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1. INDIAN SOCIETY & POLITY

1. Criminalization of Politics

Why in News?

- As per an analysis by Association for Democratic Reforms, 89% Assembly constituencies in Bihar have Three or more candidates who have declared criminal cases against themselves in their affidavits for the ongoing elections.
- This highlights the Problem of Criminalisation of politics.

Factors:

- Individuals and political parties do massive expenditure for buying the votes and for other illegitimate purposes. The politician's link with the constituency gives rise to political crime.
- Corruption is also an important factor in the criminalisation of politics. The corrupted political member uses his powers for winning the elections in an unfair manner.
- Low compliance of Election Commission (EC) guidelines.
- Interference in the investigation of crime and poor prosecution of cases.
- Massive delays of cases of criminal candidates over the years and high cost involved in the judicial proceedings.
- Unwarranted granting of parole and abundance withdrawal of the court cases.

Suggestions:

- Intra-party democracy and accountability should be promoted by the Constitution.
- The Political parties should themselves refuse tickets to the candidates with criminal records.
- Amend the Representation of People's Act, 1951 to debar the persons from contesting elections against whom crimes of heinous nature are pending.
- Persons who have been punished with a jail term of more than 7 years should not be given a right to contest elections before the High Court grants permission.
- Implementation of Fast-track courts to deal with the cases of politicians with criminal records.
- Awareness should be created about NOTA (none of the above) and criminal background of the candidate to prevent the criminals from winning elections.
- The appointment of Election Commissioners should be fair and transparent.

- Greater transparency should be brought in campaign financing that will make it less desirable for the political parties to comprise the candidates pertaining to criminal background.

2. Miyas of Assam and Char-chapori culture

Why in News?

- The idea of setting up a Miya Museum at the Srimanta Sankaradeva Kalakshetra, Assam was rejected, stirring up a Controversy in the state.

What is the Recent Controversy?

- The museum aimed to reflect the culture and heritage of people living in char-chaporis.
- Char-chaporis are shifting riverine islands of the Brahmaputra and primarily inhabited by the Muslims of Bengali-origin (referred as 'Miyas').
- The construction was rejected citing there is no separate identity and culture in Char Anchal of Assam as most of the people had migrated from Bangladesh.

Who are the Miyas?

- The 'Miya' community comprises descendants of Muslim migrants from East Bengal (now Bangladesh) to Assam.
- The community migrated in several waves:
 - ✓ British annexation of Assam in 1826,
 - ✓ Partition of India, 1947
 - ✓ Bangladesh Liberation War 1971
 - ✓ The migration has resulted in changes in demographic composition of the region.
 - ✓ The discontent among the indigenous people led to the six-year-long (1979-85) anti-foreigner Assam Agitation to weed out the illegal immigrants perceived as taking over Jobs, Language and culture of the Indigenous Population.

What are Char-Chaporis?

- A char is a floating island while chaporis are low-lying flood-prone riverbanks.
- They keep changing shapes — a char can become a chapori or vice versa, depending on the push and pull of the Brahmaputra.
- The areas are prone to floods and erosion marked by low development indices.
- The population of chars was 24.90 lakh as per a socio-economic survey in 2002-03, 80% of which lives below poverty line.
- The char areas are **suffering from:**

- ✓ Communication deficits
- ✓ Lack of adequate schooling facilities beyond primary
- ✓ Girl child marriage
- ✓ Poverty
- ✓ Illiteracy.
- These islands are primarily occupied by Bengali-origin Muslims & other communities (Misings, Deoris, Kocharis, Nepalis) also live here.

How do the Miyas Identify Themselves?

- Miyas community has tried to integrate into the larger Assamese society:
 - ✓ By speaking Assamese
 - ✓ Sending their children to Assamese schools
 - ✓ Declaring Assamese as their language since the 1951 census
 - ✓ Significant presence in Assamese literary and cultural life.
 - ✓ The community feels to celebrate their own culture and heritage within the larger Assamese fold that like other ethnic groups. The is unique to Assam's char dwellers because it is a product of a hundred years of assimilation with the Assamese society.
- **For Example:**
 - ✓ Lathibari (Ancient performative martial art). Their version includes donning a white vest and dhoti, an Assamese gamosa on heads and waists.
 - ✓ Bhatiali geet (speaks of the Brahmaputra river).

Why are some Assamese Uncomfortable with that?

- The museum has been proposed in the Srimanta Sankaradeva Kalakshetra.
- It is a cultural complex centre in Guwahati showcasing the State's cultural heritage named after neo-Vaishnavite reformer Srimanta Sankardev.
- It was set up as part of Clause 6 of the Assam Accord ("to protect, preserve and promote the cultural, social, linguistic identity and heritage of the Assamese people").
- The fact that the museum is proposed to be part of Kalakshetra (a product of the Assam Accord) hurts Assamese Sentiments.

3. Arbitration and Conciliation (Amendment) Ordinance, 2020

Why in News?

- The Central government brought an ordinance to amend the arbitration law and ensure that stakeholder parties can seek an unconditional stay on enforcement of arbitral awards.

- This will apply to cases where the ‘arbitration agreement or contract is induced by fraud or corruption’.

Significance:

- To address the concerns raised by stakeholders after the enactment of the Arbitration and Conciliation (Amendment) Act, 2019.

What has Changed?

- Until recently, an arbitration award was enforceable even if an appeal was filed against it in the court under Section 36 of the law.
- However, the court could grant a stay on the award on conditions as it deemed fit.
- Now, as per the amendment, if the award is being given on the basis of a fraudulent agreement or corruption, then the court will:
 - ✓ Not impose a condition to stay the award and
 - ✓ Grant an unconditional stay as long as an appeal under Section 34 of the arbitration law is pending.
- The ordinance also does away with the 8th Schedule of the Act that contained the necessary qualifications for accreditation of arbitrators.
- The provision will come into effect retrospectively from October 23, 2015.

Criticism:

- The conditions prescribed in the law came in way of India getting the benefit of having Foreign Arbitrators.

The Arbitration and Conciliation (Amendment) Act, 2019:

- The Arbitration and Conciliation (Amendment) Act, 2019 was introduced by the Ministry of Law and Justice.
- It seeks to amend the Arbitration and Conciliation Act, 1996 that contains provisions:
 - ✓ To deal with domestic and international arbitration
 - ✓ Defines the law for conducting conciliation proceedings

Key Features:

- Arbitration Council of India: The Act seeks to establish an independent body called the Arbitration Council of India (ACI) for the promotion of arbitration, mediation, conciliation and other alternative dispute redressal mechanisms.
- Composition of the ACI: The ACI will consist of a Chairperson who is either:
 - ✓ A Judge of the Supreme Court; or
 - ✓ A Judge of a High Court; or

- ✓ Chief Justice of a High Court; or
- ✓ An eminent person with expert knowledge in conduct of arbitration.
- Other members will include an eminent arbitration practitioner, an academician with experience in arbitration, and government appointees.
- **Appointment of Arbitrators:** Under the act, the Supreme Court and High Courts may designate arbitral institutions, which parties can approach for the appointment of arbitrators.
- For international commercial arbitration, appointments will be made by the institution designated by the Supreme Court.
- For Domestic Arbitration, appointments will be made by the institution designated by the concerned High Court.
- In case there are no arbitral institutions available, the Chief Justice of the concerned High Court may maintain a panel of arbitrators to perform the functions of the arbitral institutions.
- An application for appointment of an arbitrator is required to be disposed of within 30 days.
- Relaxation of time limits: Further, arbitral awards, other than in international commercial arbitration, will need to be made within a period of 12 months from the date of completion of pleadings.
- Completion of written submissions: The Act requires that the written claim and the defence to the claim in an arbitration proceeding, should be completed within six months of the appointment of the arbitrators.
- Confidentiality of proceedings: The act provides that all details of arbitration proceedings will be kept confidential except for the details of the arbitral award in certain circumstances.
- Disclosure of the arbitral award will only be made where it is necessary for implementing or enforcing the award.

4. SC asks trial courts to consider witness protection in cases against MPs, MLAs

Why in News?

- The Supreme Court has asked trial courts to consider providing protection to witnesses under the Witness Protection Scheme, 2018.

- The protection can be provided even without making any specific application for the same by the witness.

Ruling of the Court:

- The Witness Protection Scheme, 2018, approved by this Court in the case of Mahender Chawla v. Union of India, (2019) should be strictly enforced by the Union and States and Union Territories.
- The vulnerability of the witnesses in such cases, the Trial Court may consider granting protection under the said Scheme to witnesses without their making any specific application in this regard.
- The bench is seized of a petition by Advocate seeking fast-tracking of cases involving MPs and MLAs and a ban on those convicted from fighting elections.
- Senior Advocate, who is Amicus Curiae in the matter, had earlier told the bench that one of the reasons for delay of these cases was stay granted by the higher courts.

Witness Protection Scheme, 2018:

- Witness Protection Scheme, 2018 provides for protection of witnesses based on the threat Assessment and protection measures inter alia include:
 - ✓ Protection/change of identity of witnesses, their relocation
 - ✓ Installation of security devices at the residence of witnesses
 - ✓ Usage of specially designed Court rooms, etc.
- The Scheme provides for three categories of witness as per threat perception:
 - ✓ **Category 'A':** Where the threat extends to life of witness or his family members, during investigation/trial or thereafter.
 - ✓ **Category 'B':** Where the threat extends to safety, reputation or property of the witness or his family members, during the investigation/trial or thereafter.
 - ✓ **Category 'C':** Where the threat is moderate and extends to harassment or intimidation of the witness or his family member's, reputation or property, during the investigation/trial or thereafter.
- The Scheme provides for a State Witness Protection Fund for meeting the expenses of the scheme.
- This fund shall be operated by the Department/Ministry of Home under State/UT Government and shall comprise of the following:
 - Budgetary allocation made in the Annual Budget by the State Government;

- Receipt of amount of costs imposed/ ordered to be deposited by the courts/tribunals in the Witness Protection Fund;
- Donations/ contributions from Philanthropist/ Charitable Institutions/ Organizations and individuals permitted by the Government.
- Funds contributed under Corporate Social Responsibility.
- The Supreme Court of India in its Judgment dated 05.12.2018 in Writ Petition (Criminal) No. 156 of 2016 has endorsed the Scheme.
- As per Article 141/142 of the Constitution, the Witness Protection Scheme, 2018 endorsed in the said Judgment of the Supreme Court is binding on all Courts within the territory of India and enforceable in all States and Union Territories.

Amicus Curiae:

- Amicus curiae, (Latin: “friend of the court”), one who assists the court by furnishing information or advice regarding questions of law or fact.
- He is not a party to a lawsuit and thus differs from an intervenor, who has a direct interest in the outcome of the lawsuit and is therefore permitted to participate as a party to the suit.

5. Recusal of Judges

Why in News?

- A Justice of the Supreme Court has recused himself from hearing a petition that sought action against the Andhra Pradesh CM for levelling political allegations against an AP High Court Judge.

Recusal of Judges:

- Recusal is the removal of oneself as a judge or policymaker in a particular matter, especially because of a conflict of interest.
- Recusal usually takes place when a judge has a conflict of interest or has a prior association with the parties in the case.
- For example, if the case pertains to a company in which the judge holds stakes, the apprehension would seem reasonable.
- Similarly, if the judge has, in the past, appeared for one of the parties involved in a case, the call for recusal may seem right.
- A recusal inevitably leads to delay. The case goes back to the Chief Justice, who has to constitute a fresh Bench.

Rules on Recusals:

- There are no written rules on the recusal of judges from hearing cases listed before them in constitutional courts. It is left to the discretion of a judge.
- The reasons for recusal are not disclosed in an order of the court. Some judges orally convey to the lawyers involved in the case their reasons for recusal, many do not. Some explain the reasons in their order.
- The decision rests on the conscience of the judge. At times, parties involved raise apprehensions about a Possible conflict of Interest.

Issues with Recusal:

- Recusal is also regarded as the abdication of duty. Maintaining institutional civilities are distinct from the fiercely independent role of the judge as an adjudicator.
- In his separate opinion in the NJAC judgment in 2015, Justice Kurian Joseph highlighted the need for judges to give reasons for recusal as a measure to build transparency.
- It is the constitutional duty, as reflected in one's oath, to be transparent and accountable, and hence, a judge is required to indicate reasons for his recusal from a particular case, he ruled.

6. Article 32 and the Supreme Court

Why in News?

- A Supreme Court bench headed by CJI has observed that it is “trying to discourage” individuals from filing petitions under Article 32 of the Constitution.

Article 32:

- Article 32 deals with the ‘Right to Constitutional Remedies’, or affirms the right to move the Supreme Court by appropriate proceedings for the enforcement of the rights conferred in Part III of the Constitution.
- It is one of the fundamental rights listed in the Constitution that each citizen is entitled.
- It states that the Supreme Court “shall have the power to issue directions or orders or writs for the enforcement of any of the rights conferred by this Part”.
- The right guaranteed by this Article “shall not be suspended except as otherwise provided for by this Constitution”.
- Dr B R Ambedkar has called it the very soul and heart of the Constitution. It cannot be suspended except during the period of Emergency.

Rights Protected by A32:

- The article is included in Part III of the Constitution with other fundamental rights including to Equality, Freedom of Speech and Expression, Life and Personal Liberty, and Freedom of Religion.
- Only if any of these Fundamental Rights is violated can a person can approach the Supreme Court directly under Article 32.

