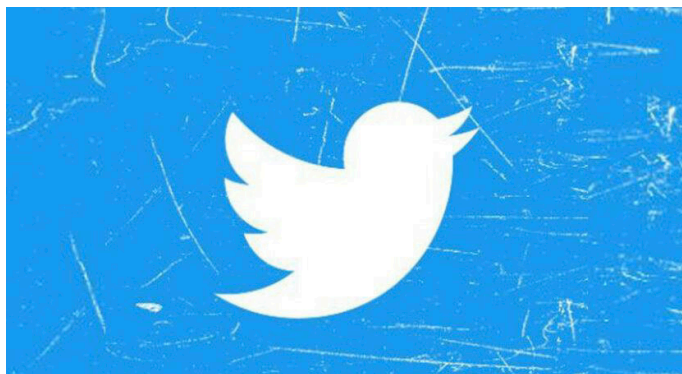
More on the Topic:

- A poison pill strategy gives existing shareholders the right to purchase additional stock at a significant discount, thus diluting the holdings of a new, hostile investor.

- It is officially known as a shareholder rights plan. Twitter's poison will stay in place for a limited duration of one year.

- The shareholder who triggers the poison pill will be blocked from making these discounted stock purchases.

- Poison pill strategy has been quite effective in checking hostile takeover attempts which have reduced considerably since the 1980s when most companies didn't have the provision in place.

Environment and Ecology

Vanishing Glaciers

In News: Google Doodle associated with Earth day featured ecosystems including Glaciers which are retreating reduced due to Anthropogenic causes.

More on the Topic:

- The four locations displayed in the doodle were **Mount Kilimanjaro in Tanzania, Sermersooq in Greenland, Great Barrier Reef in Australia and Harz Forests in Elend, Germany.**

- The team that created the doodle used real time-lapse visuals of these places over a specified period from Google Earth, an online live 3-D model of Earth rendered from satellite images and other sources.

- Mountain glaciers are among the most visible and emblematic indicators of climate change.

Significance of glaciers:

- Glacier melt water offers **critical support to sensitive ecosystems such as high-mountain wetlands.**

- The cold runoff from glaciers also **affects downstream water temperatures.**

- Many aquatic species in mountainous environments **require cold water temperatures to survive.**

- Some aquatic insects--fundamental components of the food web--are especially sensitive to stream temperature and cannot survive without the cooling effects of glacial meltwater.

- If all of the glaciers melt, **global sea level would rise approximately 70 meters** (approximately 230 feet), flooding every coastal city on the planet.

Carbon Tax

In News: Pennsylvania became the first major fossil fuel-producing state in the US to adopt a carbon pricing policy to address climate change.

More on the Topic:

- It is assumed that every ton of carbon dioxide spewed from a power plant or tail pipe today is projected to contribute to $51 in economic damages in coming years.

- A carbon tax is a tax levied on the carbon emissions required to produce goods and services.

- Carbon taxes are intended to make visible the "hidden" social costs of carbon emissions, which are otherwise felt only in indirect ways like more severe weather events.

- **The government sets a price per ton on carbon,** and then translates it into a tax on electricity, natural gas or oil.

- Because the tax makes **using dirty fuels more expensive,** it encourages utilities, businesses and individuals to reduce consumption and increase energy efficiency.

- Carbon tax also **makes alternative energy more cost-competitive** with cheaper, polluting fuels like coal, natural gas and oil.

Concerns Related to implementing Carbon Tax:

- Production may **shift to countries with no or lower carbon taxes.**

- **Higher taxes may encourage firms to hide carbon emissions.**

- Further a global carbon tax may affect poor developing and least developed countries as they **may not be able to afford costlier fossil fuel as well as utilising renewable energy through technology adoption.**

Sea Floor Spreading

In News: According to a recent study Seafloor spreading rates have slowed down by roughly 35 per cent globally,

mid-oceanic ridge

plate 1 — magma — plate 2

convection current   convection current

Plate 1 and plate 2 move apart. Magma rises, cools and solidifies forming new igneous rock. This is sea-floor spreading and is a constructive plate boundary.
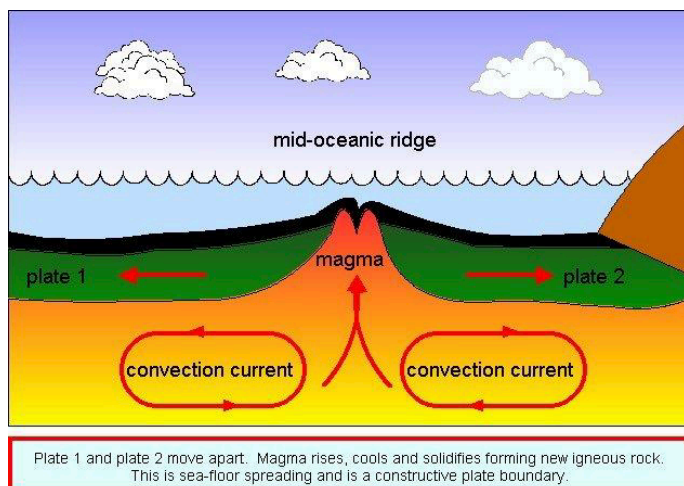
More on the Topic:

● Researchers selected 18 of the world's largest spreading ridges for this study. By studying magnetic records in the rocks on the oceanic crust, **they calculated how much oceanic crust had formed over the last 19 million years.**

● Basalt rocks on the oceanic crust contain magnetic properties. Their magnetism is influenced by the Earth's magnetic field when the magma reached the surface and began cooling to form the crust.

● Their analysis of the preserved magnetic records showed that the seafloor is spreading at rates of around **140 millimetres per year, down from around 200 millimetres per year** just 15 million years ago in some places.

● But not all ridges moved alike: Some sped up while others almost slowed down. The effects were particularly pronounced at ridges along the eastern Pacific. Some ridges in the region were roughly 100 millimetres per year slower compared to 19 million years ago, lowering the world's average.

● **Mountain building has contributed to a slowdown** in spreading at the ridges.

● **Changes in mantle convection** could also be playing a role in slowing down seafloor spread. Mantle convection transports heat from the earth's interior to the surface.

Why it is Important to Know rate of Sea Floor Spreading?

● Determining the rate of sea floor spreading is crucial because seafloor spreading influences sea level and carbon cycle.

● For example, faster rates mean more volcanic activity, which injects greenhouse gases into the atmosphere.

About Sea Floor Spreading:

● Seafloor spreading is a process that occurs at **mid-ocean ridges, where new oceanic crust is formed through volcanic activity** and then gradually moves away from the ridge.

● According to this theory, the intense heat generated by radioactive substances in the mantle (100-2900 km below the earth surface) seeks **a path to escape and gives rise to the formation of convection currents in the mantle.**

● Wherever rising limbs of these currents meet, oceanic ridges are formed on the seafloor and wherever the failing limbs meet, trenches are formed.

● Seafloor spreading helps **explain continental drift in the theory of plate tectonics.** When oceanic plates diverge, tensional stress causes fractures to occur in the lithosphere.

● **Basaltic magma rises up the fractures and cools on the ocean floor to form new seafloor.**

● Older rocks will be found farther away from the spreading zone while younger rocks will be found nearer to the spreading zone.

Genetically Engineered Mosquitoes

In News: Preliminary results of an open-air study of genetically engineered mosquitoes with an aim to suppress a wild population of virus-carrying mosquitoes in the United States have shown promising results.

More on the Topic:

● The main objective is to **reduce the population of wild Aedes aegypti mosquitoes** that is a vector for viruses such as **chikungunya, dengue, zika and yellow fever.**

● The scientists engineered a gene that will kill the female offspring.

● When released into the environment, the engineered males should mate with wild females, and their female offspring will die before they can reproduce.

● Male offsprings will carry the gene and pass it on to half of their progeny. As each generation mates, more females die, and the A. aegypti population should dwindle.

Mosquito-borne diseases:

● According to World Health Organisation (WHO), mosquito bites result in **more than one million deaths every year,** malaria being one of the major causes of death.

● **Malaria:** Caused by a parasite Plasmodium, this disease is transmitted via bites of infected Anopheles mosquitoes.

- **Dengue fever:** Dengue virus is transmitted by female mosquitoes of the species Aedes aegypti, and, to a lesser extent, by A albopictus.
- **Chikungunya:** This is a viral disease transmitted by the bite of infected infected mosquitoes such as Aedes aegypti and Aedes albopictus.
- **Zika fever:** Zika virus is also transmitted through the bite of an infected Aedes species mosquito.

See Weed Park

In News: In conjunction with the Central government, the Tamil Nadu government has decided to establish a seaweed park.
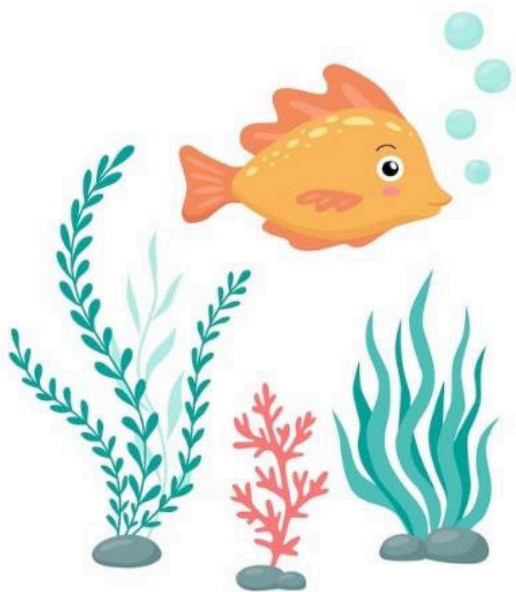
More on the Topic:

- The Fisheries Department is taking steps to encourage seaweed farming as an alternative source of income for fishermen in Tamil Nadu.
- The demand for seaweed is increasing as it is used in production of fertilizers and medicines.
- Many seaweeds contain anti-inflammatory & anti-microbial agents.
- Certain seaweeds possess powerful cancer-fighting agents.
- They are effective binding agents (emulsifiers) & are used commercial goods as toothpaste & fruit jelly, & popular softeners (emollients) in organic cosmetics & skin-care products.

What is Seaweed?

- It is the name given to the many species of marine algae and plants. These species grow in water bodies such as rivers, seas and oceans.
- The practice of cultivating and harvesting seaweed is known as Seaweed Farming. They are **macrophytic** which mean they live in water or moist land surfaces.

- They generally grow in the shallow waters in the tidal zone.
- Some seaweeds are microscopic, such as the phytoplankton that live suspended in the water column.
- The commercially exploited seaweed species in India mainly include Kappaphycus alvarezii, Gracilaria edulis, Gelidiella acerosa, Sargassum spp. and Turbinaria spp.

Importance of Sea Weed Farming:

- The Indian coastline, with its different coastal ecosystems, supports luxuriant growth of diverse seaweed populations, having considerable economic importance.
- Sea weed farming would provide occupation for the coastal people.
- Seaweed farming is eco-friendly.
- It has the potential to reduce coastal pollution in the sea & reduce CO2 in global warming.

Desert National Park

In News: Food and Agriculture Organization will implement Green Agriculture project in Desert national park in collaboration with UNEP.

More on the Topic:

- Desert National Park is a national park situated in the Indian state of Rajasthan, near the towns of Jaisalmer and Barmer.
- It is only place where Rajasthan State Bird (Great Indian Bustard), State animal (Chinkara) and State tree (Khejri) and State flower (Rohida) are found naturally.
- It also has fossil evidences dating back to the Jurassic Period indicating hot and humid climate characterized by dense forests. 180 million years old fossils of animals and plants are preserved at Wood Fossil Park at Akal near to Jaisalmer.

Mugger Crocodiles

In News: The Indian Railways has been delivering water to Pali district in western Rajasthan as the region's water bodies have dried up due to increased summer temperature. These trains now hold the key to survival not just of Pali's human residents but also Mugger crocodiles.

More on the Topic:

● Over 350 mugger crocodiles which are inhabitants of Jawai dam, are struggling to survive.

● The water in the reservoir is down to three feet. Crocodiles need at least 10 feet of water to survive.

● The crocodiles found in Jawai are muggers or marsh crocodiles which are freshwater species. They found all over south Asia like India, Pakistan, Sri Lanka, Nepal and Bangladesh as well as south-eastern Iran.

● Muggers measure six to 13 feet on average and live for 70-80 years. The species has been extirpated in many areas of its former range and now survives largely in protected areas, mainly in India and Sri Lanka.

● The mugger is found in 15 Indian states, with the largest populations in the middle Ganges (Bihar-Jharkhand) and Chambal (Madhya Pradesh, Gujarat and Rajasthan) basins.

● The main threats to mugger crocodiles are habitat loss due to expansion of agriculture and industry, getting trapped in fishing nets, poaching of their eggs and illegal trade in their skin and meat.

Baoli/Stepwell

In News: Union Minister for Culture inaugurated the Photo exhibition on the Baolis of Delhi.

More on the Topic:

● As per climatic conditions ranging from aridity to availability of water the civilizations had adopted various techniques in the usage and storage of water; baolis/stepwells feature in one such technology.

● Baoli is commonly used in Gujarat, Rajasthan and parts of North India.

● The system of stepwells/baolis collapsed due to the pressure of decentralisation and agriculture intensification.

● A typical baoli usually consists of three elements, the well in which the water is collected, the flight of steps to reach the ground water through several stories and interconnected pavilions.

● Generally, the step wells are U – shaped but there are always exceptions in architecture and L–shaped rectangular or octagonal stepwells are also not uncommon.

Diclofenac

In News: The Drugs Control Department of Tamil Nadu filed charges against 104 suppliers, distributors, manufacturers and retailers of Diclofenac in the state.

More on the Topic:

● The medicine was banned for veterinary use by the Government of India in

● 2006, since it was found to be the main cause of a dramatic decline (99 per cent) of the vulture population across Asia.

● The Government of India formally put a cap on the Diclofenac vial size in 2015, following evidence presented by the Bombay Natural History Society team that the bigger size vials were being misused for veterinary use.

● Conservationists welcomed the step and said that such steps should be taken across the country.

● Tamil Nadu's decision to enforce the vial-size restriction on Diclofenac for use on cattle is one of the rare instances of policies to protect vultures being implemented by local governments.

How Diclofenac Affects Vulture Population:

● 'Diclofenac', a non-steroidal anti-inflammatory drug (NSAID) used to treat livestock.

● Vultures feeding on the carcasses of animals recently treated with the drug suffer renal failure and die.

- Population modelling has demonstrated that even very low rates of diclofenac contamination are sufficient to account for the population crash of Vultures.
- Pharmaceutical firms are now encouraged to promote an alternative drug, 'meloxicam', which is proven to be safe for vultures and an effective treatment for livestock.

Significance of Vultures:

- Vultures provide a crucial ecosystem service through the disposal of livestock carcasses and their loss has had huge socio-economic impacts across the Indian Subcontinent.
- Without vultures, hundreds of thousands of animal carcasses have gone uneaten left to rot in the sun, these pose a serious risk to human health.
- Livestock carcasses provide a potential breeding ground for numerous infectious diseases, including anthrax, and encourage the proliferation of pest species, such as rats.
- The loss of vultures has resulted in an increase in the number of feral dogs around carcass dumps; the bites of which are the most common cause of human rabies in the region.

Nitrogen levels on a decline in 'nitrogen rich world'

In News: An imbalance in nitrogen availability has been reported across the globe, with some places having an excess and others a shortage of the element.
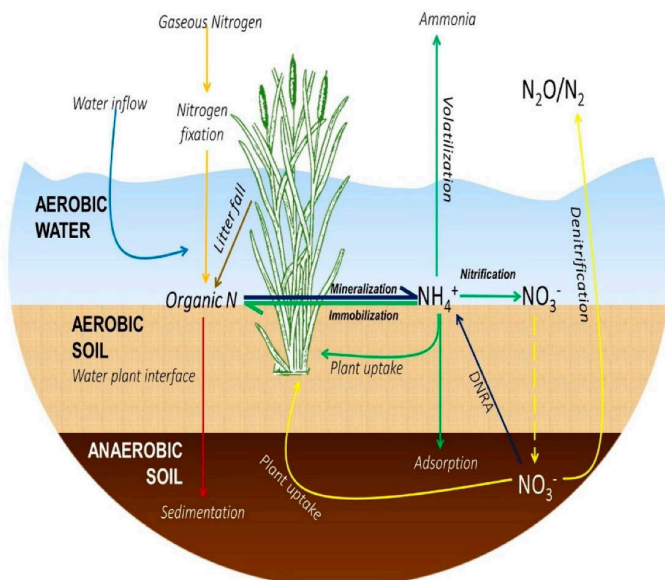
More on the Topic:

- There is both too much nitrogen and too little nitrogen on Earth at the same time.
- This has been hurting aquatic and terrestrial life that feed on it and after several years.
- Nitrogen Dificiency: Without nitrogen, an essential nutrient, plants grow slowly and produce smaller flowers and fruits. Their leaves turn yellowish and are less

nutritious to insects, birds and animals.

- Plants grow quickly when exposed to high carbon dioxide (CO_2) concentrations. Thus, their demand for nitrogen also goes up.
- High CO_2 levels dilute plant nitrogen, triggering a cascade of effects that lower the availability of nitrogen. Other factors contributing to nitrogen decline include warming and disturbances, including wildfire.
- Plants with low nitrogen levels can encourage swarming in some species of locusts.
- Low nitrogen availability could limit plants' ability to capture CO_2 from the atmosphere.
- Nitrogen Excess: Sprinkling nitrogen fertilisers in regions facing a shortage of nitrogen supply may not be the answer.
- Human production of nitrogen is now five times higher than it was 60 years, according to a 2017 study.
- When excessive nitrogen accumulates in the streams, inland lakes and coastal bodies of water, it could sometimes result in eutrophication, leading to harmful algal blooms, dead zones and fish kills.
- In humans, high levels of nitrogen in the groundwater are linked to intestinal cancers and miscarriages and can be fatal for infants.

Nitrogen Cycle:

- Nitrogen is a chief constituent of the bodies of living organisms as the Nitrogen atoms are found in all proteins and DNA
- It is a common limiting nutrient in nature and agriculture. It exists in the atmosphere as N2. Usually, nitrogen is usable only after it is fixed.
- The nitrogen cycle is the biogeochemical cycle.
- The major source of free nitrogen is the action of soil micro-organisms and associated plant roots on atmospheric nitrogen found in pore spaces of the soil.
- Fixation is the primary step in the process of converting nitrogen, usable by plants. Normally, bacteria change nitrogen into ammonium.
- Nitrification is the process by which ammonium converted into nitrates by bacteria. The plants absorb these Nitrates.
- Through assimilation plants get nitrogen. Nitrogen gets used in chlorophyll, nucleic acids, and amino acids.
- Ammonification is a part of the decaying process. When a plant or animal expires, decomposers such that bacteria and fungi turn the nitrogen back into ammonium so it can go back into the nitrogen cycle.
- Through De-nitrification surplus nitrogen in the soil gets put back out into the air.
- There are special bacteria that execute this job as well.

Acute Encephalitis Syndrome: Bihar on Alert

In News: As cases of acute encephalitis syndrome (AES) are increasing in Bihar, medical services of the state have been put on alert.