Types of Writs Under it:

- Both the High Courts and the Supreme Court can be approached for violation or enactment of fundamental rights through five kinds of writs:
 1. Habeas corpus (related to personal liberty in cases of illegal detentions and wrongful arrests)
 2. Mandamus — directing public officials, governments, courts to perform a statutory duty;
 3. Quo Warranto — to show by what warrant is a person holding public office;
 4. Prohibition — directing judicial or quasi-judicial authorities to stop proceedings which it has no jurisdiction for; and
 5. Certiorari — re-examination of an order given by judicial, quasi-judicial or administrative authorities.
- In civil or criminal matters, the first remedy available to an aggrieved person is that of trial courts, followed by an appeal in the High Court and then the Supreme Court.
- When it comes to violation of Fundamental Rights, an individual can approach the High Court under Article 226 or the Supreme Court directly under Article 32.

Supreme Court's Recent Observations:

- The observation came during the hearing of a petition seeking the release of a journalist, who was arrested while reporting on an alleged gangrape and murder.
- The court asked why the petitioners could not go to the High Court first.
- In another case invoking Article 32, a Nagpur-based man was arrested for alleged defamatory content against Maharashtra CM, the same Bench directed him to approach the High Court first.

7. Hoysala Temple Architecture

Why in News?

- Recently, an Idol of Goddess Kali was found damaged at the historic Hoysala temple.

Hoysala Temple Architecture:

- Hoysala architecture is the building style in Hindu Temple Architecture.
- It was developed under the rule of Hoysala Empire between 11th and 14th centuries in the modern state of Karnataka.
- Hoysala architecture reveals a negligible Indo-Aryan style influence while the impact of Southern Indian style is more distinct.
- Over a hundred surviving temples are spread across the state of Karnataka.
- The Hoysalas usually dedicated their temples to Shiva or to Vishnu. They occasionally built some temples dedicated to the Jain faith as well.
- Three of the most well-known temples are the Kesava Temple at Somanathapura, the Chennakesava temple at Belur and the Hoysaleswara temple at Halebidu.

Hoysala Empire:

- The Hoysala Empire was a Kannadiga power originating from the Indian Subcontinent that ruled most of what is now Karnataka, between 10th and 14th centuries.
- The Hoysala Empire was founded by the King Nripa Kama II.
- The capital of Hoysalas was initially located at Belur but was later moved to Halebidu.
- The Hoysala era was an important period in the development of art, architecture, and religion in South India.

2. GOVERNANCE

1. Pardoning Powers of Governor

Why in News?

- The Supreme Court has recently said that the investigation into the conspiracy behind Ex-PMs assassination in 1991 need not deter the Governor from deciding the plea for pardon of convicts.

What did the Court Say Exactly?

- The court made it clear that it was reluctant to exercise its jurisdiction when the Governor was already seized of convict's plea for a pardon under Article 161 of the Constitution.

Pardoning Powers of Governor:

- Article 161 deals with the Pardoning Power of the Governor.
- The Governor can grant pardons, reprieves, respites and remissions of punishments or suspend, remit and commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the state extends.
- The Governor cannot Pardon a Death Sentence. (The President has the power of Pardon a death Sentence).
- The Governor cannot grant pardon, reprieve, respite, suspension, remission or commutation in respect to punishment or sentence by a court-martial. However, the President can do so.
- Pardon: means completely absolving the person of the crime and letting him go free. The pardoned criminal will be like a normal citizen.
- Commutation: means changing the type of punishment given to the guilty into a less harsh one, for example, a death penalty commuted to a life sentence.
- Reprieve: means a delay allowed in the execution of a sentence, usually a death sentence, for a guilty person to allow him some time to apply for Presidential Pardon or some other legal remedy to prove his innocence or successful rehabilitation.
- Respite: means reducing the quantum or degree of the punishment to a criminal in view of some special circumstances, like pregnancy, mental condition etc.
- Remission: means changing the quantum of the punishment without changing its nature, for example reducing twenty-year rigorous imprisonment to ten years.

2. 13th Urban Mobility India Conference 2020

Why in News?

- The 13th Urban Mobility India (UMI) Conference is being organized by the Ministry of Housing and Urban Affairs on 9th November 2020.

UMI:

- Theme 2020: ‘Emerging Trends in Urban Mobility’ to address the challenges posed by Covid-19 pandemic to provide accessible and convenient transport to the people.
- Objective: To disseminate information to the cities whose officials attend the conference to help them keep up-to-date with latest and best urban transport practices globally.
- Background: As part of the National Urban Transport Policy (2006), the Ministry has taken the initiative to organize an annual international Conference-cum-Exhibition on Urban Mobility India popularly known as UMI.

National Urban Transport Policy, 2006 (NUTP):

- Ministry of Housing and Urban Affairs issued the National Urban Transport Policy, 2006 (NUTP) to address Urban Transport issues.
- Objective: To ensure safe, affordable, quick, comfortable, reliable and sustainable access for the growing number of city residents to jobs, education, recreation and such other needs within our cities.

What is Urban Mobility?

- Urban areas are the most complex settings in which the mobility of passengers and freight is taking place.
- Urban mobility is organized into three broad categories of collective, individual, and freight transportation:
- Mobility of passengers is the outcome of individual decisions based on different rationales.
- Freight mobility is decided in tandem between the cargo owners and transportation service providers.
- Collective (Public) Transportation is to provide publicly accessible mobility over a city.

Challenges in India:

- India has mobility-related challenges like pollution and traffic congestion.
- As per a WHO study, 14 out of top-15 most-polluted cities in the world are in India.
- Rising pollution levels also translate into economic losses. As per current estimates the World Bank, the losses amount to 7.7% of the nation’s GDP.

- Indian cities are famous for traffic congestion. As per industry reports, vehicles in some metros move at an average speed of 17kph.
- The adverse effects of congestion on the roads are carried forward to productivity and economic growth.
- The combined estimate of losses caused due to congestion in the top-four metro cities of India is worth more than \$22 billion Per Annum.

3. Kerala, too, Withdraws General Consent to CBI

Why in News?

- Investigation (CBI) to operate in Kerala.

Highlights:

- It would curb the agency's operational independence in the State.
- Now, the CBI can probe local cases or charge sheet suspects only with the permission of the State administration.
- The government had already issued a challenge to the Centre by legally challenging the decision of the CBI to investigate LIFE Mission officials on the charge of violating the Foreign Contribution (Regulation) Act.
- It had also denied the CBI permission to charge sheet officials of the Kerala State Cashew Development Corporation on the charge of corruption in the procurement of raw nuts during the United Democratic Front government.
- The controversial decision is likely to further strain the government's fraught relationship with the Centre.

General Consent:

- The CBI is governed by the Delhi Special Police Establishment Act that makes consent of a state government mandatory for conducting an investigation in that state.
- The general consent is routinely given by State governments for periods ranging from six months to a year to the CBI and all agencies under the Delhi Special Police Establishment (DSPE) Act, 1946. The consent is necessary as the jurisdiction of these agencies is confined to Delhi and Union Territories under this Act.
- There are two kinds of consent: case-specific and general. Given that the CBI has jurisdiction only over central government departments and employees, it can investigate a case involving state government employees or a violent crime in a given state only after that state government gives its consent.

- “General consent” is normally given to help the CBI seamlessly conduct its investigation into cases of corruption against central government employees in the concerned state. Almost all states have given such consent. Otherwise, the CBI would require consent in every case.
- Other states such as West Bengal, Andhra Pradesh, Rajasthan and Maharashtra have also withdrawn consent to the CBI to operate freely in their respective jurisdictions.

Does withdrawal of General Consent mean that the CBI can no longer probe any case in the state?

- Withdrawal of consent will only bar the CBI from registering a case within the jurisdiction of such states.
- The CBI would still have the power to investigate old cases registered when general consent existed.
- Also, cases registered anywhere else in the country, but involving people stationed in a state that has withdrawn general consent, would allow CBI’s jurisdiction to extend to these states.
- There is ambiguity on whether the agency can carry out a search in either of the two states in connection with an old case without the consent of the state government.
- However, there are legal remedies to that as well. The CBI can always get a search warrant from a local court in the state and conduct searches.
- In case the search requires a surprise element, there is CrPC Section 166, which allows a police officer of one jurisdiction to ask an officer of another to carry out searches on his behalf.
- And if the first officer feels that the searches by the latter may lead to loss of evidence, the section allows the first officer to conduct searches himself after giving a notice to the latter.

4. Body Mass Index of Indians are the lowest

Why in News?

- The Lancet recently published a study providing new estimates for height and BMI trends in 2019 across 200 countries.

Highlights:

- India ranks third and fifth from the bottom respectively among countries where 19-year-old adolescents have a low body mass index.

- The difference between the highest mean BMI and lowest mean BMI was approximately 9–10 kg/m².
- **The mean BMI of 19-year-old in India:**
 - ✓ Boys: 20.1
 - ✓ Girls: 20.1
- **Mean height of 19-year-old in India:**
 - ✓ Boys: 166.5 cm
 - ✓ Girls: 155.2 cm
- There is 20 cm difference between countries with the tallest and shortest mean height which represents approx. 8 years of growth gap for girls and 6 years for boys.
- For example, 19-year-old girls in India have the same mean height as 12-year-old Dutch girls.

Body Mass Index:

- BMI is measured as the weight in kg divided by the square of the height in metres.
- AS per World Health Organization guidelines:
 - ✓ Normal BMI range: 18.5 to 24.9
 - ✓ Overweight: 25 or higher
 - ✓ Obesity: 30 or higher
 - ✓ Revised norms of BMI in India:
 - ✓ Weight of an ideal or reference Indian man: 65kg
 - ✓ Weight of an ideal or reference Indian woman: 55kg
 - ✓ Height for a reference Indian man: 5.8 feet (177cm)
 - ✓ height for a reference Indian woman: 5.3 feet (162cm)
 - ✓ Definition for reference Indian adult man and woman with regard to age: 19-39 years.

5. Academic Freedom Index 2020

Why in News?

- India has scored considerably low in the International Academic Freedom Index (AFI) with a score of 0.352.

AFI:

- The index proposes a score for each country to help determine the level of academic freedom its universities and academic centres enjoy.
- AFI was prepared by authors affiliated to:

- ✓ The Global Public Policy Institute
- ✓ The Friedrich-Alexander-Universität (FAU) Erlangen-Nürnberg
- ✓ Scholars at Risk Network
- ✓ V-Dem Project at the University of Gothenburg.
- ✓ The index has a maximum value of 1 (indicating highest freedom) and the least is 0.
- ✓ Uruguay and Portugal topped the AFI, with scores of 0.971 each.

Components of AFI:

- The AFI has eight components which are integrated into a Bayesian measurement model (a statistical tool):
 - ✓ Freedom to research and teach
 - ✓ Freedom of academic exchange and dissemination
 - ✓ Institutional autonomy
 - ✓ Campus integrity
 - ✓ Freedom of academic and cultural expression
 - ✓ Constitutional protection of academic freedom
 - ✓ International legal commitment to academic freedom under the International Covenant on Economic, Social and Cultural Rights
 - ✓ Existence of universities.

India Related Facts:

- India has an AFI of 0.352.
- In the last five years, the AFI of India has dipped by 0.1 points.
- Countries like Pakistan, Brazil, Somalia etc have scored higher than India.
- India has not fared well in components:
 - ✓ Institutional autonomy
 - ✓ Campus integrity
 - ✓ Freedom of academic and Cultural Expression
 - ✓ Constitutional protection of Academic Freedom.

6. Draft National Nursing and Midwifery Commission Bill 2020

Why in News?

- The Centre has moved to replace the 73-year-old Indian Nursing Council Act with a new legislation.

The New legislation:

- The name of the new legislation is Midwifery Commission Bill 2020 that will replace the Indian Nursing Council Act 1947.
- The new legislation proposes:
 - ✓ A common entrance tests.
 - ✓ A national register.
 - ✓ Mandatory registration.
 - ✓ A temporary license for foreign nationals who are qualified nurses and midwives to practice in India.
 - ✓ The Commission shall meet at least once every quarter at such time and place as may be appointed by the Chairperson.

Role of National Nursing and Midwifery Commission:

- The draft Bill replaces the Indian Nursing Council with a new representative body called National Nursing and Midwifery Commission.
- It would frame policies and regulate standards for:
 - ✓ The governance of nursing and midwifery education.
 - ✓ Regulating nursing and midwifery institutions.
 - ✓ Provide basic standards of education, physical and instructional facilities, assessment, examination, training, research, continuing professional education, maximum tuition fee payable in respect of various categories.
 - ✓ Provide standards for nursing and midwifery faculty and clinical facility in teaching institutions and frame policies and codes to ensure observance of professional ethics in nursing and midwifery profession.
- Will have representatives of the Centre and the states.
- The commission would have different boards to regulate undergraduate and postgraduate education and assess and rate different institutions offering courses.
- Every nurse and midwife would have to register with the state boards and a national register would be maintained to track all qualified and practicing nursing professionals.

- No person shall establish a new nursing and midwifery institution except with the previous permission of the Nursing and Midwifery Assessment and Rating Board.

7. Department of Investment and Public Asset Management (DIPAM)

Why in News?

- DIPAM signs an agreement with World Bank for advisory services on asset monetization.

Highlights:

- Under the agreement, the World Bank will provide advisory services to DIPAM for asset monetization.
- DIPAM is mandated with facilitating the monetization of non-core assets of government CPSEs under strategic disinvestment or closure and enemy property of value INR 100 crores and above.
- DIPAM has a framework for monetizing non-core assets.
- The World Bank advisory project, approved by the Finance Minister, is aimed at analysing public asset monetization in India and benchmarking its institutional and business models against international best practices as well as supporting the development of operational guidelines and capacity building for their implementation.
- It is expected that this project would facilitate and accelerate the non-core asset monetization process and help unlock the value of these unused/marginally used assets which has the potential to substantially Augment Financial Resources for further Investments and Growth.