Acute Encephalitis Syndrome
An inflammation of the brain caused by several different viruses, bacteria, fungus etc.
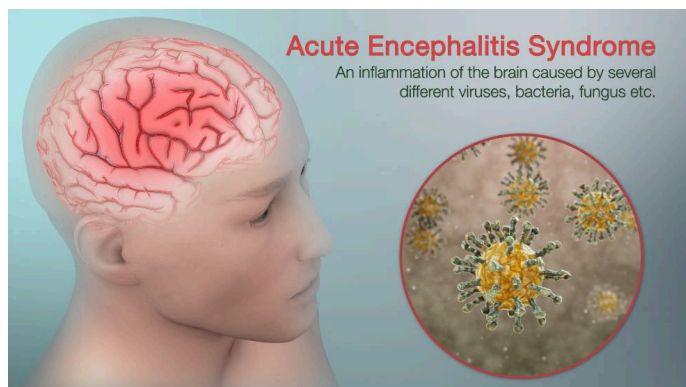
More on the Topic:

- Encephalitis, also known as acute viral encephalitis or aseptic encephalitis. It is an **inflammatory condition of the brain which results in irritation and swelling of the brain.**

- In June 2019 an outbreak of encephalitis was reported in Muzaffarpur district in Bihar and the death toll was 150, caused due to hypoglycemia.

- This fever was locally known as chamki fever in Bihar and is also termed as Litchi Havoc, killer encephalitis, Chamki Bhukar and Deadly Litchi Toxin.

- In most cases, severe hypoglycemia (low blood sugar) is the cause of mortality.

- Hypoglycaemia is not a symptom but a sign of AES. The combination of AES with hypoglycaemia is unique to Muzaffarpur (Bihar), Vietnam and Bangladesh.

- In Bihar hypoglycaemia is caused by malnourishment and lack of proper diet.

Self amplifying mRNA vaccine

In News: A self-amplifying mRNA vaccine which was developed recently has shown promising results during an ongoing clinical trial in Vietnam.

More on the Topic:

- As per the developers the vaccine known as ARCT-154 offered 95 percent protection against severe Covid-19 and death, and 55 percent against COVID-19 infection.

- A self-amplifying mRNA vaccine delivers RNA multiplies inside the body.

- mRNA vaccines developed by Pfizer/BioNTech and Moderna use messenger RNA that encodes the spike protein of the coronavirus.

- This means that the **mRNA directs the cell to produce copies of the spike protein** so that the immune system will recognise the spike if and when actual infection takes place, and mount a response.

- On the other hand, the self-amplifying mRNA vaccine encodes **four extra proteins in addition to the vaccine antigen.** This enables amplification of the original strand of RNA once inside the cell.

- The basic advantage of new vaccine is that it requires a **smaller dose.**

- The new vaccine can be **easily stored, and it has lower cost** because its 'self-amplifying' design allows for smaller doses.

State Energy and Climate Index

In News: NITI Aayog has launched the State Energy and Climate Index (SECI).

Report Card

NITI Aayog ranked all states, UTs on six parameters

Index aimed at improving policy interventions

Will enable states to compete & improve performance

This will push India's overall ranking at the global level

National average stands at 40.6 on a scale of 100

TOP PERFORMERS AMONG LARGER STATES

Gujarat	50.1
Kerala	49.1
Punjab	48.6

TOP PERFORMERS AMONG SMALLER STATES

Goa	51.4
Tripura	45
Manipur	36

TOP PERFORMERS AMONG UTs

Chandigarh	55.7
Delhi	55.6
D&D & D&N	53.2

More on the Topic:

- The states and UTs are categorized into three groups: Front Runners, Achievers, and Aspirants.

- The report aims to rank States and Union Territories on six parameters.

- These are **Discoms' Performance, Access, Affordability and Reliability of Energy, Clean Energy Initiatives, Energy Efficiency, Environmental Sustainability and new initiatives.**

- Gujarat, Kerala and Punjab have been adjudged as top three performer states in the NITI Aayog's State Energy and Climate Index.

Micro Plastics in Cauvery River

In News: A new study by researchers at the Bengaluru-based Indian Institute of Science (IISc) has found microplastics in fish, causing growth defects, including skeletal deformities, in River Cauvery in south India.

'NOT ALARMING FOR HUMANS YET'

- ➤ IISc team conducts research on pollution in Krishna Raja Sagara reservoir after noticing physical deformities in fish
- ➤ Findings may not be alarming yet for humans, but long-term effects can't be ruled out
- ➤ Microplastics present in KRS reservoir may be causing growth defects in fish, including skeletal deformities, the study says
- ➤ Unstable molecules called reactive oxygen species present in cells of fish that developed abnormally

More on the Topic:

- The team analysed the physical and chemical parameters of the water samples.

- Dissolved oxygen was deficient in samples collected from the slow-flowing and static sites.

- Water from these sites also had microbes such as Cyclops, Daphnia, Spirogyra, Spirochaeta, and E coli, well-known bio-indicators of water contamination.

- Through Raman spectroscopy technique Micro plastics were detected in the Cauvery river water. There were minute pieces of plastic often invisible to the naked eye and some toxic chemicals.

Significance:

- The findings assume importance in the context of a recent study from the Netherlands, which has shown that **microplastics can enter the bloodstream of humans.**

- The durable properties of plastics hold the potential for both **bioaccumulation and biomagnification.**

- They carry toxic chemical compounds which are carcinogenic in nature.

About Micro Plastic:

- Microplastics are defined as synthetic solid particles sized ranging from **1 micrometre to 5 millimetre (mm), which are insoluble in water.**

- Microplastics pass the filtration and treatment processes for waste water due to small size and end up in sites of nature endangering food chain.

Coastal Erosion

In News: The Ministry of Earth Sciences informed the Lok Sabha earlier that of the 6,907.18 km long Indian coastline of the mainland, about 34% is under varying degrees of erosion.
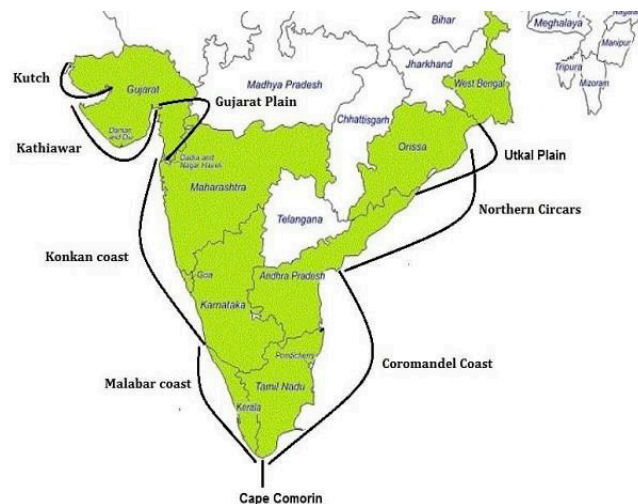
More on the Topic:

- In terms of percentage, West Bengal, located on the eastern coast of the country, suffered erosion along about 60.5% of the coast over the period from 1990 to 2018. This is followed by Kerala on the west coast 46.4% of it faced erosion.

Reasons for erosion:

- Climate change-driven rise in sea level and increased intensity of ocean storms are among the most significant reasons for coastal erosion.

- Human activity closer to the shoreline, such as construction, dredging, quarrying and sand mining, is exacerbating the menace.

- In its natural state, saline winds, cyclones, sea waves and tides leads to coastal erosion.

Mitigation Measures:

- **Hard-erosion control methods:** Seawalls and groynes serve as semi-permanent infrastructure.

- **Soft erosion strategies** refer to **temporary options of slowing the effects of erosion.** These options, including Sandbag and beach nourishment, are not intended to be long term solutions or permanent solutions.

- Relocation of infrastructure or housing farther away from the coast is also called a **managed retreat.**

- **Improving vegetation along the coastline,** which is important for improving slope stability and providing shoreline protection.

The Inter Governmental Panel on Climate Change (IPCC)

In News: The United Nations' climate science body, the Intergovernmental Panel on Climate Change (IPCC) published the third part of its Sixth Assessment Report (AR6).
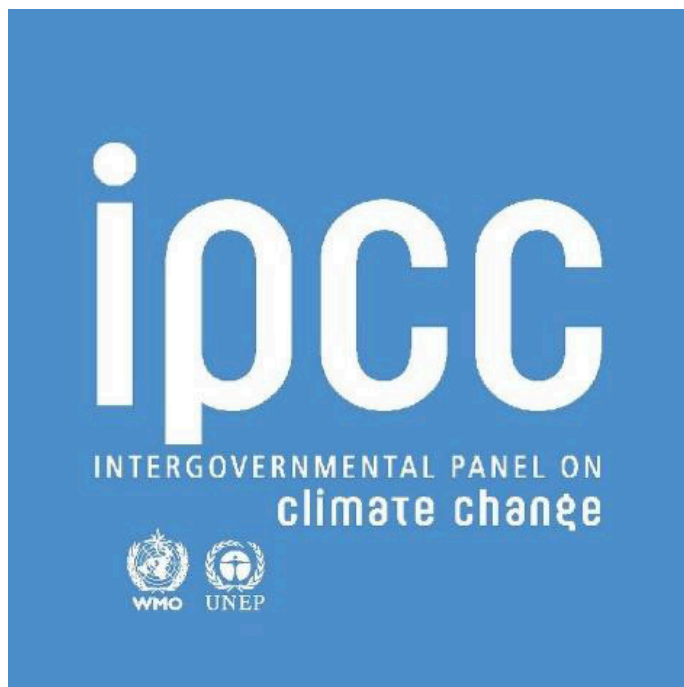
More on the Topic:

- The first part of this report, on the physical science of climate change was published in 2021. It had warned that 1.5-degree Celsius warming was likely to be achieved before 2040 itself.

Key Findings:

Greenhouse gas (GHG) emissions were 54 per cent higher in 2019 than they were in 1990, but growth is slowing.

- In 2019, global net anthropogenic GHG emissions were at 59 gigatonnes of carbon dioxide equivalent (Gt-CO2e), 54 per cent higher than in 1990.

- **Net emissions refer to emissions accounted for after deducting emissions soaked up by the world's forests and oceans.**

- Anthropogenic emissions refer to emissions that originate from human-driven activities like the burning of coal for energy or cutting of forests.

- This emissions growth has been driven mainly by CO2 emissions from the burning of fossil fuels and the industrial sector, as well as methane emissions.

Least developed countries emitted only 3.3 per cent of global emissions in 2019. This indicates Carbon inequality.

- Globally, 41 per cent of the world's population lived in countries emitting less than 3 tCO2e per capita in 2019.

Pledges to the Paris Agreement are insufficient, emissions must fall 43 per cent by 2030 compared to 2019:

- The CO2 emissions from existing and planned fossil fuel infrastructure — coal, oil, and gas — contribute greatly to this projected failure.

- In its best-case scenario, known as the **C1 pathway,** the IPCC outlines what the world needs to do to limit temperatures to 1.5°C, with limited or no **'overshoot'.**

- Overshoot refers to global temperatures crossing the 1.5°C threshold temporarily, but then being brought back down using technologies that suck CO2 out of the atmosphere.

Abundant and affordable solutions exist across sectors including energy, buildings, and transport, as well as individual behavioural changes.

- The costs of low emissions technologies have fallen continuously since 2010.

- The long-term benefits of limiting warming far outweigh the costs.

Financial flows fall short of the levels needed to achieve the ambitious mitigation goals:

- However, the gaps are the widest for the agriculture, forestry, and other land uses (AFOLU) sector and for developing countries.

- But the global financial system is large enough and "sufficient global capital and liquidity" exist to close these gaps, according to the IPCC.

About IPCC:

- The IPCC is the United Nations body **for assessing the science related to climate change.** The IPCC was set up in 1988 by the World Meteorological Organisation (WMO) and the UN Environment Programme (UNEP).

- Its main activity is **to prepare Assessment Reports, special reports, and methodology reports assessing the state of knowledge of climate change.**

- However, the IPCC does not itself engage in scientific research. Instead, it asks scientists from around the world to go through all the relevant scientific literature related to climate change and draw up the logical conclusions.

Indian Tent Turtle

In News: The Zoological Survey of India has not conducted any survey in the Narmada river to gauge the impact of illegal mining on the Indian tent turtle and its effect on the river ecosystem.

More on the Topic:

- Earlier a study by scientists of ZSI concluded that due to illegal sand mining and smuggling in the Narmada river, the Indian Tent Turtles are on the verge of extinction.

- However, government denied that it was an official study by ZSI.

- Indian Tent Turtle is native to India, Nepal and Bangladesh.

- India Tent Turtle habitats include still water pools on river side and slow running water near the river banks.

- Due to the attractive appearance of the Indian Tent Turtle species, they are illegally traded in the pet market.

Conservation Status:

- Indian Tent Turtle is listed under **Schedule I of the Wildlife Protection Act (WPI) 1972.**

- IUCN Status is **Lower Risk/ least concern.**

- Indian Tent Turtle is listed under Schedule II of the CITES.

Steel Slag Road

In News: Surat has become the first city in the country to get a processed steel slag (industrial waste) road.
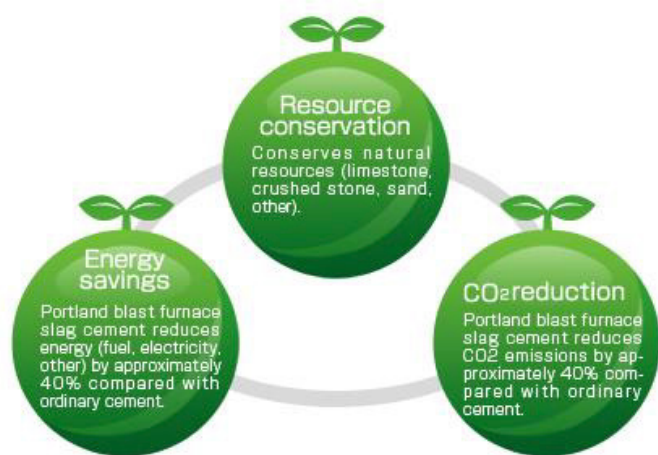
Estimated, assuming a blast furnace slag content 45% in Portland blast furnace slag cement

More on the Topic:

- This project falls under the initiative of the Waste to Wealth and Clean India Campaign.

- The slag is generated from a steel furnace burning at around 1,500-1,600 degree centigrade in the form of **molten flux material as an impurity.** The molten material is poured into the slag pits for cooling as per the customized procedure and further processed to develop stable steel slag aggregates.

- The construction cost of the processed steel slag road is 30 per cent cheaper than roads built from natural aggregates.

Other Uses of Steel Slag:

- Steel slag can be used as **aggregates in concrete to replace natural aggregates,** because it has favorable mechanical properties, and high resistance to abrasion and impact.

- It is used to **treat acidic water.**

- In Agricultural sector, due to its **ability to correct soil acidity,** it is used as silicate fertilizer that is capable of providing silicon to the plants.

Jute Crop

In News: The Centre has further reduced raw jute stock limit for balers and traders in a bid to increase supply of the raw material to mills.

More on the Topic:

- The Centre has put a ceiling on the stock limit with an objective to **prevent hoarding of raw jute in the market** and ease supply of the commodity to mills at a reasonable price,

- Major food grain producing states are facing shortage for the environment-friendly packaging material.

Jute Crop:

- Ideal Temperature required: **Between 25-35°C.**

- Rainfall: Around 150-250 cm.

- Soil Type: **Well-drained alluvial soil.**

- Top Jute Producing States: West Bengal > Bihar > Assam > Andhra Pradesh > Odisha.

- The world's largest jute producing countries are India, Bangladesh, China and Thailand.

- India is the world's largest producer of raw jute and jute goods, contributing to over 50% and 40% respectively of global production.

Vaquita porpoise

In News: Vaquita Porpoise saw a 98% decline in population in 2 decades.

More on the Topic:

- According to United States Commission for Environmental Cooperation (CEC) Vaquita porpoise, found in the Gulf of California in Mexico, is nearing extinction and immediate measures are needed to save the remaining population.

- The vaquita porpoise is **the world's smallest cetacean and the most endangered marine mammal.**

- It has the smallest range of any whale, dolphin or porpoise, and only lives in a small 1,500 square-mile area in Mexico's upper Gulf of California, near the town of San Felipe.

- It has a rounded head and black patches around its mouth and eyes. It only measures up to five feet in size. It has been listed under the International Union for Conservation of Nature Red List as 'critically endangered'.

- **Threat:** The vaquita population has been declining precipitously for decades due to **bycatch in gillnets set to catch shrimp and fish, including totoaba** — a large, endangered fish that is threatened by illegal fishing for international markets.

White spot syndrome virus (WSSV)

In News: A novel diagnostic tool for detecting white spot syndrome virus (WSSV) has recently been granted a patent.
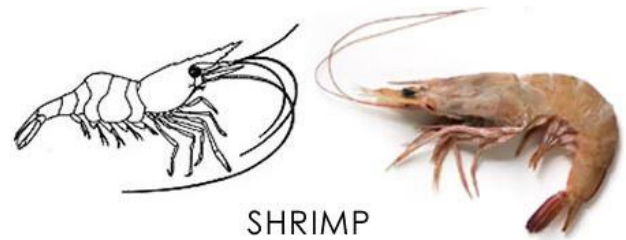
More on the Topic:

- It is one of the pathogens that cause most damage to the shrimp farming sector.

- The peptide-based diagnostic tool has been developed by scientists of Agharkar Research Institute (ARI), an autonomous institute of India's Department of Science and Technology (DST).

- WSSV infections in vannamei shrimp results in huge losses of shrimp around the world each year. Technologies for early and rapid detection of pathogens in the field should help to prevent losses.

Polar Science and Cryosphere Research (PACER) scheme

In News: The Polar Science and Cryosphere (PACER) scheme has been approved for continuation.
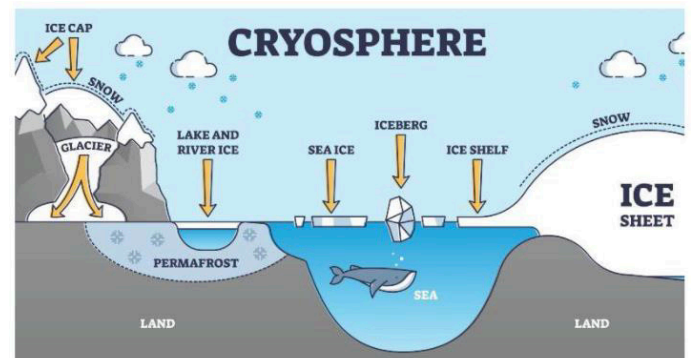
More on the Topic:

- The PACER scheme is implemented through National Centre for Polar and Ocean Research (NCPOR), an autonomous institute under the Ministry of Earth Sciences.

- Objective of the scheme is to improve our understanding of Polar Science and the cryosphere system.

- PACER encompasses the following six components.

- Construction of a polar research vessel.

- Construction of the third research base in Antarctica.

- Indian scientific endeavours in the Arctic.

- Polar expeditions-Antarctica.

- Replacement of Maitri station.

- Southern Ocean.

Achievements of the scheme:

- Under this scheme, the Ministry of Earth Sciences has deployed India's first multi-sensor moored sub-surface observatory (IndARC) in the Arctic.

- It also established a **high altitude research station in Himalaya called HIMANSH** at a remote region in Spiti, Himachal Pradesh.