8. National Population Register

Why in News?

- The office of the Registrar General of India (RGI) has said the schedule or the questionnaire of the National Population Register (NPR) is being Finalised.

The National Population Register (NPR):

- The NPR is a database containing a list of all usual residents of the country. Its objective is to have a comprehensive identity database of people residing in the country.
- It is generated through house-to-house enumeration during the “house-listing” phase of the census, which is held once in 10 years.
- The last census was in 2011, and the next will be done in 2021 (and will be conducted through a mobile phone application).

- A usual resident for the purposes of NPR is a person who has resided in a place for six months or more and intends to reside there for another six months or more

How it is Different from the Census?

- The census involves a detailed questionnaire and there were 29 items to be filled up in the 2011 census.
- They aimed at eliciting the particulars of every person, including age, sex, marital status, occupation, birthplace, mother tongue, religion, whether they belonged to any SC or ST etc.
- On the other hand, NPR collects basic demographic data and biometric particulars.
- Once the basic details of the head of the family are taken by the enumerator, an acknowledgement slip will be issued. This slip may be required for enrolment in NPR, whenever that process begins.
- The details will be recorded in every local (village or ward), sub-district (tehsil or taluk), district and state level.
- Once the details are recorded, there will be a population register at each of these levels. Together, they constitute the National Population Register.

What is the Legal Basis for the NPR?

- While the census is legally backed by the Census Act, 1948, the NPR is a mechanism outlined in a set of rules framed under the Citizenship Act, 1955.
- Section 14A was inserted in the Citizenship Act, 1955, in 2004, providing for the compulsory registration of every citizen of India and the issue of a “national identity card” to him or her.
- It also said the Central government may maintain a “National Register of Indian Citizens”.
- The Registrar General India shall act as the “National Registration Authority” (and will function as the Registrar General of Citizen Registration).
- Incidentally, the Registrar General is also the country’s Census Commissioner.

9. Virtual Court and the e-challan Project Launched in Assam

Why in News?

- Recently, the Virtual Court (traffic) and the e-Challan project has been launched in Assam.
- Currently, 9 Virtual courts are functioning in India.
- Maharashtra's 2nd virtual court called “NyayKaushal” was recently inaugurated.

- E-challan solution is an initiative of the Union Ministry of Road Transport and Highways (MoRTH) whereas the software has been developed by National Informatics Centre (NIC).
- It will replace the present concept of manual challan with an electronically generated Digital Challan.

Virtual Courts:

- Virtual Court is an online court being managed by Virtual Judge (which is not a person but an algorithm) whose jurisdiction can be extended to the entire state and working hours may be 24X7.
- It is an initiative of E-Committee of Supreme Court along with the Department of Justice, Ministry of Law & Justice, Government of India.
- In a trial by Virtual Court, neither the litigant nor the judge shall come to the court.
- The communication may only be in electronic form and the sentencing and further payment of fine or compensation will also be online.
- Only a single process is allowed and there can be no argument.
- The case is disposed off upon payment of the fine.
- Currently, virtual courts are dealing with only with Traffic Challan cases.

Benefits:

- Increased productivity of citizens as well as judicial officers.
- Citizen need not wait in lines in courts.
- Promote greater accountability and less corruption.
- Address locational and economic Disparities in Accessing Justice.

Concerns of Virtual Courts:

- Requires extensive training for all stakeholders.
- Cross-examination of the witness may not be effective when compared to an open court hearing.
- Prone to connectivity issues, glitches like poor broadband speeds etc.

10. Parliamentary Panel Finds India's Response to Pandemic Ineffective


Why in News?

- For the first time, a report was released by any parliamentary committee on the government's handling of the COVID-19 pandemic.
- The report was named 'The Outbreak of Pandemic COVID-19 And its Management' by a Parliamentary Standing Committee on Health.

Highlights:

- Causes for the spike in COVID cases in India:
- Low testing and shoddy contact tracing were responsible for the spike in cases.
- Too many guidelines
- The plethora of guidelines issued by the Health Ministry caused confusion and chaos.
- Many of these guidelines were contradictory and different quarantine rules imposed by the State governments added to the panic.
- Absence of specific guidelines for the treatment resulted in private hospitals charging exorbitant fees.
- The number of government hospital beds in the country were not adequate to handle the increasing number of COVID and non-COVID patients.

The way ahead | A look at the panel's key observations and suggestions



Health check: A man registering for COVID-19 testing at the Delhi-Noida border. • AP

Peak in oxygen usage: The oxygen production in the country is roughly 6,900 metric tonnes per day. Of this, the highest consumption of medical oxygen was reported in mid-September, when it was almost **3,000 metric tonnes per day**

Slowing case growth rate: The growth rate of COVID-19 cases at the beginning of the lockdown was **36%** while during unlock, it reduced to **3.3%**

0.55 beds per 1,000: There are **7,13,986** govt. hospital beds, which amounts to 0.55 per 1,000 people. **12 States stand below the national average**

Testing facilities: The committee observed that initially only NIV-Pune was equipped to carry out COVID-19 testing. However by **April 1**, testing facilities were increased to **151**. The

total number of testing labs stands at **2,082 as on November 10**

Creation of IHS: The Committee underlines an urgent need for capacity building and maintaining the pool of health resources to fight the pandemic

- It supports the demand for an 'Indian Health Service' (IHS) on the pattern of the Indian Administrative Service to help streamline healthcare delivery as envisaged in the National Health Policy 2017

Recommendations:

- The report recommends the government has to increase its investments in the public healthcare system.
- Make consistent efforts to achieve the National Health Policy targets of expenditure up to 2.5% of GDP within two years.
- Healthcare spending in the country with a population of 1.3 billion is abysmally low.
- Health Ministry should engage with agencies and actively participate in ongoing international treaties.
- Conduct more research and work towards training and capacity building for management of public Health Emergencies arising from use of bio-weapons.
- The Government needs to be considerate and support the private health care sector.
- The healthcare workers who have laid down their lives, must be acknowledged as martyrs and their families be adequately compensated.

Concerns:

- Strategic partnerships: The adverse effects of COVID-19 pandemic have taught the lesson on the importance of controlling biological agents and the need for strategic partnerships among different nations for bio-terrorism.
- Healthcare should never be limited to only those who can afford to pay but should move towards the noble vision of universal health coverage.

Basis of the Report:

- It is based on the deliberations that the committee had with the Department of Health and Family Welfare which submitted an action plan to ensure security against biological weapons.
- **These include:**
 - ✓ Strengthening disease surveillance, including at animal-human interface, training and capacity building for management of public health emergencies arising from use of bio-weapons and
 - ✓ Strengthening research and surveillance activities related to development of diagnostics, vaccines and drugs.
- **Bioterrorism:** A planned and deliberate use of pathogenic strains of microorganisms such as bacteria, viruses, or their toxins to spread life-threatening diseases on a mass scale in order to devastate the population of an area.

11. India set to double oil refining capacity in five years: PM

Why in News?

- India plans to nearly double its oil refining capacity in the next five years offering a much more Aggressive timeline than previously.

Highlights:

- It was announced that India's oil refining capacity could jump to 450-500 million tonnes in 10 years from the current level of about 250 million tonnes earlier. But now, it will be achieved in the next five years.
- Natural Gas currently accounts for about 6% of the energy consumed in the country.
- India would achieve its targets of increasing renewable energy capacity to 175 gigawatts by 2022 and 450 gigawatts by 2030 ahead of schedule.
- The country had renewable energy capacity of about 75 gigawatts at the end of 2018.



Oil Refining and Natural Gas:

- Oil and gas sector is among the eight core industries in India.
- The government has allowed 100% Foreign Direct Investment (FDI) in many segments of the sector, including natural gas, petroleum products and refineries among others.
- India has been the fourth-largest Liquefied Natural Gas (LNG) importer since 2011 after Japan, South Korea, and China.
- As of August 01, 2020, India's oil refining capacity stood at 249.9 million metric tonnes (MMT), making it the second-largest refiner in Asia.
- Private companies own about 35.29% of the total refining capacity in FY20.
- The petroleum and natural gas sector attracted FDI worth US\$ 7.82 billion between April 2000 and March 2020.
- The energy trade between India and US is likely to touch US\$ 10 billion in FY20.
- The Oil Ministry plans to set up bio-CNG (compressed natural gas) plants and allied infrastructure at a cost of Rs 7,000 crore (US\$ 1.10 billion) to promote the use of clean fuel.
- Some of the major initiatives taken by the Government of India to promote oil and gas sector are:3
- Indian Scheme 'Kayakave Kailasa' - enabled SC/ST entrepreneurs in providing bulk LPG transportation.
- Plan to set up around 5,000 compressed biogas (CBG) plants by 2023.
- Plan to double natural gas production to 60 bcm and drill more than 120 exploration wells by 2022.

12. 1 in 9 children infected by COVID-19: UNICEF

Why in News?

- An analysis report on COVID-19 infections was released recently by the UNICEF (United Nations Children's Fund).

Highlights:

- The report was titled 'Averting a Lost COVID Generation'. It warns of significant and growing consequences for children as the pandemic approaches its second year.
- Children and adolescents under the age of 20 years accounted for 1 in 9 of COVID-19 infections, that is 11% of the 25.7 million infections.

- 140 million children are living in monetary poor household due to COVID-19.
- Schools are not a main driver of community transmission, and children are more likely to get the virus outside of school settings.
- School closures due to COVID-19 affected almost 90 per cent of students around the world – including 743 million girls.
- Internet channels reach only 24 per cent of schoolchildren globally, reflecting socio-economic inequality and a deep digital divide.
- Students in lower-income countries have missed more days of school than students in higher-income countries.
- Refugees and asylum seekers are excluded from COVID-19-related social protection measures.
- 3 billion people globally have no access to a place to wash their hands; 700 children die every day from diseases caused by this lack of inadequate water, sanitation and hygiene.
- Gender-based violence is predicted to increase for every three months of COVID-19 lockdowns.
- Approximately 70 per cent of mental health services for children and adolescents are disrupted.
- One third of the countries witnessed a drop of at least 10% in coverage of health services.
- There was a 40% decline in the coverage of nutrition services for women and children across 135 countries.
- More than 250 million children under 5 could miss the life-protecting benefits of vitamin A supplementation programmes.

Warnings:

- An estimated 2 million additional child deaths and 200,000 additional stillbirths could occur over a 12-month period with severe interruptions to services and rising malnutrition.
- An additional 6 to 7 million children under the age of 5 will suffer from wasting or acute malnutrition in 2020.
- A 14% rise in additional child deaths per month—mostly in sub-Saharan Africa and South Asia.
- Globally, the number of children living in multidimensional poverty (no access to education, health, housing, nutrition, sanitation or water) is estimated to have soared by 15% by mid-2020.

Recommendations:

- Bridge the digital divide to ensure all children were able to access school learning and guaranteed provision of nutrition and health services.
- The governments around the world are required to adopt measures to curb rise in child poverty.
- A six-point plan to protect children by UNICEF:
- Ensure all children learn, including by closing the digital divide.
- Guarantee access to health and nutrition services and make vaccines affordable and available to every child.
- Support and protect the mental health of children and young people and bring an end to abuse, gender-based violence and neglect in childhood.
- Increase access to clean water, sanitation and hygiene and address environmental degradation and climate change.
- Reverse the rise in child poverty and ensure an inclusive recovery for all.
- Redouble efforts to protect and support children and their families living through conflict, disaster and displacement.

13. Gender Advancement through Transforming Institutions (GATI) Initiative

Why in News?

- One of the focuses of the new Science, Technology and Innovation Policy, currently being drafted by the Department of Science and Technology (DST) is to increase the participation of women in science.

GATI:

- The DST is incorporating a system of grading institutes depending on the enrolment of women and the advancement of the careers of women faculty and scientists.
- It will be called GATI (Gender Advancement through Transforming Institutions).
- The concept borrows from a programme started by the UK in 2005 called the Athena SWAN (Scientific Women's Academic Network), which is now being adopted by many countries.
- The DST will soon launch a pilot, which the British Council has helped it develop.

Why Need such Initiative?

- India is ranked 108 out of 149 countries in the 2018 Global Gender Gap report.
- According to DST figures, in 2015-16, the share of women involved in scientific research and development was 14.71% – after it had actually increased from 13% in 2000-2001 to 29% in 2014-15.
- The DST has also found that women are either not promoted, or very often drop out mid-career to attend to their families.

What is Athena SWAN?

- The Athena SWAN Charter is an evaluation and accreditation programme in the UK enhancing gender equity in science, technology, engineering, mathematics and medicine (STEMM).
- Participating research organisations and academic institutions are required to analyse data on gender equity and develop action plans for improvement.
- Signatories commit to addressing various issues such as –
 - ✓ Unequal gender representation;
 - ✓ Tackling the gender pay gap;
 - ✓ Removing the obstacles faced by women in career development and progression;
 - ✓ Discriminatory treatment often experienced by trans people;
 - ✓ Gender balance of committees and zero tolerance for bullying and sexual harassment.

Way Ahead:

- To get as many institutions as possible to sign up, the DST will need to manoeuvre around government red tape as most universities, barring the IITs and NITs, are run and funded by the government as well.
- This means that these institutions don't have direct control over institutional policies, recruitment and promotions.
- The DST has tied up with the National Assessment and Accreditation Council (NAAC), under the UGC, aiming to push gender equity through them.

3. SCIENCE & TECHNOLOGY

1. Daylight Saving Time (DST)

Why in News?

- Clocks in the US will “felt back” an hour signalling the end of Daylight Saving Time (DST).

What does this imply?

- With clocks in the US going back an hour, the time difference between New York and India will increase from the current nine and a half hours to ten and a half hours.
- In the Southern Hemisphere, the opposite has happened, where countries have “sprung forward”, and time difference with India has reduced.

What is DST?

- DST is the practise of resetting clocks ahead by an hour in spring, and behind by an hour in autumn (or fall).
- During these months, countries that follow this system get an extra hour of daylight in the evening. Because the spring to fall cycle is opposite in the Northern and Southern Hemispheres, DST lasts from March to October/November in Europe and the US, and from September/October to April in New Zealand and Australia.
- Dates for this switch, which happens twice a year (in the spring and autumn) are decided beforehand.
- By law, the 28 member states of the EU switch together — moving forward on the last Sunday of March and falling back on the last Sunday in October.
- In the US, clocks go back on the first Sunday of November.

How many Countries use DST?

- DST is in practice in some 70 countries, including those in the European Union.
- India does not follow DST; since countries near the Equator do not experience high variations in daytime hours between seasons.
- There is, however, a separate debate around the logic of sticking with an only one-time zone in a country as large as India.

What does this System mean to Achieve?

- The key argument is that DST is meant to save energy.
- The rationale behind setting clocks ahead of standard time, usually by 1 hour during springtime, is to ensure that the clocks show a later sunrise and later sunset — in effect a longer evening daytime.

- Individuals will wake an hour earlier than usual, complete their daily work routines an hour earlier, and have an extra hour of daylight at the end.

2. A radio burst spotted by NASA for the first time in Milky Way

Why in News?

- NASA (National Aeronautics and Space Administration) has observed a mix of X-ray and radio signals including the first Fast Radio Burst (FRB) that never observed before in the Milky Way Galaxy.

Fast radio bursts (FRBs):

- FRBs are bright bursts of radio waves (radio waves can be produced by astronomical objects with changing magnetic fields) caused by some high-energy astrophysical process.
- These radio waves durations lie in the millisecond-scale, that's why it is difficult to detect them and determine their position in the sky.
- Astronomers estimate the average FRB releases as much energy in a millisecond as the sun puts out in 3 days.
- The first FRB was discovered in 2007, since when scientists have been working towards finding the source of their origin.

Origin of the Detected FRB:

- The source of the FRB detected in the Milky Way is a very powerful magnetic neutron star referred to magnetar (called SGR 1935+2154 or SGR 1935):
- SGR 1935 is located in the constellation Vulpecula
- It is estimated to be between 14,000-41,000 light-years away.

About the Detected FRB:

- The FRB was part of one of the magnetar's most prolific flare-ups with the X-ray bursts lasting less than a second.
- The radio burst lasted for a thousandth of a second and was thousands of times brighter than any other radio emissions from magnetars seen in the Milky Way previously.
- It is possible that the FRB-associated burst was exceptional because it likely occurred at or close to the magnetar's magnetic pole.
- This flare-up (lasted for hours) was picked up by NASA's Fermi Gamma-ray Space telescope and NASA's Neutron star Interior Composition Explorer (NICER)
- NICER is an X-ray telescope mounted on the International Space Station.

What is a Magnetar?

- A magnetar is a type of neutron star believed to have an extremely powerful magnetic field which can be up to a thousand times stronger than a typical neutron star.
- The magnetic field decay powers the emission of high-energy electromagnetic radiation, particularly X-rays and gamma rays.
- Neutron stars are formed when the core of a massive star undergoes gravitational collapse when it reaches the end of its life.
- Magnetars are a subclass of these neutrons and occasionally release flares with more energy in a fraction of a second than the Sun is capable of emitting in tens of thousands of years.

Simultaneous Bursts in the Milky Way:

- The X-ray portion of the simultaneous bursts was detected by NASA's Wind mission and the radio component was discovered by the Canadian Hydrogen Intensity Mapping Experiment (CHIME- telescope).
- Further, a NASA-funded project called Survey for Transient Astronomical Radio Emission 2 (STARE2) also detected the radio burst seen by CHIME.
- STARE2 is operated by Caltech and NASA's Jet Propulsion Laboratory, determined that the burst's energy was comparable to FRBs.

Why is this Observation Significant?

- Until now, there were various theories that tried to explain what the possible sources of an FRB could be. One of the sources proposed by the theories has been magnetars.
- Before this discovery, scientists did not have any evidence to show that FRBs could be blasted out of a magnetar. Therefore, the observation is especially significant.

3. EOS-01 Satellite

Why in News?

- The EOS-01 is scheduled to be launched shortly by India's Polar Satellite Launch Vehicle (PSLV-C49).

Highlights:

- EOS-01 along with nine satellites from foreign countries will be launched from Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota, Andhra Pradesh.
- EOS-01 is an earth observation satellite intended for applications in agriculture, forestry and disaster management support.

- The customer satellites are being launched under a commercial agreement with NewSpace India Limited (NSIL), Department of Space.

EOS-01:

- EOS-01 is a Radar Imaging Satellite (RISAT) that will work together with RISAT-2B and RISAT-2BR1.
- Aim: To provide all-weather round-the-clock service for high-resolution images.
- **Utility:**
 - ✓ Land and forest mapping and monitoring.
 - ✓ Mapping of resources like water or minerals or fishes.
 - ✓ Weather and climate observations.
 - ✓ Soil assessment.
 - ✓ Geospatial contour mapping.

Radar Imaging:

- EOS-01, RISAT-2B and RISAT-2BR1 use synthetic aperture radars to produce high-resolution images of the land.
- Radar imaging is unaffected by weather, cloud or fog, or the lack of sunlight and can produce high-quality images in all conditions and at all times.
- Depending on the wavelength of the electromagnetic radiation used by the radar, different properties on land can be captured in the image.
- For example: A low wavelength signal can capture tree cover or vegetation.
- Higher wavelength signal can penetrate even dense tree cover to look at the contours of land beneath.
- EOS-01 and RISATs use X-band radars that operate at low wavelengths and considered best for monitoring of urban landscape, and imaging of agricultural or forest land. Also useful to meet Military Requirements.

Different Earth Observation Satellites:

- **Cartosat series:** To provide data for land topography and mapping.
- **Oceansat satellites:** For observations over sea.
- Some INSAT-series, Resourcesat series, GISAT, Scatsat are also examples of earth observation satellites.
- A new variant of PSLV rocket will be used in the launch, where the last stage will separate, acquire its own orbit and be used as an orbital platform for other onboard instruments to perform experiments in space.

4. Leonid Meteor Shower

Why in News?

- The Leonid meteor showers are currently making their yearly appearance and will reach their peak in India on November 17 and 18. In August this year, there was another meteor called Perseids Shower.

Leonid Meteor Shower:

- Meteor showers are named after the constellation they appear to be coming from.
- The Leonids originate from the constellation Leo the Lion– the groups of stars which form a lion's mane.
- They emerge from the comet Tempel-Tuttle, which requires 33 years to revolve once around the Sun.
- These meteors are bright and among the fastest moving– travelling at speeds of 71 km per second. During this year's showers, peaks of around 10 to 15 meteors are expected to be seen every hour.
- The Leonid showers include fireballs– bright and large meteors than can last longer than average meteors, and “earthgazers”– meteors which appear close to the horizon with colourful and long tails.

5. Hidden Gene in Coronavirus

Why in News?

- Researchers have discovered a new "hidden" gene in the novel coronavirus which may contribute to its unique biology and pandemic potential.
- Knowing more about the 15 genes that make up the coronavirus genome could have a significant impact on developing drugs and vaccines to combat the virus.

Highlights:

- The researchers described overlapping genes or "genes within genes" in the virus which they believe play a role in the replication of the virus within host cells. The research team identified a new overlapping gene - ORF3d - in the novel coronavirus SARS-CoV-2 that has the potential to encode a protein that is longer than expected.
- ORF3d is also present in a previously discovered pangolin coronavirus, indicating the gene may have undergone changes during the evolution of SARS-CoV-2 and related viruses.

- According to the study, ORF3d has been independently identified and shown to elicit a strong antibody response in COVID-19 patients, demonstrating that the protein produced from the new gene is manufactured during human infection.
- Scientists predict this gene is relatively unlikely to be detected by a T-cell response, in contrast to the antibody response. While overlapping genes are hard to spot, and most scientific computer programs are not designed to find them, the scientists said they are common in viruses.
- This is partly because RNA viruses have a high mutation rate, so they tend to keep their gene count low to prevent a large number of mutations
- In terms of genome size, SARS-CoV-2 and its relatives are among the longest RNA viruses that exist. They are thus perhaps more prone to 'genomic trickery' than other RNA virus.

6. India's AI supercomputer PARAM Siddhi

Why in News?

- India's newest and fastest supercomputer, PARAM-Siddhi AI, has been ranked 63rd in the Top500 list of most powerful Supercomputers in the world.

Param Siddhi:

- It is a high-performance computing-artificial intelligence (HPC-AI) supercomputer established under National Supercomputing Mission (NSM) at C-DAC.
- It was commissioned by the C-DAC earlier and has been developed in association with chipmaker Nvidia and French IT consulting firm Atos.
- It will help deep learning, visual computing, virtual reality, accelerated computing, as well as graphics virtualization.
- The computer is expected to be used as a platform for academia, scientific research, startups and more.

Other Indian Supercomputers:

- PARAM-Siddhi is the second Indian supercomputer to be entered in the top 100 on the Top500 list.
- Pratyush, a supercomputer used for weather forecasting at the Indian Institute of Tropical Meteorology, ranked 78th on the November edition of the list.
- It was ranked 66th in the June rankings announced by the project.
- Another Indian supercomputer, Mihir (146th on the list), clubs with Pratyush to generate enough computing power to match PARAM-Siddhi.

Who Topped the Rankings?

- The Top500 project tracks the most powerful supercomputers in the world and is published twice a year.
- Japanese supercomputer Fugaku (442 petaflops) and IBM's Summit (148.8 petaflops) are the two most powerful supercomputers in the world, according to the list.
- Chinese Sunway TaihuLight is number four on the list (93 petaflops), developed by the National Research Center of Parallel Computer Engineering & Technology (NRCPC) in China.

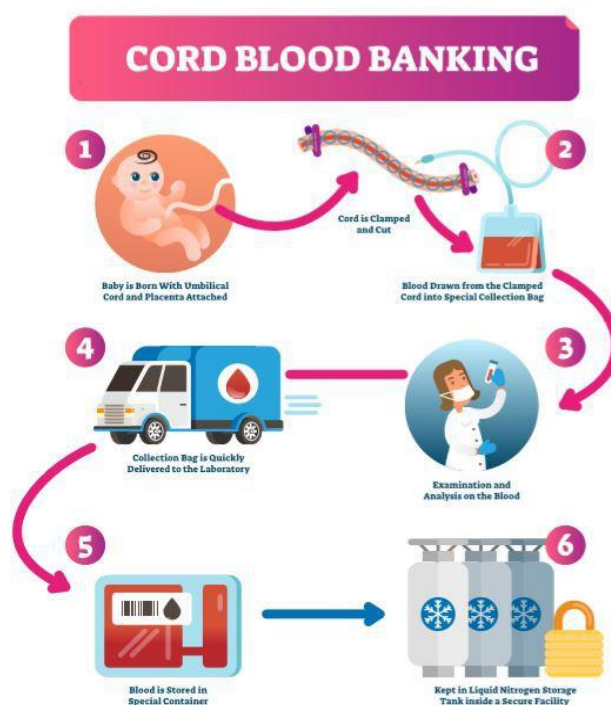
Petaflop:

- A petaflop is a measure of a computer's processing speed and can be expressed as A thousand trillion floating-point operations per second (FLOPS) A thousand teraflops.
- In computing, floating-point operations per second is a measure of computer performance, useful in fields of scientific computations that require floating-point calculations.
- For such cases, it is a more accurate measure than measuring instructions per second.

7. Community Cord Blood Banking

Why in News?

- Community Cord Blood Banking, a stem cell banking initiative, has recently helped save the life of a girl child making it India's first dual cord blood transplant through an Unrelated Donor.



Cord Blood Banking:

- Community Banking is a new sharing economy model of stem cell banking that was pioneered by LifeCell in India.
- Parents who choose to store their child's cord blood in a community bank will have access, in the event of medical need, to all of the other cord blood units in the bank.
- A community bank is like a public cord blood bank in that the members are supporting each other, but it is also like a private bank because the members pay for this service and outsiders cannot participate.
- It can fill an unmet health need in a country like India, where there is no national network of public banks and the population has unique genetics that are not covered by banks elsewhere in the world.
- It is different from "hybrid" banking where both public and family banks share a laboratory, because in hybrid banks the public and family sides operate separately.
- In a community bank the public and family functions are blended.

Benefits of Cord Blood:

- It gives protection to a baby against all conditions treatable using stem cells (own & donor).
- It gives protection to the baby's siblings, parents and grandparents (maternal & paternal) by providing unrelated donor stem cells.