- **Differential Global Positioning System (DGPS) and Ground Penetrating Radar (GPR)** surveys were conducted.

- **Two new Automatic Weather Station (AWS) systems were installed at Baralacha La,** a high elevation site in the arid Spiti region to strengthen infrastructure across the Chandra basin.

About Cryosphere:

- The areas of snow or ice, which are subject to **temperatures below 32°F for at least part of the year, compose the cryosphere.**

- **Ice and snow on land are one part of the cryosphere.** This includes the largest parts of the cryosphere, the continental ice sheets found in Greenland and Antarctica, as well as ice caps, glaciers, and areas of snow and permafrost. When continental ice flows out from land and to the sea surface, we get shelf ice.

- **The other part of the cryosphere is ice that is found in water.** This includes frozen parts of the ocean, such as waters surrounding Antarctica and the Arctic. It also includes frozen rivers and lakes, which mainly occur in polar areas.

- **The components of the cryosphere play an important role in the Earth's climate.** Snow and ice reflect heat from the sun, helping to regulate our planet's temperature.

- Because polar regions are some of the most sensitive to climate shifts, **the cryosphere may be one of the first places where scientists are able to identify global changes in climate.**

Earth Hour

In News: Every year, on the last Saturday in March, Earth Hour is observed.

More on the Topic:

- On earth hour For one hour, everyone who took part turned off the lights in their homes and offices.

- The idea is to refrain from the use of non-essential lighting to save energy in a symbolic call for environmental protection.

- **The World Wide Fund for Nature** in Sydney was the first to establish it. It quickly grew into a global movement, with millions of people turning off lights every year to commemorate Earth Hour.

- **The topic for Earth Hour 2022 will be "Shape Our Future."** This is a pivotal year for everyone and our world. It is up to us to #ShapeOurFuture by raising awareness about the serious issues impacting our world today.

About World Wildlife Fund for Nature:

- It was established in 1961 and is headquartered at Gland, Switzerland.

- It is the world's leading conservation organization and works in more than 100 countries.

- It aims to conserve nature and reduce the most pressing threats to the diversity of life on Earth.

- **Living Planet Report** is published by WWF

C40 Cities Network

In News: Maharashtra has launched the Mumbai Climate Action Plan (MCAP) in partnership with the C40 Cities Network.

C40 CITIES

Olive Ridley Turtles

In News: About 2.45 lakh Olive Ridley sea turtles crawled ashore at the Gahirmatha Marine Sanctuary along the Odisha coast for laying eggs.

More on the Topic:

- They are the smallest and most abundant sea turtles found in the world.

- These carnivorous turtles.

- They are well-known for their unique mass nesting known as Arribada, in which thousands of females gather on the same beach to lay eggs.

- They can be found in the Pacific, Atlantic, and Indian oceans.

Protection Status:

- Wildlife Protection Act,1972: Schedule 1 of the Wildlife Protection Act,1972

- IUCN Red List: Vulnerable

- CITES: Appendix I

Threats Faced by Olive Ridley Turtle:

- Olive-ridleys face serious threats across their migratory route, habitat and nesting beaches, due to human activities such as turtle unfriendly fishing practices, development and exploitation of nesting beaches for ports, and tourist centres.

- They are still **extensively poached for their meat, shell and leather, and their eggs,** though illegal to harvest, have a significantly large market around the coastal regions.

- However, the most severe threat they face is the **accidental killing of adult turtles through entanglement in trawl nets and gill nets** due to uncontrolled fishing during their mating season around nesting beaches.

- A growing waste of plastics, fishing nets, discarded nets, polythene, and other garbage thrown by tourists and fishermen leads to entanglement.

More on the Topic:

- Found in 2005, the C40 Cities Climate Leadership Group is an association of 97 cities from around the world C40.

- It has 96 members at present, representing over 70 crore people, and one-quarter of the global economy.

- **It connects the world's largest cities to deliver urgent and essential climate action** needed to secure a sustainable future for urban citizens worldwide.

- The group is committed to delivering on climate targets set under the 2016 Paris Agreement, and sets the bar for cities to develop and implement local level plans that comply with those targets.

- Membership to the group comes from **performance-based requirements,** not membership fees.

- Five Indian cities are currently a part of the C40 network. These are Delhi, Kolkata, Chennai, Bengaluru, and Mumbai.

Ketti Valley

In News: The Ketti stream, which flows through the Ketti valley, is getting choked with plastic waste and glass bottles being thrown into it.

Olive Ridley Conservation Efforts:

- To reduce accidental killing in India, the Orissa government has made it mandatory for **trawls to use Turtle Excluder Devices (TEDs)**, a net specially designed with an exit cover which allows the turtles to escape while retaining the catch.

- Every year, from November to December, the Indian Coast Guard's **"Operation Olivia,"** which began in the early 1980s, assists in the protection of Olive Ridley turtles as they cluster along the Odisha coast for breeding and nesting.

- It also detects unlawful trawling activity.

- Operation Save Kurma initiated by Wild Life Control Bureau support turtle conservation.

Sea Grasses

In News: Based on field surveys and satellite data, the National Centre for Sustainable Coastal Management has estimated the total extent of seagrass ecosystem in India.
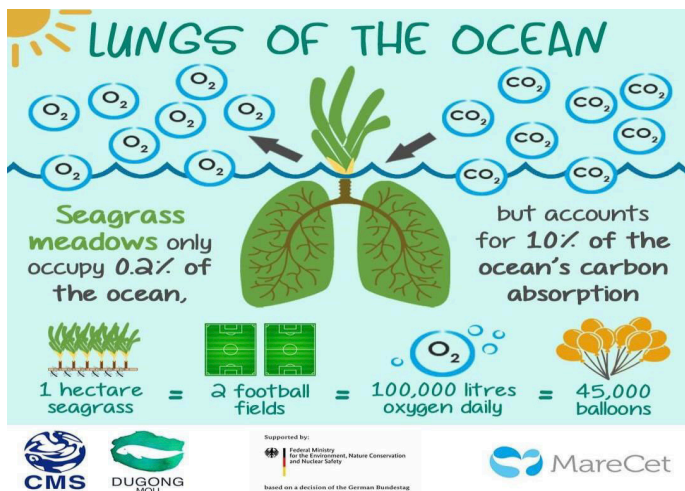
More on the Topic:

- Seagrasses have been studied for over two decades with the financial support of the Ministry of Environment, Forest and Climate Change and the State/UT Governments.

- Academic and research institutions have been actively involved in seagrass research pertaining to seagrass mapping, species diversity and its transplantation.

About Sea Grass:

- Seagrasses are **flowering plants** which are found in our sea beds and ocean floors.

- The major seagrass beds exist along our coastline of Gulf of Mannar and Palk Bay regions on the east coast, Gulf of Kachchh region on the west coast, the lagoons of islands in Lakshadweep in the Arabian Sea and Andaman and Nicobar Islands in the Bay of Bengal.

- Seagrass ecosystems are recognized globally for their **ability to sequester carbon, nurture fish communities and support marine mammals such as sea cows or dugongs.**

Threats:

- Seagrass beds are facing decline all over the world at the rate of **2-5% annually.**

- They face natural disturbances like **grazing, storms, ice-scouring and desiccation.**

- Human disturbances like **eutrophication, mechanical destruction of habitat, overfishing and release of nutrients play havoc on seagrasses.**

- Siltation, trawling, coastal engineering construction, pollution, etc, are considered to be significant causes for the deterioration of seagrasses.

Vedanthangal Bird Sanctuary

In News: The Environment Ministry's Expert Appraisal Committee has recommended grant of environment clearance to a private firm near Vendanthangal Bird Sanctuary.

More on the Topic:

- The Vedanthangal Bird Sanctuary is one of the oldest in India.

- It is located at Tamil Nadu.

- It is home to migratory birds such as pintail, garganey, grey wagtail, blue-winged teal, common sandpiper etc.

- Realising its ornithological importance, the British government undertook steps to develop Vedanthangal into a bird sanctuary as early as 1798.

- It was upgraded to a wildlife sanctuary in 1972 by the Wildlife Protection Act. Till date the local community holds low key functions and marriages during the breeding season of the birds marking their exemplary link with the ecosystem

Sariska Tiger Reserve

In News: A forest fire that began in the Sariska Tiger Reserve (STR) has gone out of control and has endangered the lives of tigers in the reserved forest.
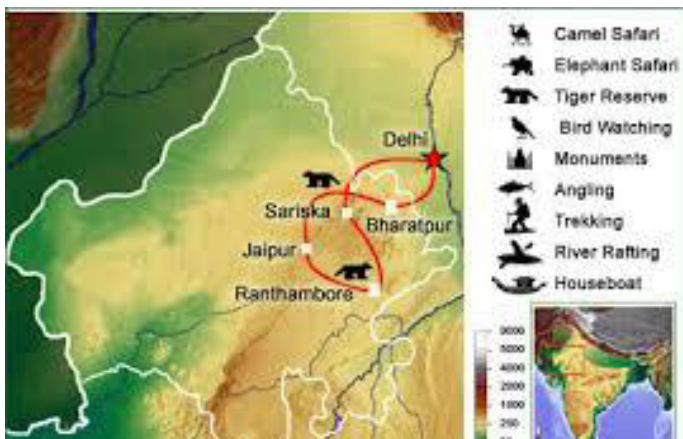
More on the Topic:

- The United Nations Environment Programme (UNEP) warned in its **annual Frontiers report** released in early 2022 that wildfires have become more dangerous and now affect larger areas.

- A total of 381 forest fires have been reported in India by March 30, 2022, according to the Forest Survey of India. Madhya Pradesh has recorded the highest number of fires at 133.

About Sariska Tiger Reserve:

- Sariska Tiger Reserve is located in **Aravali hills and forms a part of the Alwar District of Rajasthan.**

- The Reserve is immensely rich in flora and fauna, and is famous for Royal Bengal Tiger.

- Sariska was declared a wildlife sanctuary in 1955 and was declared the tiger reserve later in 1978, making it a part of India's Project Tiger.

- Sariska is the first tiger reserve to have successfully relocated Royal Bengal tigers in India and at present there are around 20 tigers in the reserve.

Kaziranga Rhino Population

In News: According to the latest census of the UNESCO World Heritage Site's flagship animal - greater one-horned or Indian rhinoceros , rhino population has increased in the Kaziranga National Park and Tiger Reserve.

More on the Topic:

- In the Kaziranga National Park and Tiger Reserve recorded an increased population of the animal by 200

in 4 years. There are total 2,613 Rhinos at present

- A similar census was conducted in two more of Assam's rhino habitats earlier.

- Orang National Park recorded an increase of 24 rhinos over the figure of 101 in 2018.

- Pobitora Wildlife Sanctuary recorded five more rhinos than in 2018.

About Kaziranga National Park and Tiger Reserve:

- Kaziranga National Park and Tiger Reserve is a protected area in the northeast Indian state of Assam.

- It is the oldest park in Assam that covers the floodplains of the river Brahmaputra on the North and the Karbi Anglong hills on the South.

- Its forests, wetlands and grasslands are home to Indian one-horned rhinoceroses, tigers and elephants.

- The forest region of Kaziranga Park is home to world's largest population of Indian Rhinoceros.

Atree rajathae Wasp

In News: A new genus of Braconid wasp has been named 'Atree', after the Ashoka Trust for Research in Ecology and the Environment (ATREE), a leading research institution and environmental think tank.

More on the Topic:

- It is a parasitoid wasp.

- Parasitoids are the most important natural enemies of other insects, and humans exploit this behaviour for the biological control of crop pests.

Prakriti Mascot

In News: Union Environment Ministry has launched "Prakriti", a mascot that spreads greater awareness about small alterations in life that can curb plastic pollution.

More on the Topic:

- India is on its way to imposing a blanket ban on single-use plastic. Items such as earbuds, glasses, plastic flags, cutlery, glasses, etc are to be banned from July 2022.

- SUP is plastic produced and designed to be thrown away after being used only once. By that definition, a large number of products fall in the category. These include everything from a disposable straw to a disposable syringe.

- About 60% of plastic waste in India is collected; that means the remaining 40% or 10,376 tons remain uncollected.

What is the impact?

- Low utility but high littering potential.

- Large and growing volume adds enormously to the total plastic waste.

- Adverse impacts on both terrestrial and aquatic ecosystems.

Major Sources of Single use plastic:

- According to a report by the Centre for Science and Environment, Plastic packaging (flexible and rigid) contributes to almost 60 per cent of the total plastic waste generated.

- Plastic packaging waste, inscrutably, is not listed for being phased out. It was proposed to be collected and managed in an environmentally sustainable way through the extended producer responsibility (EPR) of the producer, importer and brand owner (PIBO), according to the Plastic Waste Management Rules, 2016.

Important Provisions of Plastic Waste Management Amendment Rules, 2021:

- Plastic Waste Management Amendment Rules, 2021, prohibiting identified single use plastic (SUP) items by 2022.

- Thickness of plastic carry bags to be increased from 50 microns –to 75 microns from 30th September, 2021 and to 120 microns from the 31st December, 2022. This is to stop littering due to lightweight plastic carry bags, and allow their reuse.

- Guidelines for Extended Producer Responsibility/ EPR (as per Plastic Waste Management Rules, 2016) has been given legal force through the 2021 Rules, for effective implementation.

India's Health Statistics

In News: According to health and family welfare minister, India's doctor-population ratio is 1:834, assuming 80 per cent availability of registered allopathic doctors and 565,000 Ayurvedic, Unani, Siddha and homeopathic doctors.

HEALTH REPORT

ESTIMATED ANNUAL DEATH IN INDIA DUE TO NON COMUNICABLE DISEASES

- 2% DIABETES
- 26% CARDIOVASCULAR DISEASES
- 13% RESPIRATORY DISEASES
- 7% CANCER
- 28% COMMUNICABLE, MATERNAL, PERINATAL & NUTRITIONAL
- 12% INJURIES
- 12% OTHER NCDS
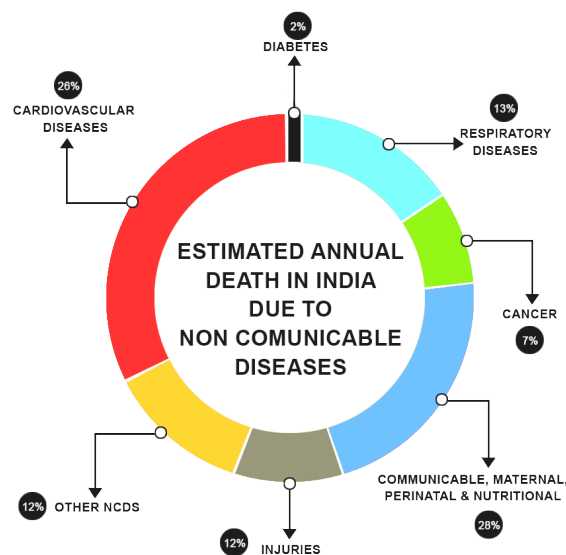
More on the Topic:

- Human Resource: This includes 2,340,501 registered nurses and midwives and 1,000,805 nurse associates. The nurse-population ratio in the country at present is 1.96 nurses per 1,000 populations.

- The Department of Health and Family Welfare has been making consistent efforts to increase public health spending.

- The budget allocation for the Department has increased by 50.5 per cent to Rs 71,269 crore in 2021-22, from Rs 47,353 crore in 2017-18.

- Healthcare Infrastructure: At present, India's health care system consists of a mix of public and private sector providers of health services.

- Networks of health care facilities at the primary, secondary and tertiary level, run mainly by State Governments, provide free or very low cost medical services. There is also an extensive private health care sector, covering the entire spectrum from individual doctors and their clinics, to general hospitals and super speciality hospitals.

- Budget Spending: The public expenditure on health sector remains a dismal show of only around 1.4% of the GDP.

- The investment in health research has been low with a modest rate of 1% of the total public health expenditure.

- There has been a stark rise in the out-of-pocket expenditure (6.9% in rural areas and 5.5% in urban areas – OOP in proportion to monthly expenditure).

- This led to an increasing number of households facing catastrophic expenditures due to health costs.

- Disease Burden: While communicable diseases contribute 28% of the entire disease burden, non-communicable diseases (60%) show ample rise and injuries at (12%) now constitute the bulk of the country's disease burden.

About National Health Policy 2017:

- The main objectives of the National Health Policy 2017 are as following: To achieve **Universal Health Coverage** by assuring the availability of free, comprehensive primary health care services, ensuring improved access and affordability, of quality secondary and tertiary care, achieving a significant reduction in out of pocket expenditure due to health care costs.

- **To make a predictable, efficient, patient-centric, affordable and effective health care**

- Bringing in **healthy and vital private sector contribution.**

- Establishing **a strong regulatory framework** to include regulation of clinical establishments, professional and technical education, food safety, medical technologies, medical products, clinical trials, research and implementation of other health-related laws.

International Relations

Raisina Dialougue

In News: Prime Minister Narendra Modi will inaugurate the seventh edition of the Raisina Dialogue.

More on the Topic:

- The Raisina Dialogue 2022, theme is "Terranova- Impassioned, Impatient, Imperilled", will be modelled along **six thematic pillars**

- **Rethinking Democracy:** trade, technology and ideology;

- **End of Multilateralism:** a networked global order;

- **Water Caucuses:** turbulent tides in the Indo-Pacific;

- **Communities Inc:** first responders to health, development, and planet;

- **Achieving Green Transitions:** common imperative, diverging realities;

- **The persistent and relentless technology wars.**

About Raisina Dialogue:

- The Raisina Dialogue is **India's premier foreign policy conference.**

- It is organized along the lines of the **Shangri-La Dialogue held in Singapore, and co-hosted by the ministry of external affairs (MEA) and the** Observer Research Foundation.

- The Dialogue, since its inception, has attracted academics, scholars, researchers, students, journalists and even politicians who are either interested or are working in the field of international relations, geopolitics, security, nuclear issues and Indian foreign policy.

Colombo Security Conclave

In News: The fifth National Security Advisor (NSA)s' meet of the Colombo Security Conclave (CSC) was organized in the Maldives.

Line of Actual Control

In News: China continues to expand its unmanned aerial vehicles (UAV) network and usage in areas close to the Line of Actual Control (LAC).

Source: defence.gov.au and financial times

More on the Topic:

- As the standoff continues, satellite imagery showed the deployment of the UAVs and fighter jets by the Chinese Air Force at around 200 km from the Pangong Lake.

- China is promoting the use of an indigenously built **Tiantong satellite communication** system to reduce its dependence on foreign origin sat phone communications.

- To counter it, the Army and the Air Force too are ramping up their own UAV fleets and upgrading the existing ones in inventory.

About LAC:

- **LAC stands for the Line of Actual Control. It is the frontier between India and China.** In a bilateral agreement in 1993, the idea of an 'Line of Actual Control' (LAC) came into being, although there was no clear settlement of land positions between these two countries.

- The LAC divides territories under Indian rule from territories under Chinese control. It is a large empty area and the armies of India and China maintain a gap of nearly 50 to 100 km.

- The Chinese government believes that the LAC is about 2,000 km, while India believes that the LAC is 3,488 km long.

- **LAC is divided into three regions:** Ladakh's western sector, Uttarakhand's middle sector, and Himachal Pradesh, and Arunachal Pradesh and Sikkim's eastern sector.