Stem Cell Therapy:

- It is a type of treatment option that uses a patient's own stem cells to repair damaged tissue and repair injuries.
- It is used to treat more than 80 disorders including neuromuscular and degenerative disorders. Eg. Bone-marrow transplant is used in Leukemia (blood cancer), sickle-cell anemia, immunodeficiency disorders.
- Stem cells are usually taken from one of the two areas in the patient's body: bone marrow or adipose (fat) tissue in their upper thigh/abdomen.
- Because it is common to remove stem cells from areas of stored body fat, some refer to stem cell therapy as "Adipose Stem Cell Therapy" in some cases.

8. Chang'e-5 Lunar Probe

Why in News?

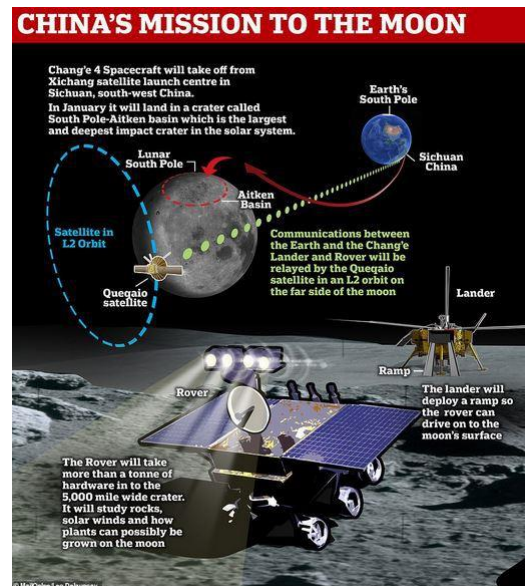
- China is preparing to launch an unmanned spacecraft to bring back lunar rocks, the first attempt by any nation to retrieve samples from the moon in four decades.

Chang'e-5 Probe:

- The Chang'e-5 probe, named after the mythical Chinese moon goddess, aims to shovel up lunar rocks and soil to help scientists learn about the moon's origins, formation and volcanic activity on its surface.
- The goal of the mission is to land in the Mons Rumker region of the moon, where it will operate for one lunar day, which is two weeks long.
- It will collect 2 kg of surface material from a previously unexplored area known as Oceanus Procellarum – or “Ocean of Storms” – which consist of vast lava plain.
- The original mission, planned for 2017, was delayed due to an engine failure in China's Long March 5 launch rocket.
- If successful, China will be only the third country to have retrieved samples from the moon, following the U.S. and the Soviet Union in the 1960s and 1970s.

Significance of the Mission:

- As per the Lunar and Planetary Institute, rocks found on the Moon are older than any that have been found on Earth and therefore they are valuable in providing information about the Earth and the Moon's shared history.
- Lunar samples can help to unravel some important questions in lunar science and astronomy, including the Moon's age, its formation, the similarities and differences between the Earth and the Moon's geologic features.
- For instance, the shape, size, arrangement and composition of individual grains and crystals in a rock can tell scientists about its history, while the radioactive clock can tell them the rock's age.
- Further, tiny cracks in rocks can tell them about the radiation history of the Sun in the last 100,000 years.



9. India's Shukrayaan Mission

Why in News?

- The Indian Space Research Organisation (ISRO) short listed 20 space based experiment proposals for its proposed Venus orbiter mission 'Shukrayaan' to study the planet.

Highlights:

- ISRO is looking forward to launch country's first Venus mission in 2014 or 2016.
- The optimal launch window (when Venus is closest to the Earth) comes about every 19 months. The 20 payloads (scientific instruments) proposals, including collaborative contributions are from Russia, France, Sweden and Germany.
- The one payload from France - VIRAL Instrument has been already selected for the upcoming mission.
- VIRAL (Venus Infrared Atmospheric Gas Linker) instrument is co-developed with the Russian space agency Roscosmos, and the LATMOS atmospheres, environments and space observations laboratory attached to the French national scientific research centre CNRS.

Venus Mission:

- The payload capability of the proposed 2500-kg satellite.
- Planned to be launched onboard GSLV Mk II rocket.
- It is likely to be 175 kg with 500W of power.
- The proposed orbit is expected to be around 500 x 60,000 km around Venus. This orbit is likely to be reduced gradually, over several months to a lower apoapsis (farthest point).

Objectives of Venus Mission:

- Investigation of the surface processes and shallow subsurface stratigraphy.
- Solar wind interaction with Venusian Ionosphere.
- Studying the structure, composition and dynamics of the Atmosphere.

Venus:

- It is described as the "twin sister" of the Earth because of the similarities in size, mass, density, bulk composition and gravity.
- Both planets share a common origin, forming at the same time out of a condensing nebulosity around 4.5 billion years ago, ISRO had noted in its announcement of opportunity.
- Venus is around 30 per cent closer to the Sun as compared to Earth resulting in much higher solar flux.

10. Giant Metrewave Radio Telescope (GMRT)

Why in News?

- The Giant Metrewave Radio Telescope (GMRT) has been selected as a 'Milestone' facility by the U.S.-based Institute of Electrical and Electronics Engineers (IEEE).

GMRT:

- The GMRT located near Pune is an array of thirty fully steerable parabolic radio telescopes of 45-metre diameter, observing at metre wavelengths.
- It is operated by the National Centre for Radio Astrophysics (NCRA), a part of the Tata Institute of Fundamental Research, Mumbai.
- It was conceived and built under the direction of Late Prof. Govind Swarup from 1984 to 1996.
- At the time it was built, it was the world's largest interferometric array offering a baseline of up to 25 kilometres (16 mi).
- Astronomers from all over the world regularly use this telescope to observe many different astronomical objects such as HII regions (interstellar atomic hydrogen that is ionized), galaxies, pulsars, supernovae, and Sun and solar winds.

A Significant Feat:

- IEEE is the world's largest technical professional organisation dedicated to advancing technology in all areas related to electrical and electronics engineering.
- The IEEE Milestones programme honours significant technical achievements which have a global or regional impact. This is only the third such IEEE 'Milestone' recognition for an Indian contribution.
- The previous two Indian IEEE Milestones were for the pioneering work done by Sir J.C. Bose to demonstrate the generation and reception of radio waves in 1895 (recognised in 2012), and for the Nobel Prize-winning (in 1930) 'scattering of light' phenomenon observed by Sir C.V. Raman in 1928.

11. Brain Electrical Oscillation Signature Profiling (BEOSP)

Why in News?

- A brain electrical oscillation signature profiling (BEOSP) test will be conducted on the convicts of the alleged rape and murder in Hathras, Uttar Pradesh.

BEOSP Test:

- BEOSP also known as brain fingerprinting is a neuro-psychological method of interrogation in which the accuser's participation in the crime is investigated by studying their brain's response.
- The BEOSP test is carried out via a process known as an electroencephalogram, conducted to study the electrical behaviour of the human brain.
- Under this test, the consent of the accused is first taken and they are then made to wear caps with dozens of electrodes attached to them.
- The accused are then shown visuals or played audio clips related to the crime to check if there is any triggering of neurons in their brains which then generate brainwaves.
- The test results are then studied to determine the participation of the accused in a crime.

What differentiates a BEOSP test from a Polygraph or a lie Detector?

- The BEOSP procedure does not involve a question-answer session with the accused and is rather a neuro psychological study of their brain.
- In a polygraph test, the accused person's physiological indicators are taken into account which includes blood pressure, pulse rate, respiration and skin conductivity.
- While a person might be able to control their pulse rate and BP even in times of distress, a BEOSP test

Can these Tests be Admitted as Evidence?

- Not as a standalone, a/c to the 2010 Supreme Court judgment in the Selvi v. State of Karnataka case. The bench observed that narco analysis, polygraph and brain mapping tests cannot be forced upon any individual without their consent and the test results cannot be admitted solely as evidence. However, any information or material discovered during the tests can be made part of the evidence, observed the bench.

12. CSIR-CCMB's coronavirus detection method receives ICMR approval

Why in News?

- CSIR-CCMB's Dry Swab direct RT-PCR method for Coronavirus detection receives ICMR approval.

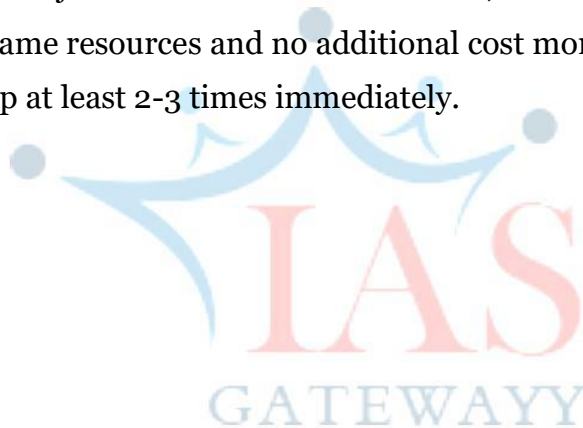
Highlights:

- The simple and fast method of Dry Swab-Direct RT-PCR, developed by CSIR's constituent lab Centre for Cellular and Molecular Biology (CCMB) Hyderabad for scaling up of SARS-CoV-2 detection has been approved by ICMR based on their independent validation.

- The method is a simple variation of the existing standard RT-PCR method and can easily scale up the testing by 2 to 3 fold with no new investment of resources.
- After evaluating this method and finding an overall concordance of 96.9%, ICMR has issued an advisory for the use of CSIR-CCMB dry swab method, considering its lesser cost and quick turn-around time.

CSIR-CCMB dry Swab Method:

- It involves collecting and transporting the nasal swab in the dry state (as opposed to using the viral transport medium – VTM) which makes the transportation and handling of the samples easy and less prone to spillage and spread of infection.
- Also, the step of RNA isolation from the sample is omitted and involves only simple processing of the sample followed by direct RT-PCR using the kit recommended by ICMR.
- Omitting the step of RNA isolation offers a huge benefit over the conventional method, as the RNA isolation is a major bottleneck in terms of time, cost and trained manpower.
- Given this, with the same resources and no additional cost more samples can be tested and can be easily scaled up at least 2-3 times immediately.



4. ECONOMY

1. Bulk Drugs Parks

Why in News?

- Himachal Pradesh is one of the states vying for the allotment of a bulk drug park under a Central Government Scheme announced earlier this year for setting up three such parks across the Country.

Bulk Drugs or APIs:

- A bulk drug also called an active pharmaceutical ingredient (API), is the key ingredient of a drug or medicine, which lends it the desired therapeutic effect or produces the intended pharmacological activity.
- For example, paracetamol is a bulk drug, which acts against pain.
- It is mixed with binding agents or solvents to prepare the finished pharmaceutical product, ie a paracetamol tablet, capsule or syrup, which is consumed by the patient.
- APIs are prepared from multiple reactions involving chemicals and solvents.
- The primary chemical or the basic raw material which undergoes reactions to form an API is called the key starting material, or KSM.
- Chemical compounds formed during the intermediate stages during these reactions are called drug intermediates or DIs.

Why is India Promoting Bulk Drug Parks?

- India has one of the largest pharmaceutical industries in the world (third largest by volume) but this industry largely depends on other countries, particularly China, for importing APIs, DIs and KSMs.
- This year, drug manufacturers in India suffered repeated setbacks due to disruption in imports.
- Factories in China shut down when the country went into a lockdown, and later, international supply chains were affected as the Covid pandemic gripped the entire world.
- The border conflict between India and China exacerbated the situation.

What is the Centre's Scheme?

- The Centre's scheme will support three selected parks in the country by providing a one-time grant-in-aid for the creation of common infrastructure facilities.
- The grant-in-aid will be 70 per cent of the cost of the common facilities but in the case of Himachal Pradesh and other hill states, it will be 90 per cent.

- The Centre will provide a maximum of Rs 1,000 crore per park.
- A state can only propose one site, which is not less than a thousand acres in area, or not less than 700 acres in the case of hill states.

What does a Bulk Park Offer?

- A bulk drug park will have a designated contiguous area of land with common infrastructure facilities for the exclusive manufacture of APIs, DIs or KSMs, and also a common waste management system.
- These parks are expected to bring down manufacturing costs of bulk drugs in the country and increase competitiveness in the Domestic Bulk Drug Industry.

Why Himachal?

- Himachal already has Asia's largest pharma manufacturing hub, that is the Baddi-Barotiwala-Nalagarh industrial belt, and the state produces around half of India's total drug formulations.
- Himachal offers power and water at the lowest tariffs in the country, and the state also has an industrial gas pipeline.
- It jumped nine places in this year's ease-of-doing-business rankings declared by the Centre last month, securing the seventh position in the country.

2. Tussle between Punjab and Centre over Rural Development Fund

Why in News?

- The State Government of Punjab is enraged by the Union government's decision to withhold rural development fee from Punjab and explanation of its utilisation of the Rural Development Fund.

What is Rural Development Fund?

- RDF is the 3% cess levied on the purchase or sale of agricultural produce under the Rural Development Fund Act, 1987.
- It is executed by Punjab Rural Development Board (PRDB) with the Chief Minister as its chairman.

What is Rural Development Board (RDB)?

- The RDB was incorporated in April 1987 under Rural Development Act, 1987.
- It is mandated with the promotion of better agriculture and granting relief for the loss and damage to agricultural produce.

- It also provides the facility of street lights, dharamshalas, panchayat ghars, canals and drains, government health infrastructure, drinking water, sanitation, and government educational institutions in rural areas.

From where does Punjab get this fund and what is it used for?

- It comes mainly from the Food Corporation of India (central government's purchase agency) which buys around 13 million tonnes of wheat and 16 million tonnes of paddy every year. Usually, Punjab gets Rs 1,750 crore every year — Rs 1,000 crore as 3% RDF for procuring paddy and the rest for wheat.
- This fund is supposed to be used for the creation and maintenance of rural infrastructure in and outside mandis.
- But there have been charges in the Past that it was diverted by the state for other purposes.

Why has the Central Government Suspended this Fund?

- The Central government has observed that the fund is being diverted and asked the state Government to explain how it is Utilizing this Money.

Why is the Punjab Government Outraged?

- The Punjab government was to give the earnings from RDF to pay interest on a loan of Rs 4,500 crore taken from various banks to pay for debt waiver to farmers.
- If this fund is not received by the state, it will have to spend money (to pay interest) from its already stressed accounts.
- The state government is claiming that it is being penalised for the protests against the recent farm laws in the state.

3. Luhri Stage-I Hydro Power Project

Why in News?

- Cabinet approves the investment proposal of the 210 MW Luhri Stage-I Hydro Power Project.

Highlights:

- The Luhri Stage-I Hydro Electric Project, located on river Satluj, is situated in Shimla & Kullu districts of Himachal Pradesh.
- This project will generate 758.20 million units of electricity annually.
- This project is being implemented by Satluj Jal Vidyut Nigam Limited (SJVN) on Build-Own-Operate-Maintain (BOOM) basis with active support from the Government of India and the HP State Government.

- The Luhri Stage-I Hydro Electric Project shall be commissioned within a span of 62 months.
- The power generated from the project will help in providing grid stability and will improve the power supply position.
- Besides adding valuable renewable energy to the grid, the project would also lead to a reduction of 6.1 lakh tons of carbon dioxide from the environment annually, thus contributing to an improvement in air quality.
- The construction activity will also generate employment for around 2000 people.
- Further, Himachal Pradesh will benefit with free power worth around Rs. 1140 crore from the Luhri Stage-I Hydro Electric Project, during the Project Life Cycle of 40 years.
- The Project Affected Families will be provided with 100 units of free electricity per month for ten years.

4. NBFCs with high systemic risks need more regulation: RBI DG

Why in News?

- The share of NBFC-MFIs (Non-bank financial companies- microfinance institutions) in the overall microfinance sector had come down to a little more than 30% as several large MFIs had converted into Small Finance Banks.

Non-bank Financial Companies (NBFCs):

- NBFCs are financial institutions that provide banking services without meeting the legal definition of a bank, i.e. one that does not hold a banking license.
- An NBFC is a company registered under the Companies Act, 1956.
- These institutions typically are restricted from taking deposits from the public depending on the jurisdiction.
- Nonetheless, operations of these institutions are often still covered under a country's banking regulations.
- A company which does not have financial assets more than 50% of its total assets and does not derive at least 50% of its gross income from such assets is not an NBFC.

Limitations of the NBFCs:

- All NBFCs are not entitled to accept public deposits.
- Only those NBFCs to which the Bank had given a specific authorisation and have an investment grade rating are allowed to accept/ hold public deposits to a limit of 1.5 times of its Net Owned Funds.

- NBFCs do not form part of the payment and settlement system and cannot issue cheques drawn on itself.
- Deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available to depositors of NBFCs, unlike in case of banks.

Types of NBFCs:

- **Asset Finance Company (AFC):** An AFC is a financial institution carrying on as its principal business the financing of physical assets supporting productive/economic activity.
 - ✓ Principal business for this purpose is defined as aggregate of financing real/physical assets supporting economic activity and income arising therefrom is not less than 60% of its total assets and total income respectively.
- **Investment Company (IC):** IC means any company which is a financial institution carrying on as its principal business the acquisition of securities,
- **Loan Company (LC):** Any company which is a financial institution carrying on as its principal business the providing of finance whether by making loans or advances or otherwise for any activity other than its own but does not include an Asset Finance Company.
- **Infrastructure Finance Company (IFC):** IFC is a non-banking finance company
 - ✓ Which deploys at least 75 per cent of its total assets in infrastructure loans,
 - ✓ Has a minimum net owned funds of Rs 300 crore,
 - ✓ Has a minimum credit rating of 'A' or equivalent
 - ✓ A capital to Risk (Weighted) Assets Ratio of 15%.
- **Systemically Important Core Investment Company (CIC-ND-SI):** An NBFC carrying on the business of acquisition of shares and securities.
- **Infrastructure Debt Fund: Non- Banking Financial Company (IDF-NBFC):** A company registered as NBFC to facilitate the flow of long-term debt into infrastructure projects.
- IDF-NBFC raise resources through issue of Rupee or Dollar denominated bonds of minimum 5-year maturity.
- Only Infrastructure Finance Companies (IFC) can sponsor IDF-NBFCs.

Non-Banking Financial Company - Micro Finance Institution (NBFC-MFI):

- A non-deposit taking NBFC having not less than 85% of its assets in the nature of qualifying assets.

- Non-Banking Financial Company – Factors (NBFC-Factors): A non-deposit taking NBFC engaged in the principal business of factoring.
- The financial assets in the factoring business should constitute at least 50 percent of its total assets and its income derived from factoring business should not be less than 50 percent of its gross income.
- Mortgage Guarantee Companies (MGC) - MGC are financial institutions for which at least 90% of the business turnover is mortgage guarantee business or at least 90% of the gross income is from mortgage guarantee business and net owned fund is Rs 100 crore.
- NBFC- Non-Operative Financial Holding Company (NOFHC) is financial institution through which promoter / promoter groups will be permitted to set up a new bank.
- It's a wholly-owned NOFHC which will hold the bank as well as all other financial services companies regulated by RBI or other financial sector regulators, to the extent permissible under the applicable regulatory prescriptions.

Micro finance Institutions (MFIs):

- MFIs are financial companies that provide small loans to people who do not have any access to banking facilities.
- In India, all loans that are below Rs.1 lakh can be considered as Microloans.

5. Impact of Demonetization after 4 years

Why in News?

- The currency with Public stood at a record high up 45.7 per cent on November 4, 2016.

The Gradual Development of Currency Circulation:

- Cash in the system has been steadily rising, even though the government and the Reserve Bank of India (RBI) pushed for a “less cash society”, digitisation of payments and slapped restrictions on the use of cash in various transactions.
- The government announced demonetisation on November 8, 2016. Rs 500 and Rs 1,000 notes were withdrawn from the system and the currency with the public, which stood at Rs 17.97 lakh crore on November 4, 2016, declined to Rs 7.8 lakh crore in January 2017 soon after demonetisation.
- But in October 2020, the currency with public rose by Rs 10,441 crore to hit a new high.
- The pace of rise in currency with the public has been very sharp over that last 10 months (Rs 21.79 lakh crore to Rs 26.19 lakh crore).

- The jump was primarily driven by a rush for cash by the public between March and May as the government announced stringent lockdown to tackle the spread of the Covid-19 pandemic. People began accumulating cash to meet their grocery and other essential needs that was being mainly catered by Neighbourhood Grocery Stores.

Calculation of Currency with Public:

- Currency with public is calculated after deducting cash with banks from total currency in circulation.
- Currency in circulation refers to cash or currency within a country that is physically used to conduct transactions between Consumers and Businesses.

Immediate Impact of Demonetization:

- The sudden withdrawal of notes in November 2016 roiled the economy, with demand falling, businesses facing a crisis and gross domestic product (GDP) growth declining nearly 1.5 per cent.
- Many small units were hit hard and shut shutters after the note ban.
- It also created a liquidity shortage.

Is it Real?

- The rise in currency in circulation in absolute numbers is not the reflection of reality.
- The currency to GDP ratio, which had come down after demonetization is needs to be taken into account. But this would have gone up of late with the decline in the growth.
- According to an RBI study on digital payments, although digital payments have been growing, the data suggests that during the same time currency in circulation to GDP ratio has increased in consonance with the overall Economic Growth.

Several Anomalies, however, are Visible in the Trend:

- first, the spread and intensity of use of digital payments does not seem to have any specific relationship with how developed a country is.
- An increase in digital payments to GDP ratio over a period of time does not seem to automatically imply a fall in the currency to GDP ratio of the country.
- Cash transactions through ATMs were also rising steadily. From Rs 2,00,648 crore in January 2017, debit card transactions through ATMs and PoS (point of sale) terminals rose to Rs 2,37,778 crore in August 2020.
- Unified Payments Interface (UPI) transaction volume declined by 5.9 % in March 2020 and further by 19.8 % in April 2020 to slightly less than one billion transactions. However, it recovered as the lockdown was gradually lifted.

About Operation Clean Money:

- The Income Tax Department (ITD) launched Operation Clean Money (Swachh Dhan Abhiyan), an e-platform to analyse large cash deposits made during the demonetisation window (9 November to 30 December 2016).
- **Features:**
 - ✓ Under it, e-verification of large cash has been done using data analytics for comparing the demonetisation data with information in ITD databases.
 - ✓ It comprises account-holders whose deposits did not match their incomes, as per data with the IT department, will be alerted on their e-filing portals.
 - ✓ IT department send emails and phone text messages to these accountant holders to seek their explanation about the source of funds and a response within 10 days.
 - ✓ In absence of a response, they will receive a notice from the tax department or further action.
 - ✓ The verification will also be closed if the cash deposit is declared under Pradhan Mantri Garib Kalyan Yojna (PMGKY).
- **Objectives:**
 - ✓ Verifying cash transaction status of taxpayers during the demonetisation period.
 - ✓ Taking tax enforcement action if transactions do not match the tax status.

6. Saffron cultivation

Why in News?

- The Saffron bowl of India extends to the North East.

Highlights:

- The North East Centre for Technology Application and Reach (NECTAR) has undertaken a pilot project to explore the feasibility of growing saffron in the North East region.
- Plants from seeds transported from Kashmir to Sikkim and acclimatized there are now flowering in Yangyang in the Southern part of the North-East state.
- The Botany and Horticulture department of the Sikkim Central University carried out tests to understand the soil and actual pH conditions of Yangyang of Sikkim and found it comparable to saffron growing places of Kashmir.
- The project also focused on post-harvest management and value addition of saffron so that quality saffron drying and efficient post-harvest processing can improve saffron recovery, thereby improving its production.

Background:

- Saffron production has long been restricted to a limited geographical area in the Union territory of Jammu & Kashmir.
- Pampore region, in India, commonly known as the Saffron bowl of Kashmir, is the main contributor to saffron production, followed by Budgam, Srinagar, and Kishtiwari districts.
- Saffron has traditionally been associated with the famous Kashmiri cuisine.
- Its medicinal values were considered as part of the rich cultural heritage of Kashmir.
- As saffron growing was confined to very specific areas in Kashmir, its production remained limited. Though the National Mission on Saffron focused on several measures to improve its farming, the measures were still limited to the specified areas of Kashmir.

7. International Financial Services Centres Authority (Banking)

Regulations, 2020

Why in News?

- IFSC Authority approves the International Financial Services Centres Authority (Banking) Regulations, 2020.

Background:

- Banking constitutes one of the major focus areas of IFSC and is expected to drive and facilitate the other constituent operations in the IFSC in due course.
- A self-contained regulation laying down the major principles of banking operations at IFSCs is thus an important step in the IFSC reaching its desired potential.
- India is trying to promote IFSC, situated at the Gujarat International Finance Tech (GIFT) City, as an alternative for investors, after Hong Kong's ability to function as a global financial centre came under a cloud after China tightened its grip on the city.
- IFSCA, which was set up in April 2020, is working to provide an efficient and facilitative regulatory system comparable with the best jurisdictions in the world, to develop IFSC in India as a preferred global hub for international financial services.

Salient features of the Banking Regulations are:

- Laying down the requirements for setting up IFSC Banking Units (IBUs).
- Permitting persons resident outside India (having net worth not less than USD 1 Million) to open foreign currency accounts in any freely convertible currency at IFSC Banking Units (IBUs).

- Permitting persons resident in India (having net worth not less than USD 1 Million) to open foreign currency accounts in any freely convertible currency at IFSC Banking Units (IBUs) to undertake any permissible current account or capital account transaction or any combination thereof under the Liberalised Remittance Scheme (LRS) of the Reserve Bank of India.
- Laying down the permissible activities of IBUs including credit enhancement, credit insurance, and sale, purchase of portfolios, engage in factoring and forfaiting of export receivables and undertake equipment leasing, including aircraft leasing.
- Permitting the Authority to determine the business that a Banking Unit may be permitted to conduct in INR with persons resident in India and persons resident outside India, subject to settlement of the financial transaction in relation to such business in freely convertible foreign currency.

8. PLI scheme will help India nurture manufacturing giants

Why in News?

- India offers an attractive domestic market, with a large population in the educated and earning segment.
- The Production Linked Incentive (PLI) Scheme is designed to incentivise incremental production for a limited number of eligible anchor entities in each of the selected sectors.

Need for Increasing Manufacturing Capabilities:

- The world of manufacturing is now more interconnected than ever before with all major industries—automobile, electronics, pharmaceuticals, textiles, etc—operating as a global value-chain.
- In order to integrate India as a pivotal part of this modern economy, there is a strong need to step up our manufacturing capabilities in sectors of high growth, including the cutting edge technology sectors.
- A strong and dynamic manufacturing sector will fuel India's economic growth by allowing companies producing in India to penetrate effectively into the global supply chains across various sectors.
- Apart from enhancing exports, it will also reduce our import dependencies and spur domestic consumption.
- 'Atmanirbhar Bharat' has brought manufacturing to the centre stage and emphasised its significance in driving India's Growth.