- Regarding LAC -the two nations do not agree on it, nor is it delineated on a map or demarcated on the land.

- Relations between India and China have come under "severe stress" time and again in the last decade due to multiple border stand-offs along the Line of Actual Control.

- **China claims about 90,000 sq km of India's territory in the northeast, including Arunachal,** while India says 38,000 sq km of land in China-occupied Aksai Chin should be a part of Ladakh.

- There are several disputed areas along the Line of Actual Control (LAC), including in **Himachal, Uttarakhand** and Sikkim.

More on the Topic:

- Participants discussed strategies to deal with foreign fighters and countering the misuse of internet and social media.

- Participants agreed to **identify specific areas to take forward the cooperation on countering terrorism and radicalisation** under the Colombo Security Conclave.

- The Colombo Security Conclave is **a joint group of India, Sri Lanka, Maldives and Mauritius,** with four pillars of security cooperation, covering marine safety and security, human trafficking, counter-terrorism, and cyber security.

- 'CSC Focused Operation' was aimed at **keeping the vital part of the Indian Ocean safe and secure** for commercial shipping, international trade and conduct of legitimate maritime activities.

About Maritime Security:

- Maritime security doesn't have a commonly agreed definition.

- It classifies issues in the maritime domain comprising **national security, marine environment, economic development, and human security.**

- Besides world's oceans, it also deals with regional seas, territorial waters, rivers and ports.

Significance of Maritime Security:

- Maritime security is of utmost significance to the world community as there are maritime concerns ranging from piracy at sea to illegal immigration and weapon smuggling.

- It also deals with threats of terrorist attacks and environmental catastrophes.

- The recent incident involving a suspected drone attack on an Israeli-controlled tanker in the north Arabian Sea off Oman, killing two crew members, is a case in point.

- For India, maritime security is an important aspect of national security as it has a coastline of over 7,000 km.

- With advancement in technology, physical threats in the maritime region have now been overshadowed by technological threats.

- India's exports and imports have remained mostly across the shipping lanes of the Indian Ocean.

- Therefore, **securing Sea Lanes of Communication (SLOCs)** have been an important issue for India in the 21st century.

WHO Global Centre for Traditional Medicine (GCTM)

In News: Prime Minister along with World Health Organization (WHO) Director-General performed the groundbreaking ceremony for the first-of-its-kind WHO Global Centre for Traditional Medicine (GCTM) in Jamnagar, Gujarat.

More on the Topic:

● The Global Centre for Traditional Medicine (WHO GCTM) has been set up by Ministry of Ayush and the WHO.

● The New Centre **will focus on data, innovation and sustainability** and will optimize the use of traditional medicine.

● Through this center India will be able to take its knowledge of traditional medicine to the world and similarly world will come to India.

● It will promote **education and research in Ayurveda, yoga, Unani, Siddha, and homoeopathy** and spread these medical systems to the public.

About Traditional Medicine:

● Traditional medicine refers to the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, used in the maintenance of health and in the prevention, diagnosis, improvement or treatment of physical and mental illness.

Government initiatives to promote Traditional Medicine:

● All India Institute of Ayurveda (AIIA) and IIT (Indian Institute of Technology)-Delhi have signed Memorandum of Understanding (MoU) to enhance research in the field of Ayurveda.

● Government of India is implementing **Centrally Sponsored Scheme of National AYUSH Mission (NAM)** in the country through State and UT governments for promotion and development of AYUSH systems.

● Under **Central Sector Scheme for promotion of International Cooperation, (IC Scheme),** the Ministry of AYUSH undertakes various steps to promote and publicize AYUSH systems of medicine including Ayurveda across the globe.

● 33 AYUSH Information Cell have been set up in 31 countries to disseminate authentic information about AYUSH systems.

Solomon Island

In News: Australia, New Zealand and the US have raised concerns on security in the Pacific, after China signed a security pact with the Solomon Islands.

More on the Topic:

● As per agreement, two countries will cooperate in an effort to help Solomon Islands strengthen capacity building in safeguarding its own security.

● There are concerns that **the agreement could open the door to a Chinese naval base in the country** and hence pose serious risks to a free and open Indo-Pacific.

● Experts believe that signing such an agreement could actually **increase destabilisation within the Solomon Islands.**

● Also, it could set a concerning precedent for the wider Pacific Island region.

● The Solomon Islands sits on critical shipping routes. With this agreement China could potentially control maritime traffic in and around the region.

About Solomon Islands:

● Solomon Islands is a sovereign country consisting of **six major islands and over 900 smaller islands** in in the southwestern Pacific Ocean, to the east of Papua New Guinea and northwest of Vanuatu.

● It was a British protectorate. Solomon Islands achieved independence as a republic in 1978. Honiara, on the north coast of Guadalcanal Island, is Solomon Islands' capital and largest city.

Kuril Islands

In News: Japan authorities have acknowledged that the Southern Kuril Islands, known in Japan as the 'Northern Territories', as a region illegally occupied by Russia.

More on the Topic:

- The Kuril Islands or Kurile Islands are **a volcanic archipelago.**

- Kuril Islands are stretched from the Japanese island of Hokkaido to the southern tip of Russia's Kamchatka Peninsula separating **Okhotsk Sea** from the North Pacific Ocean.

- It consists of 56 islands and minor rocks.

- The chain is part of the belt of geologic instability circling the Pacific and contains at least 100 volcanoes, of which 35 are still active, and many hot springs.

- Earthquakes and tidal waves are common phenomena over these islands.

Whakaari White Island

In News: A new research has find out ways to detect pre-eruption warning signals at Whakaari White Island and other active volcanoes.

More on the Topic:

- Whakaari/White Island (also known as just White Island) is an active andesite stratovolcano situated in the New Zealand's north eastern Bay of Plenty.

- **It is New Zealand's most active cone volcano.** Whakaari erupted continually from December 1975 until September 2000, marking the world's longest historic eruption episode.

- This stratovolcano (composite cone volcano) formed out of the **convergent plate boundary between the Pacific and Australian plates.**

- It is made of layers of andesite lava flows and pyroclastic deposits (tephra).

- In the recent 2019 eruption, experts identified the event as a phreatic eruption: a release of steam and volcanic gases that caused an explosion, launching rock and ash into the air.

- The volcanic island Whakaari/White Island in Bay of Plenty region explosively erupted in December 2019. Fifteen people were killed and a further thirty suffered injuries.

Pranahita pushkaralu

In News: The 12-day Pranahita Pushkaralu was organized recently.

More on the Topic:

- Pranhita River which originates at Tummidi Hatti on the Telangana-Maharashtra border flows for 113 kms before empties itself into the Godavari at Kaleshwaram.

- It is the confluence of Godavari-Pranahita-Saraswati (Antarvahini).

- Pranahita is the extension of the confluence of two rivers the Wardha and the Wainganga.

- The Pranhita River is the largest tributary of Godavari River.

- The Godavari River rises from Trimbakeshwar in the Nashik district of Maharashtra.

Indian Ocean Naval Symposium (IONS)

In News: The premier forum Indian Ocean Naval Symposium (IONS) held its maiden Maritime Exercise 2022 (IMEX-22).

SEAS OF STRATEGY

More on the Topic:

- The participation included warships, Maritime Reconnaissance aircraft and helicopters from the Navies of Bangladesh, France, India and Iran.

- 22 Observers from 15 IONS member navies participated in the exercise.

- The exercise is seen as a significant stepping stone for regional navies to collaborate and respond collectively to natural disasters in the region and paves way for further strengthening regional cooperation.

About Indian Ocean Naval Symposium:

- IONS, conceived by the Indian Navy in 2008, seeks to enhance maritime cooperation among Navies of the littoral states of the IOR by providing an open and inclusive forum for discussion of regionally relevant maritime issues that would lead to common understanding on the way ahead.

- It also serves to develop an effective response mechanism and humanitarian assistance and disaster relief (HADR) against natural disasters.

- IONS includes 24 member nations that touch or lie within the IOR, and 8 observer nations.

The members have been geographically grouped into the following four sub-regions:

- **South Asian Littorals:** Bangladesh, India, Maldives, Pakistan, Seychelles, Sri Lanka and United Kingdom (British Indian Ocean Territory)

- **West Asian Littorals:** Iran, Oman, Saudi Arabia and United Arab Emirates

- **East African Littorals:** France (Reunion), Kenya, Mauritius, Mozambique, South Africa, and Tanzania.

- **South East Asian and Australian Littorals:** Australia, Indonesia, Malaysia, Myanmar, Singapore, Thailand and Timor-Leste.

Significance of IONS:

- It helps India in Strengthening and deepening the relations with the Indian Ocean littoral states,

- IONS also aides in establishing its leadership potential and aspirations of being a net-security provider, and Fulfilling India's vision of a rules-based and stable maritime order in the IOR.

- It will help India to consolidate its sphere of influence from the Straits of Malacca to Hormuz.

- IONS can be used to counterbalance the increasing presence of China in the region.

BIMSTEC Summit

In News: Fifth summit of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) was hosted virtually by Sri Lanka in its capacity as the current chair of the regional grouping.

BIMSTEC — WHAT YOU SHOULD KNOW

Stands for **The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation**

Founded in 1997 through **Bangkok Declaration**

7 MEMBER COUNTRIES

Bhutan, Nepal, India, Myanmar, Bangladesh, Sri Lanka, Thailand

First summit held in Thailand

Sri Lanka is the current Chair

Importance of BIMSTEC

- Accounts for **22%** of the world's population
- Combined GDP of **$2.7 trillion**
- One-fourth of the world's traded goods cross the Bay every year
- Six focus areas- trade, technology, energy, transport, tourism and fisheries

More on the Topic:

- The summit adopted the "BIMSTEC charter", which will give the grouping an international identity and formally state its purposes and principles.

- With 21.7 per cent of the world's population and a combined GDP of $3.8 trillion, BIMSTEC has emerged as an influential engine of economic growth.

- In the absence of a dedicated charter BIMSTEC was functioning under Bangkok declaration.

BIMSTEC Grouping:

- The grouping was formed in 1997, originally with Bangladesh, India, Sri Lanka and Thailand, and later included Myanmar, Nepal and Bhutan.

- The aim of the formation was to integrate the region.

Why BIMSTEC is important for India?

- For India, it is a platform to leverage economic and political developments through its 'Act East' policy.

- This can be achieved with **increased interconnections with the Association of South East Asian Nations (ASEAN)** through priority areas like connectivity for a conducive, sustainable, peaceful and prosperous Bay of Bengal region.

- Two crucial developments on this front are the **India-Myanmar-Thailand Trilateral Highway (potentially extendable to Cambodia, Laos and Vietnam) and the Kaladan Multimodal Project.**

- From the **strategic perspective, the Bay of Bengal, a funnel to the Malacca straits,** has emerged a key theatre for an increasingly assertive China in maintaining its access route to the Indian Ocean.

- As China mounts assertive activities in the Bay of Bengal region, with increased submarine movement and ship visits in the Indian Ocean, it is in India's interest to consolidate its internal engagement among the BIMSTEC countries.

Australia's Defence Space Command Agency

In News: Australia's new Defence Space Command Agency began functioning.

More on the Topic:

- This agency brings members of Air Force, Army, Navy and the Australian Public Service together under an integrated headquarters reporting to the Chief of Air Force, as the Space Domain Lead.

- Australia's new Defence Space Command was **set up to achieve strategic space ambitions and lead the effort to assure Australia's access to space.**

- The agency will help Australia **in developing and advocating space-specific priorities** within the government, industry, allies and even international partners.

- Mainly, this Agency was set up **to counter the growing influence of Russia and China** in space.

The Bucharest Nine Countries

In News: The envoys to India of nine Eastern European countries jointly wrote an article in The Indian Express to "acquaint the Indian public with the basic facts on the ground" about the "premeditated, unprovoked and unjustified Russian aggression in Ukraine".

More on the Topic:

- The B9 countries have been critical of President Vladimir Putin's aggression against Ukraine since 2014, when the war in the Donbas started and **Russia annexed the Crimean Peninsula.**

- **About Bucharest Nine Countries:** The "Bucharest Nine" is a group of nine NATO countries in Eastern Europe that became part of the US-led military alliance after the end of the Cold War.

- "Bucharest Nine" is **abbreviated as The B9.**

- The member countries are Romania, Poland, Hungary, Bulgaria, the Czech Republic, Slovakia, and the three Baltic republics of Estonia, Latvia, and Lithuania.

- All nine countries were once closely associated with the now dissolved Soviet Union, but later chose the path of democracy.

- All members of the B9 are part of **the European Union (EU) and North Atlantic Treaty Organisation (NATO).**

The Nuclear Weapons Ban Monitor

In News: The Norwegian nuclear watchdog, Nuclear Weapons Ban Monitor warned that the number of nuclear warheads in usable stockpiles is rising.
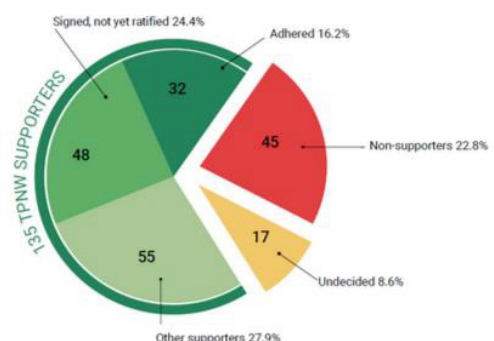
More on the Topic:

- The Nuclear Weapons Ban Monitor has found no evidence, by any of the nuclear-armed states currently have **the will to purposefully pursue nuclear disarmament,** or to develop plans for its realisation.

- They also found that there was **increasing engagement in 2021 with the Treaty on the Prohibition of Nuclear Weapons (TPNW),** which entered into force in 2021 and which is seen as a vehicle for resistance to the permanence of nuclear weapons in world politics.

- The Nuclear Weapons Ban Monitor tracks progress towards a world without nuclear weapons, highlights activities that hamper such progress, and analyses the key challenges to nuclear disarmament.

Nuclear Weapons Ban Treaty:

- The Treaty on the Prohibition of Nuclear Weapons (TPNW), or the Nuclear Weapon Ban Treaty, is the **first legally binding international agreement to comprehensively prohibit nuclear weapons with the ultimate goal being their total elimination.**

- It was adopted in July 2017, opened for signature in September 2017, and entered into force in January 2021.

- For those nations that are party to it, **the treaty prohibits the development, testing, production, stockpiling, stationing, transfer, use and threat of use of nuclear weapons, as well as assistance and encouragement to the prohibited activities.**

- It also **prohibits the use or threat of use of these weapons as well.**

- The eight nuclear weapon states i.e US, Russia, Britain, China, France, India, Pakistan and North Korea along with Israel had not participated in the negotiations.

- Even Japan, the only country to have suffered nuclear attacks boycotted the conference.

Shanghai Cooperation Organization (SCO)

In News: At the virtual meet of SCO has organized recently
.

Central asian member states of SCO	Other member states of SCO	Observer states of SCO
Kazakhstan	China	Afghanistan
Kyrgyzstan	India	Belarus
Tajikistan	Pakistan	Iran
Uzbekistan	Russia	Mongolia

More on the Topic:

- SCO is a **permanent intergovernmental international organisation.**

- It's a Eurasian political, economic and military organisation aiming to maintain peace, security and stability in the region.

- It was created in 2001.

- The SCO Charter was signed in 2002, and entered into force in 2003.

- It is a statutory document which outlines the organisation's goals and principles, as well as its structure and core activities.

- The SCO's official languages are Russian and Chinese.

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

UN Economic and Social Council

In News: India got elected to four United Nations Economic and Social Council (ECOSOC) bodies.

More on the Topic:

- The four bodies include the Commission for Social Development, Committee on NGOs, Commission on Science & Technology for Development, and Committee for Economic, Social, and Cultural Rights.

- Out of these, India was re-elected to the Committee for Economic, Social, and Cultural Rights.

- The Economic and Social Council (ECOSOC) is **one of the six principal organs of the United Nations.**

- **ECOSOC coordinates the work of the 14 UN specialised agencies,** ten functional commissions and five regional commissions, receives reports from nine UN funds and programs (see reverse), and issues policy recommendations to the UN system and to the Member States.

- ECOSOC was established as one of the principal organs of the UN by the UN Charter in 1945. ECOSOC is headquartered in New York.

- **The ECOSOC has 54 members that are elected by the UNGA.**

Science and Technology

Sarmat Intercontinental Ballistic Missile

In News: Russia has tested its new Inter Continental Ballistic Missile (ICBM) Sarmat.

More on the Topic:

- The RS-28 Sarmat (NATO name Satan-II) is reported to be able to carry ten or more warheads and decoys and has the capability of firing over either of the earth's poles with a range of 11,000 to 18,000 km.

- It is expected to pose a significant challenge to the ground-and-satellite-based radar tracking systems of the western powers, particularly the USA.

- The Sarmat is a **liquid fuelled missile as compared to US ICBMs which have moved on to solid fuel systems.**

- It is claimed that it has the longest range of destruction of targets in the world.

- The name Sarmat is based upon the nomadic Sarmatian tribes which used to live between 6th and 4th century BC in current territories of Russia, Ukraine and Kazakhstan.

Hermes Starliner drones

In News: The Hermes StarLiner drone has been certified by the Israel Government to fly in civilian airspace. This makes Israel the first country in the world to permit unmanned aerial vehicles (UAV) to fly in civilian airspace.

More on the Topic:

- The majority of currently available UAVs lack the sensors needed to operate in civilian airspace without interfering with other planes.

- As a result, numerous countries have passed legislation prohibiting powerful drones from flying in civilian airspace.

- The StarLiner drone was **modified to comply with civil aviation requirements** by installing sensors to identify other aircraft and avoid collisions with them, an additional warning system to prevent it from approaching or crashing into the ground, autonomous takeoff and landing systems in low-visibility conditions, and other changes.

- Uses - Hermes Starliner will be able to

- Participate in anti-terror and border security operations,

- Perform maritime rescue and search,

- Take part in securing public events, and

- Take part in environmental inspection and commercial aviation missions.

The Space Equity Action Plan

In News: The National Aeronautics and Space Administration (NASA) has released an equity action plan to "make space more accessible".

More on the Topic:

- NASA's equity action plan is a response to the U.S. government's 2021 executive order aimed at "**advancing racial equity and support for underserved communities**".

- The presidential order inspired NASA to develop the equity action plan under which the space agency plans **to identify and eliminate systemic barriers and ensure representation.**

- The space equity action plan lists four focus areas for underserved communities.

- **Equity in procurements and contracts:** to engaging with contractors in underserved communities.

- **Using earth science and other data to help mitigate environmental challenges:** To make information on earth science easily available to all, NASA will data sets available on the internet, and the full transfer of NASA

- Earth science data to the cloud will be complete by 2025.
- **Increased external civil rights compliance and access for Limited English Proficient population groups:** To remove knowledge and language barriers.

Gravitational Lensing

In News: Recently, scientists imaged a star that is extremely far away through gravitational lensing.

Gravitational Lensing

To search for some of the first galaxies, astronomers took advantage of gravitational lenses. These occur when massive objects, such as a cluster of galaxies, warp spacetime around them, causing anything traveling nearby, including light, to take a curved path. Through a gravitational lens, a distant galaxy can appear magnified, offset from its true position, and even in multiple.