Factors Favouring India:

- India offers an attractive domestic market, with a large population in the educated and earning segment.
- It also has a Strong institutional framework which allows for a smooth functioning of the industry.
- A concerted effort towards attracting substantial investments for the creation of large manufacturing facilities, combined efficiency and economies of scale, can help Indian Companies Globally Competitive and Integrate with the Global Markets.

How Production Linked Scheme (PLI) will help achieve these objectives:

- The Production Linked Incentive (PLI) Scheme is designed to incentivise incremental production for a limited number of eligible anchor entities in each of the selected sectors.
- These selected entities will invest in technology, plant & machinery, as well as in R&D.
- The scheme will also have beneficial spillover effects by the creation of a widespread supplier base for the anchor units established under the scheme.
- Along with the anchor unit, these supplier units will also help to generate massive primary and secondary employment opportunities.
- The sectors for PLI have been shortlisted on the basis of their potential for economic growth, extent of benefit to the rural economy, revenue and employment generation.
- A key benefit of the PLI Scheme is that it can be implemented in a very targeted manner to attract investments in areas of strength and to strategically enter certain segments of global value chains (GVCs).
- This will help bring scale and size in key sectors and create and nurture global champions.
- The scheme incentivises upcoming technologies that represent the biggest economic opportunities of the 21st century.
- The scheme intends to generate large-scale employment by incentivising the development of traditional, labour intensive sectors like Food Processing and Textiles.
- The current basket of Indian manufacturing constitutes of large volume of low-value products.
- The scheme aims to correct this by encouraging large manufacturers to bring technology and to build capabilities for high-value output thereby providing higher returns to the upstream producers.
- It will also enable an increase in exports.

- The scheme envisages globally-integrated manufacturing in sectors such as automobile and auto components, pharmaceuticals, telecommunications, white goods and steel.
- These are crucial sectors in terms of their strategic importance, contribution to the GDP and employment-generation potential.

9. 2025 Nutrition Targets call for a Multi-Dimensional Focus

Why in News?

- A recent United Nations report- The State of Food Security and Nutrition in the World, 2020 highlighted that there are 189.2 million undernourished people in India.

Nutrition in India:

- Even though this number has declined by 60 million over the past decade, the progress is far too slow.
- While we recorded a drop in undernourishment, obesity amongst Indian adults grew from 25.2 million in 2012 to 34.3 million in 2016.
- India is likely to miss the 2025 global nutrition targets according to the Global Nutrition Report 2020, unless more is done, soon

Impact of POSHAN Abhiyan:

- With the launch of POSHAN Abhiyan in 2018, the government mainstreamed nutrition, with this multi-ministerial and multi-sectoral approach.
- It converges all existing programs to improve the nutritional status of pregnant women, mothers and children.
- It brings together several programs such as National Rural Health Mission, Mid-Day meals, Integrated Child Development Scheme, Sarva Shiksha Abhiyan, and others to improve nutrition intake in India.
- The success lies in following an outcome-based approach to ensure all the benefits under these interventions are delivered to mothers and children within the first 1000 days, setting the base for healthier lives.

Micronutrients through Food Fortification:

- Food fortification is another effective way to deliver micronutrients to Indian masses, through existing food delivery systems such as mid-day meals and the public distribution system.
- Regulators have already been promoting fortification in food products like salt, edible oil, milk, rice and wheat flour to improve nutritional content.

- Going forward, we will see more and more food products and crops getting covered.

Need for Innovation:

- It is crucial for the food and beverage industry to make nutrition an integral part of their strategy.
- Healthier ingredients, fortification, reformulation to reduce saturated and trans-fat content and optimize sugar and sodium content, immunity boosting product is already commonplace across urban markets.
- This will soon permeate to rural markets.
- Factors such as product taste, convenience, shelf life, and price – all of which determine consumption – are also important elements that ensure higher intake of nutritious products by consumers everywhere.
- This calls for more innovation. Innovation in product, pricing, technology, digitalization, and research and development by Food Companies.

Rising Nutrition Awareness:

- Solving the problem of malnourishment has to start with awareness.
- In rural areas, general nutritional awareness has historically been lower.
- In urban areas even though people are generally more aware a large percentage still consumes excess sugar and salt, leads sedentary lifestyles coupled with lack of exercise, resulting in lifestyle diseases like diabetes, obesity, high blood pressure
- Consumers everywhere need to be better educated about nutritional benefits of common food items and the importance of including them in regular diet.
- This can be done effectively through government led awareness campaigns and healthy public food distribution initiatives, industry acting responsibly.

10. India's first Green Energy Convergence Project

Why in News?

- The Energy Efficiency Services Limited (EESL) is set to roll out of India's first Energy Convergence Project in Goa.

Green Energy Convergence Project:

- Under the project, EESL and the Department of New and Renewable Energy (DNRE) in Goa will carry out feasibility studies and implementation of decentralized solar energy projects.

- The project aims to connect seemingly independent sectors like Solar Energy, Energy Storage and LED lights to provide solutions, which can enable in decarbonisation and affordable energy access. It will include the installation of 100 Megawatt decentralized ground-mounted solar power projects on government land to be used for agricultural pumping. It seeks to replace 6,300 agricultural pumps and distribute 16 lakh LED bulbs for rural domestic households.

Benefits of the Project:

- The projects will accelerate the usage of renewable energy sources, especially for agricultural and rural power consumption in the State.
- They will also contribute to the reduction of peak energy demand through the deployment of energy-efficient pumping and lighting thus contributing to Overall Sustainability.

EESL:

- A joint venture of NTPC Limited, Power Finance Corporation, Rural Electrification Corporation and POWERGRID, the EESL was set up under Ministry of Power to facilitate the implementation of energy efficiency projects.
- EESL is a Super Energy Service Company (ESCO) that seeks to unlock energy efficiency market in India, that can potentially result in energy savings of up to 20 per cent of current consumption. It also acts as the resource centre for capacity building of State DISCOMs, ERCs, SDAs, upcoming ESCOs, Financial Institutions, etc.

11. PM Formalization of Micro Food Processing Enterprises Scheme

Why in News?

- Union Minister for Food Processing Industries has inaugurated the capacity building component of the Pradhan Mantri Formalization of Micro food processing Enterprises scheme (PM-FME Scheme).
- The event also sought the launch of the GIS One District One Product (ODOP) Digital Map of India.

PM-FME Scheme:

- Launched under the Aatmanirbhar Bharat Abhiyan, the PM-FME Scheme is a centrally sponsored scheme.
- It aims to enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector.

- It seeks to provide support to Farmer Producer Organizations, Self Help Groups, and Producers Cooperatives along their entire value chain.
- Under the PM-FME scheme, capacity building is an important component.
- The scheme envisages imparting training to food processing entrepreneurs, various groups, viz., SHGs / FPOs / Co-operatives, workers, and other stakeholders associated with the implementation of the scheme.

Features of the scheme:

- The Scheme adopts One District One Product (ODODP) approach to reap the benefit of scale in terms of procurement of inputs, availing common services and marketing of products.
- The States would identify food product for a district keeping in view the existing clusters and availability of raw material.
- The ODOP product could be a perishable produce-based product or cereal-based products or a food product widely produced in a district and their allied sectors.
- An illustrative list of such products includes mango, potato, litchi, tomato, tapioca, kinnu, bhujia, petha, papad, pickle, millet-based products, fisheries, poultry, meat as well as animal feed among others.
- The Scheme also place focus on waste to wealth products, minor forest products and Aspirational Districts.

ODOP Digital Map:

- The GIS ODOP digital map of India provides details of ODOP products of all the states to facilitate the stakeholders.
- The digital map also has indicators for tribal, SC, ST, and aspirational districts.
- It will enable stakeholders to make concerted efforts for its value Chain Development.

12. Reserve Bank Innovation Hub

Why in News?

- The Reserve Bank of India has set up Reserve Bank Innovation Hub (RBIH) for the financial sector.

Reserve Bank Innovation Hub (RBIH):

- Aim: To create an eco-system that would focus on promoting access to financial services and products. This will also promote financial inclusion.

- It would be guided and managed by the 9-member Governing Council.

Function:

- Collaborate with financial sector institutions, technology industry and academic institutions and coordinate efforts for exchange of development of prototypes related to financial innovations.
- Develop internal infrastructure to promote fintech research and facilitate engagement with innovators and start-ups.

Regulatory Sandbox Structure:

- In November 2019, RBI regulatory sandbox structure to promote innovation across the financial sector by leveraging on technology (same aim as of RBIH).
- A regulatory sandbox is a framework set up by a regulator that allows FinTech startups and other innovators to conduct live experiments in a controlled environment under a regulator's supervision.

13. 3rd Permanent Court of Arbitration -India Conference

Why in News?

- Indian Foreign Secretary said that India is committed to support the dispute resolution sector at the 3rd Permanent Court of Arbitration (PCA)-India Conference.

Permanent Court of Arbitration:

- Established by: treaty at the First Hague Peace Conference in 1899 to facilitate arbitration and other forms of dispute resolution between states.
- Objective: To facilitate the arbitration of international disputes that arise out of international agreements between member states, international organizations or private parties.
- It is the oldest global institution for the settlement of international disputes.
- In addition to the Members of the Court, the PCA also maintains various specialized panels of arbitrators for environmental and outer space disputes.
- It has a Financial Assistance Fund for helping developing countries meet part of the costs involved in international arbitration or other means of dispute settlement offered by the PCA.
- It is not part of the UN system, although it does have observer status in the UN General Assembly since 1993.
- PCA has a three-part organizational structure consisting of:

- ✓ **Administrative Council:** that oversees its policies and budgets. Works under the chairmanship of the Netherlands Minister for Foreign Affairs.
- ✓ **Members of the Court:** A panel of independent potential arbitrators appointed by Contracting Parties. Each Contracting Party is entitled to nominate up to four persons.
- ✓ **Secretariat:** known as the International Bureau, headed by the Secretary-General. Provides administrative support, serving as the official channel of communications and ensuring safe custody of documents.

Difference between International Court of Justice and Permanent Court of Arbitration:

- Unlike the International Court of Justice, the Permanent Court of Arbitration has no sitting judges: the parties themselves select the arbitrators.
- Sessions of the Permanent Court of Arbitration are held in private and are confidential. The Court also provides arbitration in disputes between international organisations and between states and international organisations.

14. Govt extends emergency credit guarantee scheme to stressed sectors

Why in News?

- The government has extended the Emergency Credit Line Guarantee Scheme (ECLGS) to the health sector and 26 other sectors identified by the Kamath Committee.

Highlights of the ECLGS 2.0 Scheme:

- The National Credit Guarantee Trustee Company Limited (NCGTC) has issued the operational guidelines for implementation of ECLGS 2.0 scheme.
- Announcement of the Scheme: earlier November as part of the Rs 2.65 lakh crore Atmanirbhar Bharat 3.0 package.

Eligibility:

- The entities with outstanding credit above Rs 50 crore and not exceeding Rs 500 crore as on February 29, 2020, which were less than or equal to 30 days past due as on February 29, 2020 are eligible under ECLGS 2.0.
- It will be applicable to all loans sanctioned under ECLGS during the period from the date of issue of these guidelines to March 31, 2021 or till guarantees for an amount of Rs 3 lakh crore is sanctioned under the ECLGS (taking into account both ECLGS 1.0 and 2.0), whichever is earlier.

- **Moratorium Period**
 - ✓ The loans provided under ECLGS 2.0 will have a five-year tenor, with a 12-month moratorium on repayment of principal.
- **Additional benefit:**
 - ✓ These entities or borrower accounts will be eligible for additional funding up to 20 per cent (which could be fund based or non-fund based or both) of their total outstanding credit (fund based only) as a collateral free Guaranteed Emergency Credit Line (GECL), which would be fully guaranteed by NCGTC.
- **Extension to ECLGS 1.0:**
 - ✓ In addition to ECLGS 2.0, it has also been decided to extend ECLGS 1.0 to entities under ECLGS which had a total credit outstanding (fund-based only) of up to Rs 50 crore, but were previously ineligible owing to their annual turnover exceeding Rs 250 crore.

Significance of the extending ECLGS 1.0:

- The modified scheme will provide an incentive to Member Lending Institutions (MLIs) to enable availability of additional funding facility to the eligible borrowers, both MSMEs/business enterprises and identified sectors that supports MSMEs.
- It will go a long way in contributing to:
 - ✓ Economic revival
 - ✓ Protecting jobs, and
 - ✓ Create conducive Environment for Employment Generation.

5. GEOGRAPHY & ENVIRONMENT

1. Mansar Lake

Why in News?

- Mansar Lake Development Plan is getting fulfilled after a long wait of 70 years.

Mansar Lake:

- Situated at about 37 km from Jammu, Mansar is a lake fringed by forest-covered hills, over a mile in length by half-a-mile in width.
- Surinsar-Mansar Lakes are designated as Ramsar Convention in November 2005.
- With all religions belief and heritage behind the Mansar Lake is also picking up its fame among the tourists with all its flora & fauna.
- The lake has cemented path all around with required illumination, with projected view decks to enjoy flickering of seasonal birds, tortoise and fishes of different species.
- There is a wildlife Sanctuary housing jungle life like Spotted Deer, Nilgai etc. besides other water birds such as Cranes, Ducks etc.

Ramsar Convention:

- The Convention on Wetlands of International Importance (better known as the Ramsar Convention) is an international agreement promoting the conservation and wise use of wetlands.
- It is the only global treaty to focus on a single ecosystem.
- The convention was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975.
- Traditionally viewed as a wasteland or breeding ground of disease, wetlands actually provide freshwater and food and serve as nature's shock absorber.
- Wetlands, critical for biodiversity, are disappearing rapidly, with recent estimates showing that 64% or more of the world's wetlands have vanished since 1900.
- Major changes in land use for agriculture and grazing, water diversion for dams and canals and infrastructure development are considered to be some of the main causes of loss and degradation of wetlands..