More on the Topic:

- Gravitational Lensing occurs when **a huge amount of matter**, such as a massive galaxy or cluster of galaxies, **creates a gravitational field that distorts and magnifies the light from objects behind it, but in the same line of sight.**
- In effect, **these are natural, cosmic telescopes;** they are called gravitational lenses.

How it functions:

- These large celestial objects **will magnify the light from distant galaxies** that are at or near the peak of star formation.
- The effect allows researchers to study the details of early galaxies too far away to be seen otherwise with even the most powerful space telescopes.
- The more massive the object, the stronger its gravitational field and hence the greater the bending of light rays **just like using denser materials to make optical lenses results in a greater amount of refraction** and we are able to see objects nearer than they actually are.

Martian Soil Bricks

In News: ISRO and Indian Institute of Science in collaboration has developed a sustainable method for making bricks out of Martian soil, using bacteria and urea.

More on the Topic:

- These "space bricks" can be used to construct building-like structures on Mars that could facilitate humansettlement on the red planet.
- A slurry is first created by mixing Martian soil with guar gum, a bacterium called sporosarcina pasteurii, urea and nickel chloride (NiCl2).
- This slurry can be poured into moulds of any desired shape, and over a few days the bacteria convert the urea into crystals of calcium carbonate.
- These crystals, along with biopolymers secreted by the microbes, act as cement holding the soil particles together.
- An advantage of this method is the reduced porosity of the bricks, which has been a problem with other methods used to consolidate Martian soil into bricks.

About the Mars:

- **Mars is most similar to our own Earth.** Since conditions on the planet around 4 billion years ago were quite similar to what was there on Earth, it is probable that microscopic life may have evolved there in the past.
- Mars had **a thick atmosphere** which facilitated the stability of water on its surface.
- Compared to other planets, **Mars is most suitable for life apart from Earth.** It is relatively hospitable in terms of temperature.
- The average temperature ranges from 20 degrees Celsius at the Equator to -125 degrees Celsius at the poles. Hence, it is the only planet that we can visit or inhabit in the long term.
- It is the second-smallest planet after Mercury and was named after the Roman god of war.
- Mars has two moons, Phobos and Deimos.

National Cyber Security Incident Response Exercise (NCX India)

In News: The National Security Council Secretariat is organising National Cyber Security Incident Response Exercise (NCX India) for government officials and critical sector organisations to strengthen India's cyber posture.

More on the Topic:

- More than 140 officials will be trained through training sessions, Live Fire and Strategic exercises.

- The participants will be trained on various key cyber security areas such as Intrusion Detection Techniques, Malware Information Sharing Platform (MISP), Vulnerability Handling & Penetration Testing, Network Protocols & Data Flows, Digital Forensics, among others.

- It is being conducted by **National Security Council Secretariat.**

Background:

- In recent months, a couple of failed attempts were made to hack networks of despatch centres responsible for carrying out real-time operations for grid control and electricity dispatch.

- The Twitter handle of the Ministry of Statistics and Programme Implementation (MOSPI) was hacked briefly.

Project 75

In News: INS Vagsheer, the last of The Scorpene Submarines Under Project 75 had been Launched recently
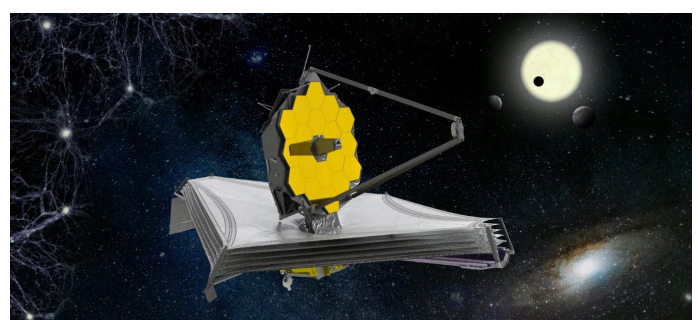

More on the Topic:

- Named after sandfish, a deadly deep water sea predator of the Indian Ocean, the first submarine 'Vagsheer' was commissioned in December 1974. It was decommissioned in April 1997.

- The new submarine is the latest incarnation of its earlier version, as according to naval parlance a ship never ceases to exist. Even after a ship/submarine is decommissioned, a new ship/submarine replaces the old one with the same name.

About Project 75:

- The Project 75 (India)-class submarines, or P-75I, for short, **are a planned class of diesel-electric submarines, which are to be built for the Indian Navy.**

- Under this project, the Indian Navy intends to acquire **six conventional, diesel-electric attack submarines,** which will also feature advanced capabilities - including air-independent propulsion (AIP), ISR, special operations forces (SOF), anti-ship warfare (AShW), anti-submarine warfare (ASW), anti-surface warfare (ASuW), land-attack capabilities and other features.

- All six submarines are expected to be constructed in India, under the Make in India initiative.

- Under P75, **INS Kalvari, INS Khanderi, INS Karanj and INS Vela** have been commissioned. Sea trials are on for Vagir. Vagsheer is the sixth; its production was delayed due to the pandemic.

James Webb Telescope

In News: Recently, Hubble helped scientists snap an image of what's considered the farthest star ever glimpsed called Earendel.
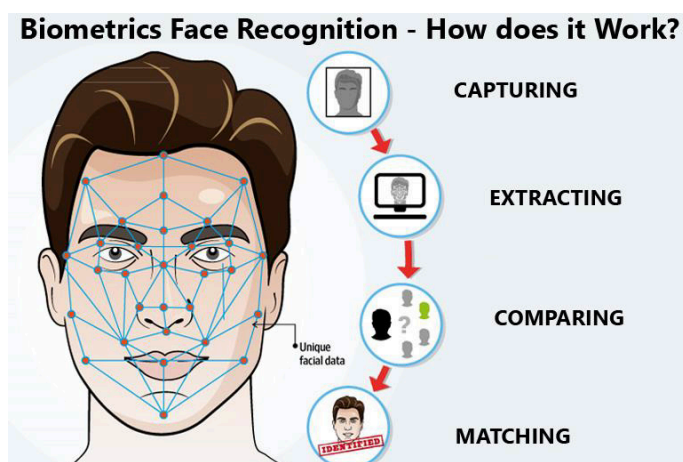
More on the Topic:

- The discovered star had traveled for 12.9 billion years to reach Earth, which places its temporal position a mere one billion years following the Big Bang that started it all.

- The James Webb Space Telescope will see much farther, possibly all the way back to just 100 million years after the Big Bang which is when the very first stars and galaxies came into being.

- The James Webb Space Telescope (JWST) is a space telescope designed primarily to conduct **infrared astronomy.**

- The U.S. National Aeronautics and Space Administration (NASA) led JWST's development in collaboration with the European Space Agency (ESA) and the Canadian Space Agency (CSA).

- It is the **most powerful telescope** ever launched into space, its greatly improved infrared resolution and sensitivity will allow it to **view objects too old, distant, and faint for the Hubble Space Telescope.**

- This is expected to enable a broad range of investigations across the fields of astronomy and cosmology, such as observations of first stars and the formation of the first galaxies, and detailed atmospheric characterization of potentially habitable exoplanets.

Facial Recognition System

In News: The Facial Recognition System (FRS) under the Digi Yatra initiative will implemented in a phased manner.

Biometrics Face Recognition - How does it Work?

More on the Topic:

- Facial recognition System is part of the Digi Yatra initiative of the government for providing passengers seamless and hassle-free experience at airports.

- Digiyatra is intended to facilitate hassle free travel.

- Air ports and air lines join hand together in this scheme. This scheme reduces tedious long queues and waiting lists.

- It uses technology for verification. Biometrics such as fingerprints, iris are recorded.

About Facial Recognition System:

- It is a biometric technology that uses distinctive features of the face to identify and distinguish an individual.

- Over a period of almost 6 decades, it has evolved in many ways- from looking at 3D contours of a face to recognizing skin patterns.

- The facial recognition system works **primarily by capturing the face & its features through the camera and then using various kinds of software to reconstruct those features.**

- The captured face along with its features is stored into a database, which can be integrated with any kind of software that may be used for security purposes, banking services, etc.

Concerns:

- Violation of the right to privacy

- Technologies like Artificial Intelligence and Big Data which needs for successful implementation of Facial Recognition are costly to implement.

- In today's world of cybercrime there are chances of data leakage and possible misuse of the data used for facial recognition.

Genome Editing Technology

In News: The Central government has for the first time issued an order exempting certain types of genome edited crops from the stringent regulations applicable on genetically modified or GM crops thus giving a big boost to their further research and development.
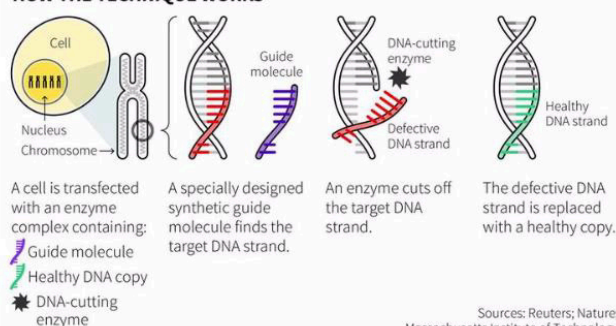
More on the Topic:

- In the recent past, many countries have either developed or approved for commercial cultivation of vegetables, fruits, oilseeds and cereals developed through genome editing such as Gamma-aminobutyric acid or GABA tomato, high oleic canola and soybean, non-browning mushroom etc.

- Genome editing or gene editing was discovered back in 2012, but Indian regulators took nearly a decade to comprehend its potential for developing crops resistant to biotic and abiotic stresses and with nutritional superiority.

About Gene Editing:

- Genome editing (also called gene editing) is **a group of technologies that give scientists the ability to change an organism's Deoxy-Ribonucleic Acid (DNA).**

- These technologies **allow genetic material to be added, removed, or altered** at particular locations in the genome.

- The Indian Agricultural Research Institute (IARI) has now moved to newer technologies such as **Site Directed Nuclease (SDN) 1 and 2.**

- New technique aims to bring precision and efficiency into the breeding process using **gene editing tools such as CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats),** whose developers won the Nobel Prize for Chemistry in 2020.

- SDN genome editing involves the use of different DNA-cutting enzymes (nucleases) that are directed to cut the DNA at a predetermined location by a range of different DNA binding systems.

- After the cut is made, the cell's own DNA repair mechanism recognizes the break and repairs the damage, using one of two pathways that are naturally present in cells.

- It involves the use of gene editing tools to directly tweak (improve\change) the plant's own genes instead.

- It would allow plants to be genetically modified without the need for conventional transgenic technology.

- In this case, you are just **tweaking a gene that is already there in the plant, without bringing in any gene from outside.**

- When a protein comes from an outside organism, then you need to test for safety. But in this case, this protein is right there in the plant, and is being changed a little bit, just as nature does through mutation.

Difference between Gene-edited Organisms & GMO:

- The basic difference between genome editing and genetic engineering is that while the former does not involve the introduction of foreign genetic material, the latter does.

- Genetically-modified Organisms involves **modification of the genetic material of the host by introduction of a foreign genetic material.**

- In the case of agriculture, **soil bacteria is the best mining source for such genes which are then inserted into the host genome using genetic engineering.**

- Before the advent of genetic engineering, such variety improvement was done through selective breeding which involved carefully crossing plants with specific traits to produce the desired trait in the offspring.

- Genetic engineering has not only made this work more accurate but has also allowed scientists to have greater control on trait development.

Sequencing human genome

In News: An International publication has shared information on complete human genome sequencing.
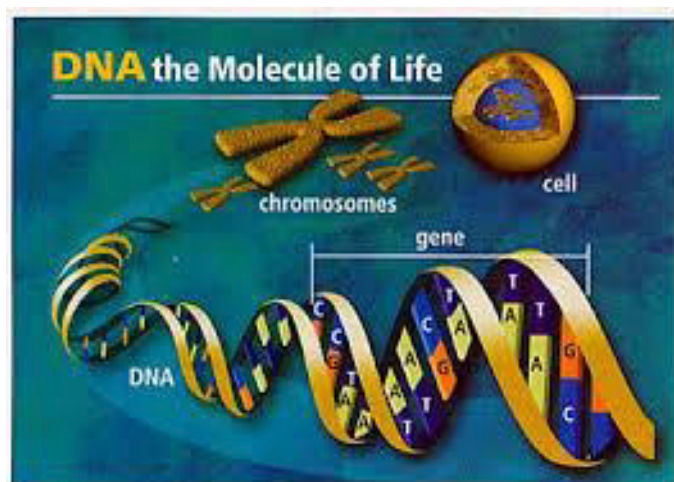
More on the Topic:

- Nearly two decades ago, when scientists published the map of the human genome for the first time, it was hailed as a breakthrough. That was incomplete, however: about 8% of the human DNA was left unsequenced.

- Now, in a series of papers published in Science, a large team has accounted for that 8%, completing the picture of the human genome for the first time.

- Now, the fully sequenced genome is the result of the efforts of a global collaboration called the **Telomere-2-Telomere (T2T) project.**

- The invention of new methods of DNA sequencing and computational analysis helped complete the reading of the remaining 8% of the genome.

What is in the new 8%:

- The new reference genome, called T2T-CHM13, includes highly repetitive DNA sequences found in and around the telomeres (structures at the ends of chromosomes) and the centromeres (at the middle section of each chromosome).

- The new sequence also reveals long stretches of DNA that are duplicated in the genome and are known to play important roles in evolution and disease.

Significance of Human Genome Sequencing:

- A complete human genome **makes it easier to study genetic variation between individuals or between populations.**

- A genome refers to **all of the genetic material in an organism,** and the human genome is mostly the same in all people, but a **very small part of the DNA does vary between one individual and another.**

- By constructing a complete human genome, scientists can use it for reference while studying the genome of various individuals, which would help them **understand which variations, if any, might be responsible for disease.**

- The new T2T reference genome will complement the standard human reference genome, known as **Genome Reference Consortium build 38 (GRCh38)**, which originated from the Human Genome Project and has been updated since.

- **The complete sequence will be valuable for studies that aim to establish comprehensive views of human genomic variation.** Many research groups have already started using a pre-release version of the complete human genome sequence for their research

Nipah Virus

In News: Scientists at Pune's Indian Council of Medical Research – National Institute of Virology were able to detect the presence of IgG antibodies against Nipah virus infection (NiV) in 51 bats that were captured from Karnataka, Kerala, Tamil Nadu and Puducherry.
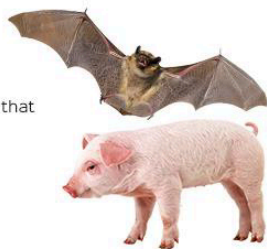

ALL YOU NEED TO KNOW ABOUT
NIPAH VIRUS

Nipah Virus (NiV) infection is a zoonotic disease that can affect both animals and humans

- NiV was discovered in Malaysia in 1998
- Fruit bats are the primary hosts of NiV

HOW NIV GETS TRANSMITTED

PRIMARY HOST: FRUIT BATS
Consumption of fruits contaminated by infected bats (and birds)

Transmission can also take place through direct contact with **infected pigs.**

Direct physical contact with **infected people** can also transmit the infection.

More on the Topic:

- Nipah virus (NiV) is one of the priority pathogens with a pandemic potential. Though the spread is far slower than SARS-CoV-2, case fatality is the biggest concern.

- The fruit bats of genus Pteropus are identified to be the main reservoir of the Nipah virus causing annual outbreaks in **Malaysia, Bangladesh and other countries in South-East Asia including India.**

- However, three incidences of NiV infections in humans in Kerala which is far distant from the known "Nipah belt" in consecutive years with no identified intermediate animal host or confirmed mode of entry into human population warrants the heightened need of constant surveillance of NiV in bats, animals and humans.

- Analysis of NiV N gene sequences from the new hotspots in Kerala also suggested the **presence of a new genotype independently evolving in southern India**.

- Hence, knowledge of the distribution and movement patterns of bat species that act as the reservoir hosts of Nipah virus was **necessary to identify the regions at risk, and possible events of spillover.**

About Nipah Virus:

- The Nipah virus is a type of RNA virus in the genus Henipavirus. The spread of the virus is rapid and fatal. The mortality rate with infected patients is as high as 70%.

- Nipah Virus is an airborne transmission infection and can affect those who come in direct contact with with contaminated bodies such as pigs or bats carrying the virus.

- The Nipah Virus **can survive in the bat's body without causing disease,** allowing it to jump to susceptible mammals like humans or pigs when bats come in contact with them.

- **Infected bats shed the virus through excreta and secretions.** Human-to-human transmission has also been documented.

- NiV is also capable of **causing disease in pigs and other domestic animals.**

- Direct contact with pigs is the prime mode of transmission of the virus in humans.

- The human infection presents as **an encephalitic syndrome** marked by fever, headache, drowsiness, disorientation, mental confusion, coma, and potentially death.

- Currently, **there are no vaccines for both humans and animals.** Intensive supportive care is given to humans infected by Nipah virus.

Intelligent Transportation Systems

In News: The Ministry of Electronics and Information Technology (MeitY) has launched several applications under the Intelligent Transportation System (ITS) as part of the **InTranSE- II program to improve India's traffic scenario.**

More on the Topic:

- An indigenous Onboard Driver Assistance and Warning System (ODAWS), Bus Signal Priority System and Common SMart iot Connectiv (CoS-MiC) software were developed as a joint initiative by Centre for Development of Advanced Computing (CDAC) and Indian Institute of Technology Madras (IIT-M). Mahindra and Mahindra was the industrial collaborator for the project.

- ODAWS **aims to improve the highway infrastructure** as the number of vehicles, speed on roads has increased, exacerbating safety concerns.

Micro Swimmers for Drug Delivery

In News: According to new research, it is now poss ble to make use of light as a form of fuel to move microbots or microswimmers in real body conditions for the delivery of drugs that are selectively sensitive toward the cancer cells.

Use of Micro-Swimmers in Drug Delivery

More on the Topic:

- Micro bots are made from two dimensional compound poly heptazine imide) carbon nitride (aka PHI carbon nitride) can selfpropel when energised by shining light.

- The PHI carbon nitride mi¬croparticles are photocata¬lytic.

- Like in a solar cell, the incident light is converted in to electrons and holes.

- These charges drive reactions in the surrounding liquid. This reaction, combined with the particle's electric field, makes the microbots (micro swimmers) swim.

- **As long as there is light, electrons and holes are produced** on the surface of the swimmers, which in turn react to form ions and an electric field around the swimmer.

- These ions move around the particle and cause fluid to flow around the particle. So this fluid flow causes the micro swimmers to move.

- The researchers working on this have found that **Doxo rubicin, a drug that is used for treating cancer,** was absorbed easily.

- The release of the drug can be activated by triggering it with light or by changing the pH of the solution.

Pinaka Rocket System

In News: Upgraded version of the Pinaka rocket system was tested successfully.

More on the Topic:

- Pinaka is an indigenous multi-barrel rocket launch system.

- It is an artillery missile system capable of striking into enemy territory up to a range of 75 kilometres with high precision.

- Its weapon system has a state-of-the-art **guidance kit bolstered by an advanced navigation and control system.**

- The Pinaka Mark II Rocket is modified as a missile by integrating with the navigation, control and guidance system to improve the accuracy and enhance the range.

- The navigation system of the missile is aided by the **Indian Regional Navigation Satellite System (IRNSS).**

Axiom Mission

In News: A USA startup company Axiom Space, launched Axiom Mission with a four-member crew. It reached the International Space Station (ISS). **It is the first fully private mission.**
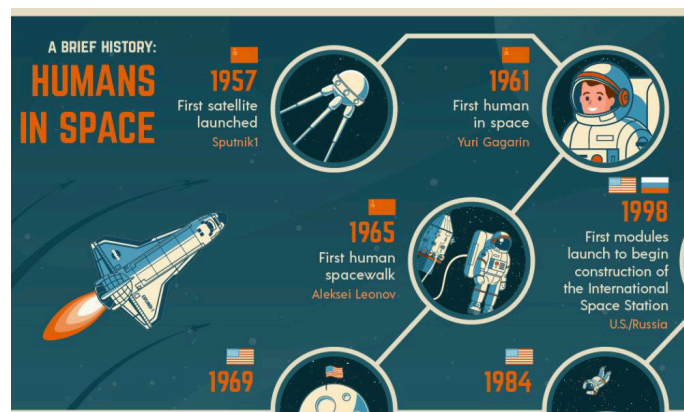
More on the Topic:

- **The ISS is a manmade space station** or artificial satellite that is habitable for humans in space.

- It is in **the low-earth orbit** and there are astronauts living onboard the space station conducting experiments on earth science, biology, biotechnology, astronomy, micro-gravity, meteorology, physics, etc.

- The station currently operates in low-earth orbit above 400 km in altitude, at a point where it still experiences atmospheric drag and requires re-boosts to continue in its orbit.

- The ISS programme is **a joint project between five par-ticipating space agencies:** NASA (National Aeronautics and Space Administration, United States), Roscosmos (Russian State Corporation for Space Activities), JAXA (Japan Aerospace Exploration Agency, Japan), ESA (European Space Agency, Europe) and CSA (Canadian Space Agency, Canada).

- The ownership and use of the space station are established by intergovernmental treaties and agreements.

ANTI-Tank Guided Missile (ATGM) Helina

In News: The ANTI-Tank Guided Missile (ATGMHelina, the helicopter-launched version of theNag missile, was tested successfully.

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   Surface-to- Medium-Range 3rd Generation Short Range Low Intermediate
   Surface     Surface-to-Air 'Fire and Forget' Level        Range
   Short Range Missile     Anti-tank    Surface-to-Air Surface-to-Surface
   Ballistic Missile       Missile      Missile        Missile
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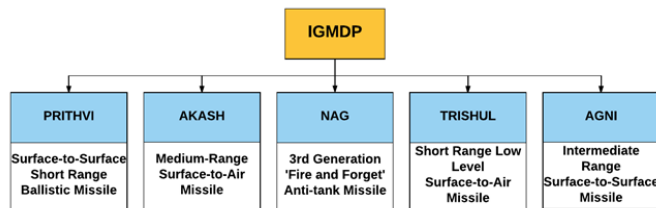
More on the Topic:

- It is the third-generation, Lock on Before Launch (LOBL) fire and forget class **anti-tank guided missile (ATGM) system.**

- Helina missile system has all weather day and night capability and can defeat battle tanks with conventional armour as well as explosive reactive armour.

- It has been developed for integration with choppers in both the Army and Air Force.

- Nag is a third-generation, fire-and-forget, anti-tank guided missile developed by DRDO to support both mechanized infantry and airborne forces of the Indian Army.

- It is an all-weather condition with day and night capabilities and with a minimum range of 500m and a maximum range of 4 km.

- DRDO has developed nag Missiles under the **Integrated Guided Missile Development Program.**

- The five missiles (P-A-T-N-A) developed under this program are:

- **Prithvi:** Short-range surface to surface ballistic missile.

- **Agni:** Ballistic missiles with different ranges, i.e., Agni (I, II, III, IV, V).

- **Trishul:** Short-range low-level surface to air missile.

- **Nag:** 3rd generation anti-tank missile.

- **Akash:** Medium range surface to air missile.

Solid Fuel Ducted Ramjet

In News: DRDO has successfully flight tested Solid Fuel Ducted Ramjet (SFDR) booster.

Getting to The Halfway Mark

DRDO has developed the booster for the missile while the Ramjet engine is being made with help from Russia

More trials will be required for cutting-edge technology that will lead to new range of weapons

The solid fuel-based propellant tech will more than double the range and speed of missiles to take down enemy targets

More on the Topic:

- Solid Fuel Ducted Ramjet (SFDR) is a missile propulsion system. The system utilises a solid fuelled **air-breathing ramjet engine.**

- A ramjet is a form of air-breathing jet engine that **takes up oxygen from the atmosphere during flight.** Thus, **it doesn't require an oxidizer as part of the solid motor.**

- However, ramjet-powered vehicles require an assisted take-off like a rocket. It assists to accelerate it to a speed where it begins to produce thrust.

- Further, ramjets work **efficiently at supersonic speeds around Mach 3** (three times the speed of sound) and can operate up to speeds of Mach 6. But the ramjet efficiency starts to drop when the vehicle reaches hypersonic speeds.

Significance:

- SFDR will help both India's surface-to-air and air-to-air missiles to perform better and enhance their strike range, making them more lethal.

- With it, India can have fastest long-range missiles in two categories, providing **full-fledged and multi-layered aerial protection from hostile attacks.**

- Its successful use in missiles will mark India's entry into select club of nations that use **next-generation missile technology against manoeuvring targets, co promising effectiveness of conventional missiles.**

5G Vertical Engagement and Partnership Programme

In News: The Department of Telecommunications (DoT) has invited an expression of interest (EoI) for the 5G Vertical Engagement and Partnership Programme (VEPP).
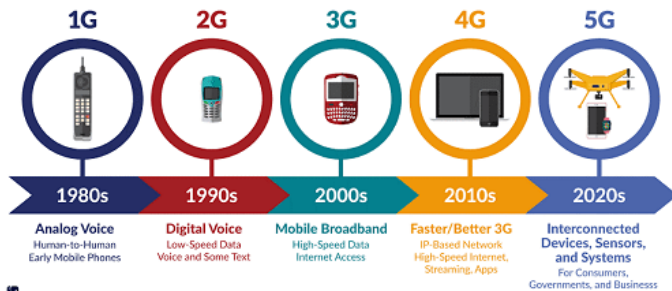
More on the Topic:

● The programme, in partnership with other ministries, state government departments, and start-up hubs, will facilitate the necessary approvals and regulatory clearances to enable use-case prototyping, pilots, demos, or trials at user or vertical industry premises.

● Required experimental spectrum would also be facilitated on a priority basis.

About 5G:

● 5G is the **5th generation mobile network.** It is a new global wireless standard after 1G,2G, 3G, and 4G networks.

● It enables a new kind of network that is designed to connect virtually everyone and everything together including machines, objects, and devices.

● 5G technology operates in the **millimeter wave spectrum (30-300 GHz)** which have the advantage of sending large amounts of data at very high speeds.

● Operate in 3 bands, namely low, mid and high frequency spectrum.

● Its **Reduced latency** will support new applications that leverage the power of 5G, the Internet of Things (IoT), and artificial intelligence.

● Increased capacity on 5G networks can minimize the impact of load spikes, like those that take place during sporting events and news events.

Nearfield communication Technology

In News: Google Pay has recently launched a new feature in India, 'Tap to pay for UPI', in collaboration with Pine Labs. The feature makes use of Near Field Communication (NFC) technology.
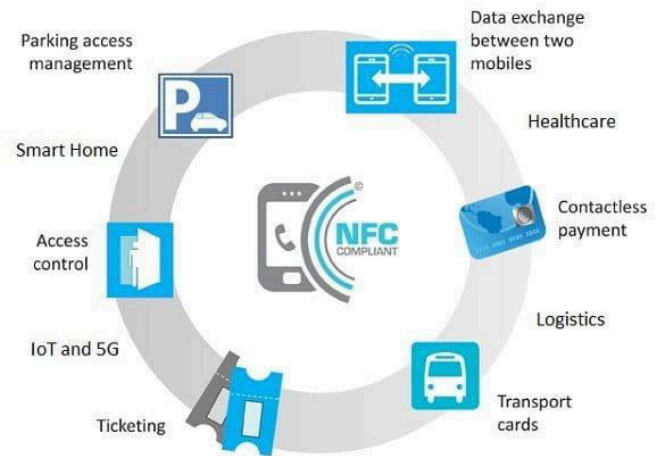
More on the Topic:

● It will allow **users with UPI accounts configured on Google Pay to make payments just by tapping their NFC-enabled Android smartphones** on any Pine Labs Android POS terminal.

● Once users tap their phones on the POS terminal, it will automatically open the Google pay app with the payment amount pre-filled.

● Users can then verify the amount and merchant name and authenticate the payment, using their UPI PIN.

● The process is much faster compared to scanning a QR code or entering the UPI-linked mobile number which has been the conventional way till now.

About NFC technology:

● NFC is a short-range wireless connectivity technology that allows NFC-enabled devices to communicate with each other and transfer information quickly and easily with a single touch.

● NFC transmits data through **electromagnetic radio fields,** to enable communication between two devices. Both devices must contain NFC chips, as transactions take place within a very short distance.

● NFC-enabled devices must be either physically touching or within a few centimetres from each other for data transfer to occur.

Indian Society/Social Issues/ Social Justice

Banning Two-finger test on victims of sexual offenses

In News: The Madurai Bench of the Madras High Court has directed the State government to ban medical professionals from conducting the two-finger test on victims of sexual offenses.

More on the Topic:

- A "per vaginal" or two-finger test is an explicitly intrusive physical examination wherein a doctor inserts two fingers inside the vagina of a rape survivor to check if the hymen is intact or not.

- It examines the laxity of vaginal muscles in order to determine if the woman has engaged in or has been subjected to sexual intercourse – a proof of virginity. In some cases, it is done by inspecting the size of a vaginal opening and for tears in the hymen.

Why It is Controversial?

- As per WHO, neither of the methods in the two-finger test can prove that a woman has had a vaginal intercourse or not.

- The virginity testing is a **patriarchal idea which transgresses ethics, ethical medical practices, as well as the privacy of the victim.**

- For decades, however, the two-finger test was the only method of confirming rape. The fact that the test once enjoyed legal status in India, means the law once

- conformed to the sexist idea of virginity as a 'virtue', demanded from unmarried women in India.

- In addition to being medically uncalled-for, **it is exclusively performed on women, mostly without their consent.**

- **The practice is rooted in gender and power inequalities,** wherein a woman's body is a subject of archaic ideas and/or can be regulated as per men's desires. vaginal intercourse or not.

The Supreme Court's View:

- Operating on the belief that women participating in pre-marital sex is unacceptable, the test is not only regressive and sexist, but also no longer in accordance with the law.

- The Supreme Court and several high courts had held the test and its interpretation **violates the right of rape survivors to privacy, physical and mental integrity, and dignity, and termed it unconstitutional.**

- In May 2013, the Supreme Court (SC) banned the two-finger test on rape victims on the grounds that it violates their right to privacy.

Extreme Poverty Dipped in India

In News: According to a recent World Bank Policy Research Working Paper Extreme poverty in India is estimated to have declined 12.3 percentage points between 2011 to 2019.

More on the Topic:

- The World Bank defines 'living in extreme poverty' in India as living on $1.9 or less in purchasing power parity (PPP) terms.

- The decline in the rural areas was much higher than in urban areas.

- In the first half of the decade, **extreme poverty declined to 19.1%.** The remaining 9.1% drop was achieved in the later years, between 2015 and 2019.

- Extreme poverty dropped by 3.2% points between 2017 and 2018 alone, which was the fastest rate in over two decades.

- Poverty has marginally increased for a brief period

atleast twice in the last decade. This was around the demonetisation of the Indian currency in 2016 and the economic slowdown after that.

- Recently The International Monetary Fund (IMF) has mentioned that **India has almost eradicated extreme poverty** and has brought down its consumption inequality to its lowest level in the last four decades.

- These consumption inequalities were dealt with **state-provided food handouts.**

- The IMF report highlighted that **less than 1% of the Indian population is living under extreme poverty.**

- Food ration schemes were **"instrumental"** in ensuring that extreme poverty did not rise during the pandemic and remind steady.

Anti-Poverty Programmes: India

- Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2005:

- It was launched on February 2, 2005. The Act provides 100 days assured employment every year to every rural household. One-third of the proposed jobs would be reserved for women.

- National Rural Livelihood Mission: Ajeevika

- It is the skill and placement initiative of Ministry of Rural development.

- Pradhan Mantri Kaushal Vikas Yojna:

- The cabinet on March 21, 2015 cleared the scheme to provide skill training to 1.4 million youth with an overall outlay of Rs. 1120 crore. This plan is implemented with the help of Ministry of Skill Development and Entrepreneurship through the National Skill Development Corporation.

- Pradhan Mantri Jan Dhan Yojana: Financial inclusion

- Pradhan Manti Garib Kalyan Yojana: Ration provision started during covid 19 outbreak related economic crisis.

India's Learning Poverty

"**In News:** World Bank's Global Director of Education has raised concern stating that India's 'learning poverty' has shot up to 70% from 54% in the pre pandemic time."

More on the Topic:

- The World Bank defines' learning poverty' as **a child's inability to read a simple text by 10.**

- Reading is a gateway for learning as the child progresses through school - and conversely, an inability to read impact children in a huge scale.

- When the child cannot read, it's usually **a clear indication that the school systems are not well-organized to help children learn** in other areas such as math, science and humanities.

- Learning poverty will also have **economic costs in the future.** The country's education system quality directly impacts the national gross domestic product.

Reason for Worsening Learning Poverty:

- The sudden school closure in 2020 proved to be a significant hurdle in a child's learning progress.

- So much so that many of them had to drop out as the closures were prolonged. Therefore, it can be challenging to convince them to re-enrol and start afresh.

Way Ahead:

- Government should first **identify the learning gaps and adjust instruction** to target the child's level of learning.

- Government must act swiftly and immediate policy actions must be made to keep schools fully open, bring back children to school, diagnose the learning losses, and address the support needed by students, teachers, and parents, to address the learning poverty.

- Improved assessment mechanism should be created and periodical assessment should be done to find out quality of teaching as well as improvement of students.

Government Steps to reduce learning poverty:

- **National Education Policy:** NEP mandates students to achieve foundational literacy and numeracy by all students by grade 3.

- **Nipun Bharat Programme:** It is a national mission on foundational literacy and numeracy. Students should achieve basic reading, writing and numeracy skills between 3rd and 5th grade.

QS World University Ranking

In News: The QS World University Rankings 2022 was released by the Quacquarelli Symonds (QS).

QS World University Ranking Methodology
- Faculty/Student Ration
- Citations Per Faculty
- International Outlook
- Employer Reputation
- Academic Reputation
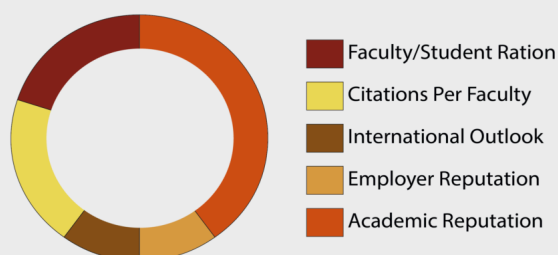
More on the Topic:

- Started in 2004, the **QS World University Rankings is an annual publication of university rankings.**

- Featuring 1,300 Universities from around the world, the university rankings of the year 2022 is the largest of the rankings.

- This ranking can be used to easily compare universities by looking at their score which is from 0 to 100.

- In the 2022 ranking, the top rank holders are

- Massachusetts Institute of Technology (MIT), Cambridge, USA,

- University of Oxford, United Kingdom and

- Stanford University, United States.

- IIT-Kharagpur has been ranked 37th in 2022 in mineral and mining engineering and 80th in 2022 in electrical and electronic engineering globally.

- Jadavpur University is the only state university in India which was ranked in the QS World University Rankings in the sphere of arts and humanities, 2022.

Manual Scavenging

In News: GOI has clarified on the discrepancy in manual scavenger's data.

More on the Topic:

- The data of number of manual scavengers as per Socio-Economic Caste Census, 2011 was based on self declaration at that period of time and was not verified by the concerned local authority.

- The data was also verified by the Ministry of Social Justice and Empowerment through sample check and found not to be correct.

- Thereafter, a National Survey was proposed to identify the manual scavengers. The National Survey of Manual Scavengers, 2018 was conducted jointly by representatives of local authority/State/District Administration.

- Therefore, there is variation in the data of manual scavengers. The National Survey of Manual Scavengers, 2018 was conducted jointly by representatives of local authority/State/District Administration.

- Therefore, there is variation in the data of manual

scavengers as per the Socio-Economic Caste Census, 2011 and the National Survey of Manual Scavengers, 2018.

Government Initiatives to Eliminate Manual Scavenging:

- Ministry of Social Justice and Empowerment has launched a mobile app **"Swachhata Abhiyaan"** (available on play store) to capture the data of insanitary latrines, if any, still existing and manual scavengers associated with them.

- Any person can upload the data of insanitary latrines and manual scavengers on the mobile app.

- Under the **Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS)** payment of One Time Cash Assistance of Rs. 40,000/- to the identified manual scavengers is being done.

- Rs. 10 lakhs each is paid to the families of those who have died while cleaning sewers/septic tanks.

- Central and State Governments are providing rehabilitation benefits, as per their schemes to the family of persons who died due to hazardous cleaning.

The following measures have been taken to promote 100% mechanization of Scavenging associated with septic tanks/sewers:

- Under the **Swachhta Udyami Yojana (SUY) concessional loans** are provided to sanitation workers and their dependants and the urban local bodies for procurement of sanitation related equipments, machines and vehicles costing upto Rs. 50.00 lakh.

- Under Recognition of Prior Learning (RPL) programme, free short duration upskilling training is provided to the sanitation workers. The candidates are trained about mechanized cleaning and safety precautions for safe and healthy cleaning of sewers and septic tanks.

- Through workshops conducted for the sanitation workers, the participants are made aware about the provisions under the "Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013".

About Manual Scavenging:

- Manual scavenging is a term used mainly for "manually cleaning, carrying, disposing of, or otherwise handling, human excreta in an insanitary latrine or in an open drain or sewer or in a septic tank or a pit".

- The construction of dry toilets and employment of manual scavengers to clean such dry toilets was prohibited in India in 1993.

- The law was extended and clarified to include a ban on use of human labour for direct cleaning of sewers, ditches, pits and septic tanks in 2013.

Manual Scavengers and their Rehabilitation Act, 2013 (PEMSR).

- **India banned the practice of Manual scavenging** under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 (PEMSR).

- The Act bans the use of any individual for manually cleaning, carrying, disposing of or otherwise handling in any manner, human excreta till its disposal.

- In 2013, the definition of manual scavengers was also **broadened** to include people employed to clean septic tanks, ditches, or railway tracks.

- The Act recognizes manual scavenging as a **"dehumanising practice,"** and cites a need to "correct the historical injustice and indignity suffered by the manual scavengers."

State of World Population Report

In News: The United Nations Population Fund (UNFPA) has published The State of World Population Report.
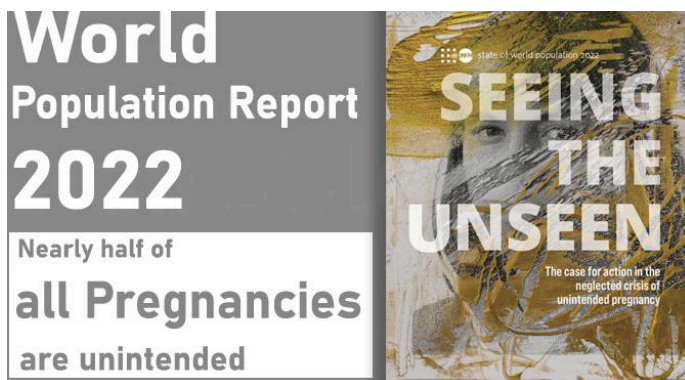
More on the Topic:

- Theme of the 2022 report is **"Seeing the Unseen: The case for action in the neglected crisis of unintended pregnancy"**.

- Between the years 2015 to 2019, **there was a rise in unintended pregnancies.**

- There are around 121 million or **12.1 crore unintended (unplanned or unwanted) pregnancies across the world every year, and one in every seven of these occur in India.**

- The number of unintended pregnancies around the world accounted for **48 % of all pregnancies.**

- 61 % of the unplanned pregnancies ended in abortion. In Other words, **"almost 30% of all pregnancies, end in abortion"**

- This is a concerning data as **these abortions are unsafe, putting women and young girls at unnecessary risk.**

Teen Age Pregnancies:

- Not all teenage deliveries across the globe result from unintended pregnancies.

- **Majority of births by girls aged under 18 years took place within marriage,** suggesting that many of those pregnancies could be classified as intended.

Lack of Contraception:

- There was a lack of modern and safe methods of contraception and across the globe, around 257 million women are not using such methods of contraception to avoid pregnancies.

- During the first 12 months of the Covid-19 pandemic, there was a disruption in contraceptive supplies due to which around 1.4 million unintended pregnancies were reported.
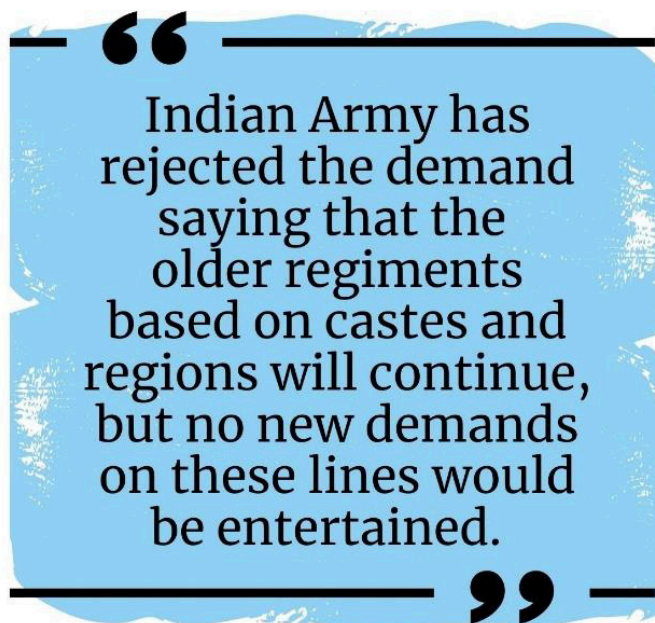
Rape-related pregnancies:

- There has been a rise in rape-related pregnancies. Among women who have experienced partner violence contraceptive use is 53 percent lower. There is more chance of pregnancies occurring due to rape than consensual sex.

The United Nations Population Fund (UNFPA):

- UNFPA is the United Nations sexual and reproductive health agency. It became operational in the year 1969.

- UNFPA works as a **subsidiary organ under the umbrella of the UN General Assembly** which is one of the Principal Organs of the United Nations.

- According to the UNFPA reports, **India will be the most populous country by the year 2028**, although its fertility rate has declined from about 3.6 to 2.4 children in the last three decades.

Demand for the Ahir Regiment

In News: The demand for a full-fledged Infantry Regiment named after Ahir has been rejected by the Indian Army.

> Indian Army has rejected the demand saying that the older regiments based on castes and regions will continue, but no new demands on these lines would be entertained.

More on the Topic:

- Ahirwal region includes the southern Haryana districts of Rewari, Mahendragarh, and Gurgaon.

- This region is associated with Rao Tula Ram, the Ahir hero of the 1857 revolt, and has traditionally contributed soldiers to the Indian Army in large numbers.

- Ahirs community was brought into national limelight after the story of the bravery of the Ahir troops of Haryana in the Battle of Rezang La in 1962 (India-China war) was widely known.

Indian Army's Response:

- The Army has **rejected the demand for any new class or caste based regiment.**

- It has said that while the older regiments based on castes and regions like the Dogra Regiment, Sikh Regiment, Rajput Regiment, and Punjab Regiment will continue, **no new demands on the lines of an Ahir Regiment, Himachal Regiment, Kalinga Regiment, Gujarat Regiment or any tribal regiment would be entertained.**

- It is stated that The Army is doing well with the present composition and therefore there is no need to add new regiments based on class or caste.

Assam Meghalaya Border Dispute

In News: The chief ministers of Assam and Meghalaya signed an agreement to resolve part of their five-decade-old inter-state border dispute.

More on the Topic:

- Assam and Meghalaya share an 885-km-long border. As of now, there are 12 points of dispute along their borders.

- **Meghalaya was carved out of Assam under the Assam Reorganisation Act, 1971.**

- This law was challenged by Meghalaya and that led to disputes.

- A major point of contention between Assam and Meghalaya is the district of Langpih in West Garo Hills bordering the Kamrup district of Assam. Langpih was part of the Kamrup district during the British colonial period but post-Independence, it became part of the Garo Hills and Meghalaya.

Major Point of Contention:

- Assam considers it to be part of the Mikir Hills in Assam. Meghalaya has questioned Blocks I and II of the Mikir Hills -now Karbi Anglong region-being part of

Assam. Meghalaya says these were parts of erstwhile United Khasi and Jaintia Hills districts.

Efforts to solve the issues:

- Both Assam and Meghalaya have constituted **border dispute settlement committees.** They also set up **two regional committees** to resolve the border disputes in a phased manner.

- Five aspects considered while resolving the border dispute. They are historical facts, ethnicity, administrative convenience, mood and sentiments of the people concerned and the contiguity of the land.

Assam And Border Issues:

- **The states of the Northeast were largely carved out of Assam,** which has border disputes with several states. Assam's border disputes with Arunachal Pradesh and Nagaland are pending in the Supreme Court.

- Assam's border disputes with Meghalaya and Mizoram are currently in the phase of resolution through negotiations. The border dispute with Mizoram recently turned violent, leading to intervention from the Centre.

Art and Culture, Ancient and Modern India

Al-Aqsa Mosque-Israel

In News: Tensions flared at Jerusalem's al-Aqsa Mosque compound leading to clashes.

More on the Topic:

- The al-Aqsa Mosque is **one of Jerusalem's most recognised monuments.** The mosque's complex is one of Islam's most revered locations, and the Temple Mount is the holiest site in Judaism.

- The Temple Mount is a walled compound inside the Old City in Jerusalem, and is the site of two structures: The Dome of the Rock to the north and the Al-Aqsa Mosque to the south.

Chennakeshava Temple

In News: Rathotsava (chariot festival) at the historic Chennakeshava temple has begun with age old tradition of recital of the Quran.
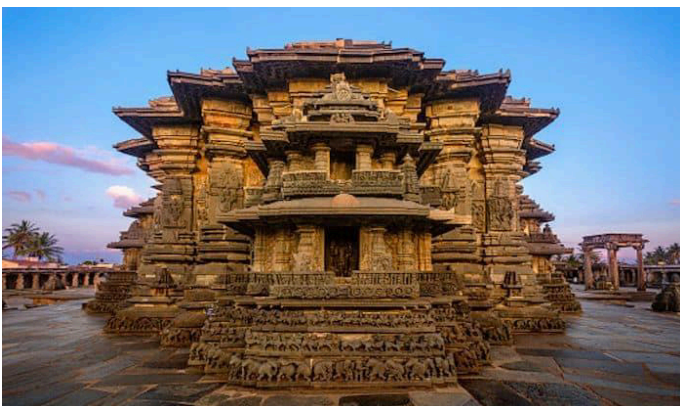
More on the Topic:

- The Chennakeshava Temple was a centrepiece of the Hoysala kingdom and it is believed to be closely related to the military achievements of the king who commissioned it in 1117 AD, King Vishnuvardhana.

- It is located at Belur which was the first capital city of the Hoysalas.

- The king had fought wars with the Western Chalukyas and had also defeated the Cholas.

- The temple was built using **soft soapstone** as they were found suitable for intricate carvings.

- It is built according to Vijayanagara Architecture style.

Hero Stones of Tamil Nadu

In News: Archaeologists have recently discovered three hero stones from the 11th or 12th Century CE, during the rule of Kongu Cholas, in Coimbatore district of Tamil Nadu.

More on the Topic:

- Historically, in Tamil society, there was a tradition to worship heroes who died for the welfare of others.

- People erected stones depicting these heroes and worshipped the stones as a mark of respect.

- Sangam literature describes such hero stones as objects of worship. Tholkappiyam describes the procedures for erecting hero stones.

- **Kongu Cholas:** The Kongu Cholas were believed to be the descendants of Kandaraditya (950-947 A.D.) the son of Parintaka Chola I of the Imperial Chola line.

- The first Kongu Chola ruler was Vira Chola 1 (942-980 A.D.).

Guru Tegh Bahadur

In News: Prime Minister will participate in the celebrations of the 400th Parkash Purab of Sri Guru Tegh Bahadur Ji at Red Fort.

More on the Topic:

- The programme is focussed on highlighting the teachings of Guru Tegh Bahadur Ji, the ninth Sikh Guru, who sacrificed his life to protect religion and human values, ideals and principles in world history.

- Guru Tegh Bahadur was the ninth Sikh Guru, often venerated as the 'Protector of Humanity' (Srisht-di-Chadar) by the Sikhs.

- His writings are housed in the sacred text, **'Guru Granth Sahib,'** in the form of 116 poetic hymns.

- He founded the town of **Chak-Nanki in Punjab**, which later became a part of Punjab's Anandpur Sahib.

- In the year 1675, Guru Tegh Bahadur was executed in Delhi under the orders of the Mughal Emperor Aurangzeb.

Sabarmati Ashram

In News: UK Prime Minister Boris Johnson visited the Sabarmati Ashram in Gujarat's Ahmedabad.

More on the Topic:

- This was one of the important residences of Mahatma Gandhi who lived at Sabarmati (Gujarat) and Sevagram (Wardha, Maharashtra) when he was not travelling across India or in prison.

- He lived in Sabarmati or Wardha for a total of twelve years with his wife Kasturba Gandhi and followers, including Vinoba Bhave.

- It was from here that **Gandhi led the Dandi march** also known as the Salt Satyagraha on 12 March 1930.

- In recognition of the significant influence that this march had on the Indian independence movement, the Indian government has established the ashram as a national monument.

Lingaraj Temple

In News: The Central government has told the Odisha government that its ordinance to bring the 11thcentury Lingaraj temple in Bhubaneswar and its associated temples under a special law is outside the legislative competence of the state legislature.

More on the Topic:

- Centre also informed that the ordinance is in conflict withthe rules laid down under the Ancient Monuments and Archaeological Sites and Remains Act, 1958 (AMASR Act).

- Lingaraja was built by **King Jajati keshari of Soma Vansh**. But later additions were done by the Ganga rulers.

- It is an example of the **Kalinga Style of Architecture.** This style broadly comes under the Nagara style.

- The temple is built in **red stone.**

- The temple is built in the **Deula style** that has four components namely, **vimana (structure containing the sanctum), jagamohana (assembly hall), natamandira (festival hall) and bhoga-mandapa (hall of offerings),** each increasing in the height to its predecessor.

- The temple complex has 50 other shrines and is enclosed by a large compound wall.

- The **central deity of the temple, Lingaraja, is worshipped both as Shiva and Vishnu**

- The harmony between the two sects of Hinduism, Shaivism, and Vaishnavism, is seen in this temple where the deity is worshipped as Harihara, a combined form of Vishnu and Shiva.

The Cyclopean Wall

In News: Bihar government has sent a fresh proposal to the Archaeological Survey of India (ASI) to get Cyclopean wall, a more than 2,500 years old structure at Rajgir, listed in the UNESCO World Heritage Site.
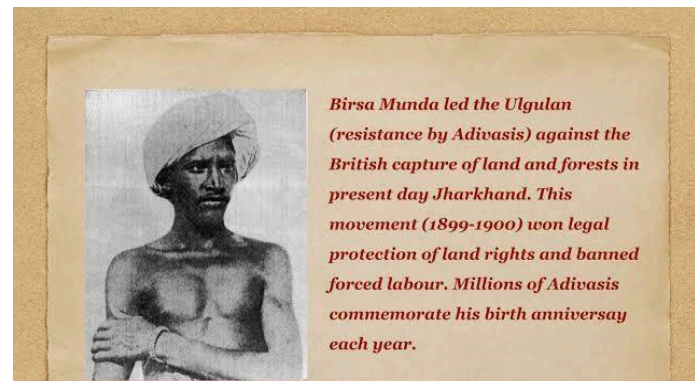

More on the Topic:

- The Cyclopean Wall of Rajgir is a 40 km long wall of stone which encircled the ancient city of Rajgir to protect it from external enemies and invaders, built before 3rd century BC.

- It is believed that the Cyclopean Wall at Rajgir is similar to **"Frontiers of the Roman Empire"** that runs through Germany, UK and Northern Ireland, which was included on UNESCO's world heritage list in 1987.

- Bihar is the home to two UNESCO World Heritage Sites. **Nalanda University is one of the two UNESCO World Heritage Site in Bihar** and was listed in 2002. It is listed as the Archaeological Site of Nalanda Mahavihara at Nalanda, Bihar in the UNESCO World Heritage Sites of India list.

- Another ancient monument in the state that has been included in UNESCO World Heritage Site list, is **Mahabodhi temple of Bodhygaya.**

Birsa Munda

In News: Union Education and Skill Development Minister released a book "Birsa Munda –Janjatiya Nayak".

Birsa Munda led the Ulgulan (resistance by Adivasis) against the British capture of land and forests in present day Jharkhand. This movement (1899-1900) won legal protection of land rights and banned forced labour. Millions of Adivasis commemorate his birth anniversay each year.
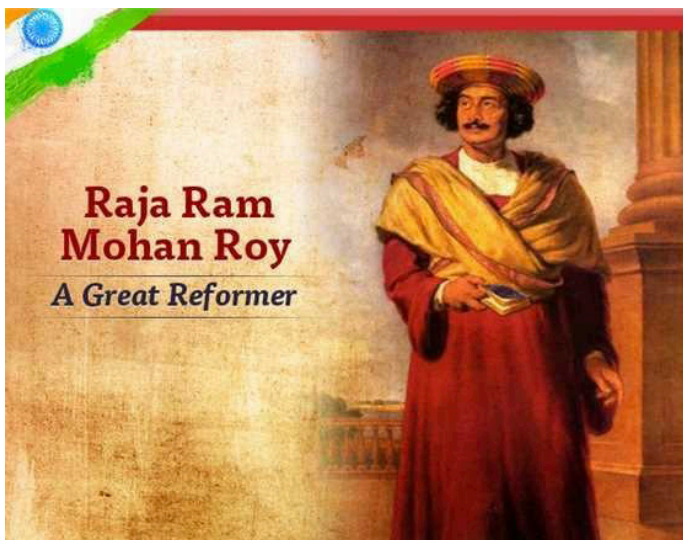
More on the Topic:

- Birsa Munda was **a folk hero and a tribal freedom fighter** hailing from the Munda tribe.

- He was a spearhead behind the Millenarian movement that arose in the Bihar and Jharkhand belt in the 19th century under British colonization.

- He is also known as **'Dharti Abba' or the Earth Father**.

- Birsa started a movement called **'Ulgulan', or 'The Great Tumult'**. His struggle against the exploitation and discrimination against tribals led to a big hit against the British government in the form of the Chotanagpur Tenancy Act being passed in 1908.

- The act restricted the passing on of land from the tribal people to non-tribals.

Munda Rebellion:

- British colonial system intensified the transformation of the tribal agrarian system into a feudal state by introducing Zamindari-tenancy system.

- Outsiders (Dikus) were invited by the Brtitish to settle on and cultivate the tribal land.

- Thus, the various tribes, who were the original owners of the land, were left bereft of land and any means of livelihood.

- A reovolt was led by Birsa Munda in the south of Ranchi in 1899-1900.

- He mobilised thousands of tribal folk to form guerrilla armies to attack the British Raj.

- As a result of the revolt, The Britishers were forced to abolish the feudal system that plagued the Adivasi lands in Jharkhand and Bihar.

- Birsa compelled the Britishers to introduce new legislation - **the Chota Nagpur Tenancy Act, 1908**. This Act prohibited the transfer of tribal land to non-tribal parties.

Mirat Ul Akhbar

In News: Mirat Ul Akbar has completed 200 years of publication.

More on the Topic:

- Mirat-ul-Akhbar was a Persian language journal founded and edited by Raja Rammohan Roy.
- The newspaper was first published on 12 April 1822.
- It was published on a weekly basis.

Banarasi Pashmina

In News: The Khadi and Village Industries Commission (KVIC) has launched the premium Pashmina products prepared by the highly skilled Khadi weavers of Varanasi.

More on the Topic:

- This is for the first time that Pashmina products are being produced outside the Himalayan highlands of Leh-Ladakh and Jammu & Kashmir.
- Pashmina production begins with collection of raw Pashmina wool from Ladakh and which is brought to Delhi for de-hairing, cleaning and processing.
- The processed wool, in the form of roving, is brought back to Leh where it is handspun into yarn by women Khadi artisans on modern Charkhas provided by KVIC.
- The finished yarn is then sent to Varanasi where it is woven by trained Khadi weavers into final Pashmina products.

Changthangi or Pashmina goat:

- It is a special breed of goat indigenous to the high altitude regions of **Ladakh in Jammu and Kashmir.**
- They are raised for **ultra-fine cashmere wool**, known as Pashmina once woven.
- These goats are generally domesticated and reared by nomadic communities called the **Changpa in the Changthang region of Greater Ladakh.**

Bamiyan Budhas

In News: The Taliban regime in Afghanistan has said it would protect the ancient Bhamiyan Buddha statues.

More on the Topic:

- Bamiyan is situated in the **high mountains of the Hindu Kush** in the central highlands of Afghanistan.
- The valley is set along the line of the **Bamiyan River.**
- It was once integral to the early days of the Silk Roads, providing passage for merchants, culture, religion and language.
- Salsal and Shamama, as they were called by the locals, rose to heights of 55 and 38 metres respectively, and were said to be male and female.
- In their Roman draperies and with two different mudras, the Bamiyan Buddhas were **great examples of a confluence of Gupta, Sassanian and Hellenistic artistic styles.**
- They are said to date back to the 5th century AD and were once the tallest standing Buddhas in the world.

Prehistoric Relics Discovered

In News: Several prehistoric artifacts and archaeological remains have been found on the banks of three rivers flowing through the Attappady hills in Kerala and Tamil Nadu.

More on the Topic:

- Prehistoric humans discovered many stone tools, inhabited caves, menhirs, cisterns or burial chambers, stone circles, burial urns, black and red pottery, terracotta images, stone carvings, and granite inscriptions in the tribal area of Attappadi.

- The presence of a mature settlement is indicated by the discovery of several prehistoric artefacts and archaeological remains.

- Attappady is a tribal taluk in Kerala. Irula, Muduka and Kurumba tribes are the natives of Attapady.

UNESCO City of Literature

In News: Kozhikode City of Kerala has been proposed to be city of literature under UNESCO's Creative City Network
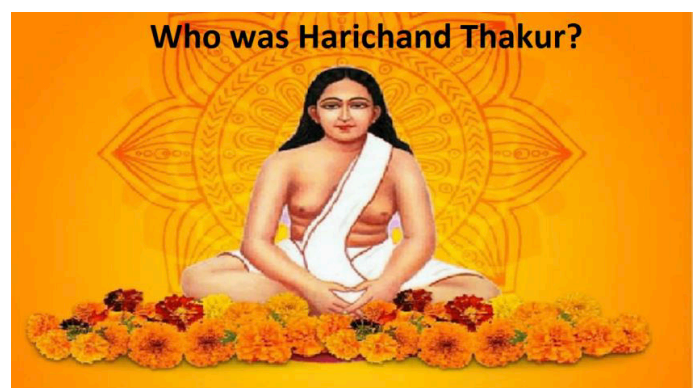

More on the Topic:

- The UNESCO Creative Cities Network (UCCN) was created in 2004 to promote cooperation with and among cities that have identified creativity as a strategic factor for sustainable urban development.

- It is intended to place creativity and cultural industries at the heart of their development plans at the local level and cooperating actively at the international level.

- The Network covers seven creative fields: Crafts and Folk Arts, Media Arts, Film, Design, Gastronomy, Literature and Music.

Indian Cities on UCCN:

- Srinagar - Crafts and Folk Arts (2021)

- Mumbai – Film (2019).

- Hyderabad – Gastronomy (2019).

- Chennai- Creative city of Music (2017).

- Jaipur- Crafts and Folk Arts (2015).

- Varanasi- Creative city of Music (2015).

Matua Community

In News: Prime Minister has virtually addressed the Matua community during the opening of 'Matua Dharma Maha Mela 2022'.

More on the Topic:

- The Mela, being organised on the occasion of the 211th birth anniversary of Shree Shree Harichand Thakur.

- Harichand Thakur was born in 1812 in Orakandi in Bangladesh in a peasant farmer family of the Thakur community (SC community).

- Thakur, whose family were **Vaishnavite Hindus, founded a sect of Vaishnavite Hinduism called Matua.**

- This was adopted by members of the Namasudra community, who were then also known by the common pejorative name of **Chandalas and considered untouchable.**

- The sect, opposed to caste oppression, later attracted adherents from other communities marginalised by the upper castes, including Malis and Telis.

- **Harichand Thakur devoted his life to the cause of betterment of the oppressed,** downtrodden and deprived

people in undivided Bengal during the pre-independence era.

- Matuas are originally from East Pakistan, the Matuas migrated to India during Partition and after the creation of Bangladesh. However, a sizable number are yet to get Indian citizenship.

Personalities and Places In News

Jagjivan Ram

In News: 115th birthday of freedom fighter and vetera leader Babu Jagjivan Ram was celebrated recently.
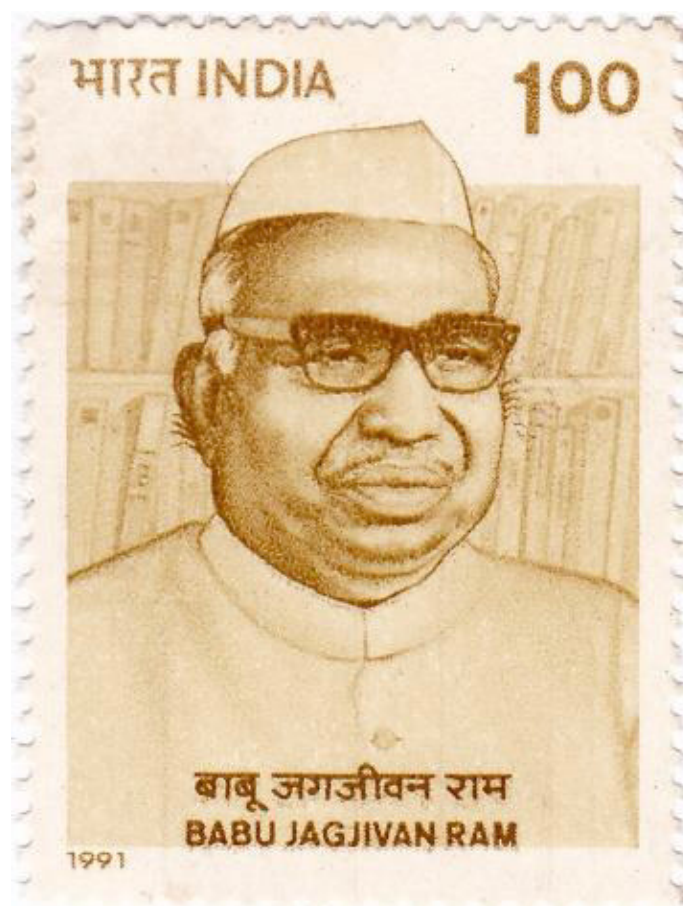
More on the Topic:

- Jagjivan Ram, often known as Babuji, was a Dalit icon who battled for the rights of the disadvantaged.

- He was instrumental in the **foundation of the All India Depressed Classes League** in 1935, an organisation dedicated to attaining equality for untouchables.

- During the 1971 India-Pakistan war, **he served as Minister Of defence**. Between 1977 and 1979, Babu Jagjivan Ram was also the Deputy Prime Minister.

- During his two tenures as Union Agriculture Minister his **contribution to the Green Revolution** in India and modernising Indian agriculture, especially during 1974 drought is remembered.

Freedom fighter Shyamji Krishna Varma

In News: Prime Minister has paid tributes to Shyamji Krishna Varma.

भारत INDIA

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श्यामजी कृष्ण वर्मा
SHYAMJI KRISHNA VARMA
1989
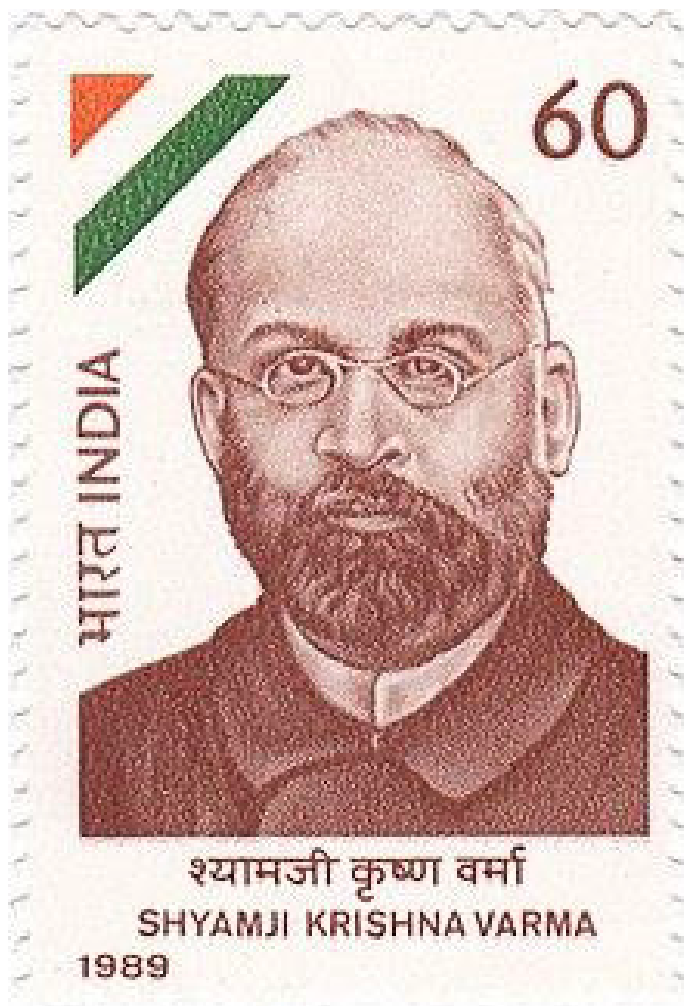
BUCHA

In News: India has condemned the killing of civilians in Bucha, Ukraine, at the United Nations Security Council (UNSC).

More on the Topic:

- The mayor of the city has stated that over 300 of the city's inhabitants were found dead in the aftermath.

- The government of Ukraine has approached the International Criminal Court (ICC) and has asked them to investigate the happenings in Bucha and whether it can be declared a Russian war crime.

- Bucha is a city in Ukraine's Kyiv Oblast.

More on the Topic:

- Shyamji Krishna Varma (4 October 1857 – 30 March 1930) was an Indian revolutionary fighter, an Indian patriot, lawyer and journalist

- He has founded the **Indian Home Rule Society, India House and The Indian Sociologist in London.**

- Indian Home Rule Society and the India House worked towards inspiring youngsters in Britain to take up revolutionary activities against their own representatives in India.

- The monthly Indian Sociologist became an outlet for nationalist ideas and through the Indian Home Rule Society, he criticised the British rule in India.

Essays

Conservation is a state of harmony between men and land

As Mahatma Gandhi has aptly said "The world has enough resources for everyone's needs, but not everyone's greed". We were born on this earth not only to fulfill our desires, but live life to meet our necessities. But, with time technology has taken a giant leap ahead and aroused greed in humans to such an extent that we have forgotten the earth is for all creatures to live. This human greed for better living along with the rapid growth of technology is one of the important reasons for nature getting destroyed at a faster pace today.

The conservation of nature is the responsibility of every human on earth for it to remain healthy and prosperous. Conservation is an effective tool for utilization and management of natural resources that helps not only in protecting our environment but life on earth be it humans or flora and fauna from the perspective of environment, economic, social, and cultural growth etc.

Harmony between men and land with environment

The protection of plants and animals is a must and with many of these species becoming extinct, it signifies a disaster waiting to happen for human life as these form the links in food chain and the ecosystems may vanish thereby causing scarcity of food. The plants depend upon better soil, water and climate and if any one of these gets hampered by either excess or minimum supplement, then the plant ecosystem may become extinct. In the same way, humans depend on fish and fish depends upon phytoplankton for food thus creating a state of equilibrium. But due to over utilization of resources the harmony is getting disturbed giving rise to events like climate change and green house effects. According to the National Academy of Science, the world is entering into sixth mass extinction as it has lost more than 50% of animals and plants species. Hence, many countries are coming forward to 'revive nature' through various government initiatives like building wildlife sanctuaries, national parks, biosphere reserves, etc. For example, India has introduced 'Nagar Van Udyan' scheme in building city forests.

Harmony between men and land with economic implications

Humans depend on agriculture for food and due to over use of chemicals in agriculture to achieve greater output, the soil quality is getting degraded as many nutrients in the soil are lost thus yielding to low productivity and giving rise to poverty. It is evidently seen that agricultural contribution to India's GDP is declining over the years. The United Nations Development Programme (UNDP) has estimated that the world may enter into poverty by 2030.

Harmony between men and land with socio-cultural implications

Due to globalization and man's avarice for luxuries, humans are depleting the natural resources, like instance establishing soft drinks producing plants like Coca - Cola and Pepsi which not only uses most of the ground water but also contaminates it with effluents. Recently, the National Green Tribunal fined Coca-Cola, Pepsi for overusing groundwater beyond limit.

The livelihood and cultural traditions of the tribal communities depend mainly on forests and its produce for their basic living and recently due to human intervention of forest land; these communities are displaced from the very forests they have conserved since ages. The depleting forest of Amazon due to human activities and forest fires that is a result of global warming is one such example of human greed. The Indian government has recently implemented various measures to safeguard the rights of forest dwellers. In order to protect their integrity, environment protection has been made a fundamental and legal right of every citizen by the Indian government.

According to United Nation Combat to Desertification (UNCD) around 29% of world land is getting degraded and efforts are being made by the international community's by bringing initiatives like National Action Plan, UNFCC, Kyoto Protocol etc. India has also implemented a national action plan on climate change, International Solar Alliance (ISA) which is a collaborative approach to meet United Nations Sustainable Development Group (UNSDG) goal 13 "Climate Action" by 2030.

Apart from all these factors, an ethical perspective is required to conserve nature by creating awareness about climate change in all educational institutions and also by following NOLAN committee recommendations.

Some steps have been taken by both national and international committees for conservation and to combat climate change like the Paris Agreement that many countries including India are adhering to, United Nations "World day to combat desertification and drought" to combat land degradation, UNFCCC. India is a founding member of ISA with France. Many local campaigns like Save Soil an initiative by Sadguru and national programs like National Afforestation Program, Green India Mission, Nagar Van Udyan etc have been implemented.

Environment Impact Assessment (EIA) needs to be implemented in letter and spirit to conserve environment along with economic development. Environment is like our parents, and as the citizens of tomorrow, we need to nurture, care and protect our environment for us and for tomorrow.

Vaibhav Kulkarni
Student, RVTA

"ROLE" MORE THAN "RULE" IS IMPORTANT FOR TODAY'S CIVIL SERVANTS

"If I were to be born again, I would still like to be an IAS officer because there is no other service that gives such an opportunity to serve the poorest of the poor and no vocation that provides so many "Bharat Ratna" moments".
Anil Swarup

Sardar Vallabhbhai Patel called the civil service as the "steel frame", of permanent executives, chiefly responsible for executing the policy formulated by the legislature. The history of civil services in India can be traced back to ancient times since Mahajanapadas. Plenty of evidence like Arthashatra of Chanakya, Mughal records and the British rule played a vital role in evolution of civil services in India.

Importance of civil services for Indian administration is vital. They are the actual decision makers in the day to day business and they assist both in formulating and implementing the policies of government at both state and union level. Civil services facilitate technical assistance and proper data input to government and promote specialized help in law making in India. They indeed have the potential to make the difference and bring about the changes.

Although civil servants are working in accordance to the rules available in statutes and guidelines provided to them from time to time, there is lack in the intent with which they should work. Many of the civil servants have lost the morale of their position and indulge in heinous acts like bribes, forming nexus with politicians for personal benefits and other illegal activities. Disillusioned powers, not being accountable, percentage politics, irresponsible decision making are few vague issues existing which needs to be addressed immediately.

According to Transparency International's "Global Corruption Barometer Asia: 2020 Report" India tops the list among Asian countries in corruption and using personal links to access the public services in India.

The civil servants are mandated to have some principles and characters. Not only being the followers of the rules, they should live innovatively for the welfare of people. There are a good number of standards set for civil servants by themselves.

"Role more than rule can be easily understood with achievements of few bureaucrats". Armstrong Pame also known as "the miracle man" borrowing money from his family members and also raising funds built a 100km road on his own to facilitate tribal welfare in areas of Manipur, Nagaland and Assam.

Smitha Sabharwal began the "Fund Your City Campaign", an innovative program to create necessary public utilities via public private partnership.

Prakash Nair's role was to address the hunger in Kerala. He came up with "Operation Sulaimani", a free food programme for those who cannot afford food by collecting food that may be wasted by some class of people and came to be known as "collector bro" in Kerala.

To instill the role based civil services in India, Government of India came up with Mission Karmayogi in 2021. It aims to create a dedicated work force not only of civil services but to serve the cause of Indian society.

The mission facilitates rules based to roles based capacity building programme, linking modern social demand and tech-lead work culture to public institutions. It focuses on competency based service allocation to make the bureaucrat use his domain knowledge at best to serve the needs of modernizing society. In short its aim is to find the right person for the right job.

Mission Karmayogi is an attempt to recast civil services in a manner that every officer is equipped, trained, updated and oriented to optimally discharge the role assigned to them rather than to remain a prisoner of rules.

Gandhi Ji's talisman' or 'Gandhi ji ke Jantar' is an advice by the Father of the Nation which says the policy so formed must benefit the poorest of poor and a utilitarian approach which guide our policies to do maximum good for maximum number of people, should be infused in work culture.

Conscience based decision making in key areas along with statutes will enhance the service delivery. Field work techniques may help to understand the ground realities and do governance from outcome point of view.

Role is that complex thing where a civil servant along with his/her regular activities as given in statute, strive for overall welfare of the society by using domain expertise, innovative programs, awareness campaigns, grievance redressing mechanisms, understanding people's problems with compassion and providing best and quick solutions.

Ultimately as Gandhiji has said that changes must come from within and only such changes will be effective and long lasting than changes infused from outside. Thus every civil servant must possess role based optimal decision making, which is the need of the hour in modern society.

Ramesh Bodhaswami
Student, RVTA

TESTIMONIALS

Vasanti Zalkikar
Student (GS Foundation batch 2022-23), RVTA

The RV Training Academy helps students in enriching their knowledge base through well devised UPSC training modules. The institute conducts classes by experienced faculty and also provides the students with regular notes, personal attention, mock tests, feedback sessions, motivational programs and mentorship sessions that help a true UPSC aspirant in making their path for cracking the civil services examinations easier.

Sowmya K.S
Student (GS Foundation batch 2022-23), RVTA

I found the entire staff of the RV training academy very supportive. The administration staff was very efficient and they solved our technical issues within a day. My mentor was Suma ma'am, she is an amazing teacher, and she would guide us very logically. The online recorded classes were of good clarity. The last few minutes of the training were missed during online classes and I was not able to get a hard copy of the notes provided. This made revising a little difficult, but the overall facilities and training provided by the RV Training Academy was excellent.

Dinakar S
Student (GS Foundation batch 2022-23), RVTA

First of all, I am very grateful to the RV TRAINING ACADEMY for providing me with the best coaching and guidance. This institute not only emphasizes on the best coaching for its students but also on their holistic development which is very essential for an aspirant of civil services. The academy had less time for managing everything due to the delayed selection process by the Brahmin Board. But, the institute managed it brilliantly without compromising the quality of the service even in this less time. The faculties who guided us are very well experienced in their subjects. I am very thankful to Kirti mam and Suma mam for their extraordinary contribution towards their duty and for the guidance provided to the students. The mentoring sessions helped me immensely to work on my weaknesses and correct my way of moving forward in the journey. The study material that was provided was detailed and relevant to exam related contents. I am personally thankful to all the staff members of the institute who were very friendly and supportive. The learning environment and the facilities are incredible. Almost all the major decisions regarding the studies were taken in consultation with students and this is the nature I loved in this institute. I was personally inspired by the personality of the Director of the institute Dr. T V Raju sir who is very energetic and enthusiastic. Finally, each and every moment spent in this institute and all the teaching and non-teaching staff will always remain memorable for me.

Nikhil Kumar S
Student (GS Foundation batch 2022-23), RVTA

Firstly, I thank RV Training Academy for providing me this great opportunity to prepare for the UPSC CSE and making my childhood dream come true. Every faculty is striving very hard in making us worthy of the competition and have not disappointed us in any aspect. They have provided us with quality content through eminent teaching staff and study material to rely upon. The test series are helpful for self-evaluation and FLT are proving to be effective before attempting the examination. The Varthaman magazine is also very significant in regard to the current affairs.

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