2. WWF Water Risk Filter

Why in News?

- Nearly a third of the 100 cities in the world susceptible to ‘water risk’ — defined as losses from battling droughts to flooding — are in India, according to the WWF Water Risk Filter.

What is Water Risk Filter?

- This is an online tool, co-developed by the Worldwide Fund for Nature that helps evaluate the severity of risk places faced by graphically illustrating various factors that can contribute to water risk.
- Launched in 2012, it is a practical online tool that helps companies and investors assess and respond to water-related risks facing their operations and investments across the globe.
- After a major upgrade in 2018, the Water Risk Filter 5.0 enables companies and investors to Explore, Assess, Value and Respond to water risks.
- Lately, the Water Risk Filter provides scenarios of water risks for 2030 and 2050, integrating climate and socio-economic changes in different pathways.

Highlights of the Recent Analysis:

- It reported 30 Indian cities that would face a ‘grave water risk’ by 2050 due to a dramatic increase in their population percentage to 51 per cent by 2050, from 17 per cent in 2020.
- Jaipur topped the list, followed by Indore and Thane. Mumbai, Kolkata and Delhi also featured on the list.
- The global list includes cities such as Beijing, Jakarta, Johannesburg, Istanbul, Hong Kong, Mecca and Rio de Janeiro. China accounts for almost half the cities.

Major Recommendations:

- The future of India’s environment lies in its cities. As India rapidly urbanizes, cities will be at the forefront both for India’s growth and for sustainability.
- For cities to break away from the current vicious loop of flooding and water scarcity, nature-based solutions like restoration of urban watersheds and wetlands could offer solutions.
- Urban watersheds and wetlands are critical for maintaining the water balance of a city, flood cushioning, micro-climate regulation and protecting its biodiversity, the report notes.

3. Ganga Utsav, 2020

Why in News?

- A three-day virtual 'Ganga Utsav 2020' has been organized from 2nd to 4th November.

Highlights:

- Aimed at spreading awareness about cleanliness and rejuvenation of river Ganga.
- This is the 12th anniversary of Ganga being accorded the status of National River.

About 'Ganga Utsav':

- The National Mission for Clean Ganga (NMCG) had been celebrating the day of declaration of river Ganga as 'National River' on 4th November of every year.
- The utsav celebrates river Ganga through storytelling, folklores, dialogues with eminent personalities, quizzes, displaying traditional artforms, dance & music performance, photo galleries and exhibitions and much more.

Objective:

- To promote stakeholder engagement and ensure public participation under aegis of Ganga Knowledge Center.

River Ganga:

- The Ganges (Ganga) River runs through northern India and is sacred in Hinduism.
- Ganga basin is bounded by the Himalayas on the north, by the Aravalli on the west, by the Vindhyas and Chottanagpur plateau on the south and by the Brahmaputra Ridge on the east.
- On the banks of river Ganga many archeological sites, national heritage sites, and world heritage sites are laid such as Nanda Devi Wildlife Sanctuary, Valley of Flowers National Park and the Taj Mahal.
- The waters of Ganga river basin irrigate one-fourth of India's land spanning over 11 Indian states and account for 26.3% of the nation's water resources.
- Tehri dam, Uttarakhand is the highest dam on Ganga
- Nanak Sagar dam, Uttarakhand is the longest dam on Ganga

Course of the River:

- The Ganges River originates in the Himalaya Mountains at Gomukh, the terminus of the Gangotri Glacier.
- The Bhagirathi River flows down the Himalayas and joins the Alaknanda River, forming the Ganges River at Devaprayag.

- The melting water from the Himalayas, as well as water from tributaries and rainfall feed the river.
- As the Ganges passes from West Bengal into Bangladesh, it is joined by the river Brahmaputra, there called the Padma, and joins with the Meghna river.
- Ganga then flows through the delta region to the Bay of Bengal via innumerable channels.
- The Ganges-Brahmaputra system has the third greatest average discharge of the world's rivers.

Government Initiatives for Ganga Revival:

- Initiatives to clean the Ganga began with the Ganga Action Plan I in 1986.
- In 2014, the government launched the Namami Gange Project being implemented by the National Mission for Clean Ganga (NMCG).
- The National Ganga Council (NGC) was created in 2016 by replacing the National Ganga River Basin Authority.
- **Composition:**
 - ✓ **Chairperson:** PM
 - ✓ **Members:** Chief Ministers of five Ganga basin states- (Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal)

Namami Gange:

- 'Namami Gange' was launched in June 2014 as an integrated conservation mission.
- **Objectives:**
 - ✓ Effective pollution abatement and conservation
 - ✓ Rejuvenation of the National River Ganga and its Tributaries.

4. Panna Biosphere Reserve Included in MAB Programme

Why in News?

- UNESCO has included Panna Biosphere Reserve in its World Network of Biosphere Reserves under Man and the Biosphere Programme (MAB).
- It is the third Biosphere Reserve in Madhya Pradesh after Pachmarhi and Amarkantak.

Panna Tiger Reserve:

- It is situated in the Vindhyan mountain range of Panna and Chhatarpur districts in Madhya Pradesh.
- In 1994, this park was included as India's 22nd tiger reserve.

- Panna was notified a biosphere reserve by the Ministry of Environment in 2011.
- River Ken flows through the panna tiger reserve.
- It links the eastern and western populations of wild animals through the Vindhyan ranges.
- It is home to the World Heritage site of Khajuraho temples.
- Concern: Ken-Betwa linking project requires diversion of forest land of Panna Tiger Reserve.

Flora:

- The reserve has dry and short grass habitat with extensive open woodlands.
- The tree species Khair dominates the dry steep slopes of the plateaus in this park.
- It is characterized by forests and marshy vegetation, with an abundance of rare medicinal plants and non-timber forest products, such as katha, gum and resin.

Fauna:

- Tiger, leopard, nilgai, chinkara, chousinga, chital, rusty spotted cat, porcupine, and sambhar.
- Gharials (long snouted crocodiles) and muggars (marsh crocodiles) can be found in River Ken.

Man, and the Biosphere (MAB):

- UNESCO's (United Nations Educational, Scientific and Cultural Organization) Man and the Biosphere Programme (MAB) is an Intergovernmental Scientific Programme that was launched in 1971.
- Aim: To establish a scientific basis for the improvement of relationships between people and their environments.
- It proposes interdisciplinary research, demonstration and training in natural resources management.
- It provides a unique platform for cooperation on three interlinked issues: biodiversity loss, climate change and sustainable development.
- There are 714 biosphere reserves in 129 countries, including 21 transboundary sites.
- Under the programme, Protection is granted not only to the flora and fauna of the protected region, but also to the human communities who inhabit these regions, and their ways of life.
- Tamil Nadu's Niligiri Biosphere Reserve was the first of India's reserves to make it to UNESCO's list in 2000.
- India's list of world network of biosphere reserves under MAB:

- ✓ Nilgiri
- ✓ Gulf of Mannar
- ✓ Sundarban
- ✓ Nanda Devi
- ✓ Nokrek
- ✓ Pachmarhi
- ✓ Similipal
- ✓ Achanakmar - Amarkantak
- ✓ Great Nicobar
- ✓ Agasthyamala
- ✓ Khangchendzonga
- ✓ Panna Biosphere Reserve

5. Four more biodiversity heritage sites for Karnataka

Why in News?

- Karnataka Biodiversity Board has decided to declare four areas in the State as biodiversity heritage sites.

4 Biodiversity Heritage sites:

- **Antaragange Betta in Kolar:**
 - ✓ It has a unique and perennial water source flowing all through the year.
- **Aadi Narayana Swamy Betta in Chickballapur:**
 - ✓ It has many dry-belt species protected by locals.
- **Mahima Ranga Betta in Nelamangala, Bengaluru:**
 - ✓ It is a prominent lung space surviving in Bengaluru
- **Urumbi area in Dakshina Kannada:**
 - ✓ It has a fragile environmental system and is located on the banks of the river Kumaradhara.

Biodiversity Heritage Sites:

- Biodiversity heritage sites are considered unique and fragile ecosystems that can be marine ecosystems, coastal and inland waters, or Terrestrial Areas.
- Under Section-37 of Biological Diversity Act, 2002 the State Government in consultation with local bodies may notify areas of biodiversity importance as Biodiversity Heritage Sites.

- Purpose of declaring BHS is to enhance the quality of life of the local communities through conservation of such sites.
- The 'Biodiversity Heritage Sites' are unique ecosystems having rich biodiversity comprising of any one or more of the following components:
 - Richness of wild as well as domesticated species or intra-specific categories.
 - High endemism.
 - Presence of rare and threatened species, keystone species, species of evolutionary significance.
 - Wild ancestors of domestic/cultivated species or their varieties.
 - Past pre-eminence of biological components represented by fossil beds and having significant cultural, ethical or aesthetic values and are important for the maintenance of cultural diversity, with or without a long history of human association with them.
- The creation of BHS may not put any restriction on the prevailing practices and usages of the local communities, other than those voluntarily decided by them.

6. Deemed Forests

Why in News?

- Karnataka Forest Minister has announced that the state government would soon declassify 6.64 lakh hectares of the 9.94 lakh hectares of deemed forests in the state (nearly 67%) and hand it over to Revenue authorities.

Deemed Forests?

- The concept of deemed forests has not been clearly defined in any law including the Forest Conservation Act of 1980. However, the Supreme Court in the case of T N Godavarman Thirumalpad (1996) accepted a wide definition of forests under the Act.
- It covered all statutorily recognised forests, whether designated as reserved, protected or otherwise for the purpose of Section 2 (1) of the Forest Conservation Act.
- The term 'forest land' occurring in Section 2 will not only include 'forest' as understood in the dictionary sense but also any areas recorded as forest in the government record irrespective of the owners said the court.

Why it is in News?

- The issue of deemed forests is a contentious one in Karnataka, with legislators across party lines often alleging that large amounts of agriculture and non-forest land are "unscientifically" classified as such.

Demands to Reclassify:

- A deemed forest fits “dictionary meaning” of a forest, “irrespective of ownership”.
- Amidst claims that the move hit farmers, as well as barred large tracts from mining, the state has been arguing that the classification was done without taking into account the needs of People.

Why does the Government Want to Release these Forests?

- In 2014, the then government decided to have a relook at the categorisation of forests.
- The dictionary definition of forests was applied to identify thickly wooded areas as deemed forests, a well-defined scientific, verifiable criterion was not used, resulting in a subjective classification.
- The subjective classification in turn resulted in conflicts.
- Ministers have also argued that land was randomly classified as deemed forest by officials, causing hardship to farmers in some areas.
- There is also a commercial demand for mining in some regions designated as deemed forests.

Forest Classification in India:

- The Forest Survey of India (FSI) classifies forest cover in 4 classes.
- Very Dense forest: All lands with tree cover (including mangrove cover) of canopy density of 70% and above. Moderately dense forest: All lands with tree cover (including mangrove cover) of canopy density between 40% and 70%.
- Open forests: All lands with tree cover (including mangrove cover) of canopy density between 10% and 40%.
- Scrubs: All forest lands with poor tree growth mainly of small or stunted trees having canopy density less than 10%.

7. Karnataka Wants to Declassify Some Forest as Deemed

Why in News?

- Recently, Karnataka announced that it would soon declassify 6.64 lakh hectares of the 9.94 lakh hectares of deemed forests in the state (nearly 67%).

Deemed Forests:

- Deemed forests are land tracts that appear to be a “forest”, but have not been notified so by the government or in historical records.

- However, this only applies to forest land that has not already been historically classified as “forest” in revenue records, or categorised by the government as “protected” or “reserve forest”.
- Supreme court in T N Godavarman Thirumalpad (1996) case order state governments to identify such deemed forest.
- T N Godavarman Thirumalpad case:
- While the concept of deemed forests has not been clearly defined in any law including the Forest Conservation Act of 1980, the Supreme Court in the case of T N Godavarman Thirumalpad (1996) accepted a wide definition of forests under the Act.
- Definition of Forest: The word ‘forest’ must be understood according to its dictionary meaning. This description covers all statutorily recognised forests, whether designated as reserved, protected or otherwise for the purpose of Section 2 (1) of the Forest Conservation Act.
- Definition of Forest Land: The term ‘forest land’ will not only include ‘forest’ as understood in the dictionary sense, but also any areas recorded as forest in the government record irrespective of the ownership.

Implications:

- Preservation of forest areas in India under the Forest Conservation Act, 1980 has been continuously monitored by the Supreme Court since the Godavarman case judgment in 1996.
- Thus, state government must obtain clearances from the Supreme Court before making changes to land classified as deemed forests since the verdict.
- Why Karnataka want to release 6.64 lakh hectares of deemed forests?
- In 2014, Karnataka said that some of the ‘statutory forests’ had been wrongly classified as ‘deemed forest’ by the expert committee constituted after the Supreme Court order (1996).

Argument of Karnataka Government:

- The committee used dictionary definition of forests. It should have applied well-defined scientific, verifiable criteria in identifying deemed forests.
- Such false classification resulted in conflicts between the Forest Department and other departments like Revenue, Irrigation, Public Works and Energy.
- Also, land was randomly classified as deemed forest by officials, causing hardship to farmers in Some Areas.

8. Atlantic Ocean's Largest Protected Marine Reserve

Why in News?

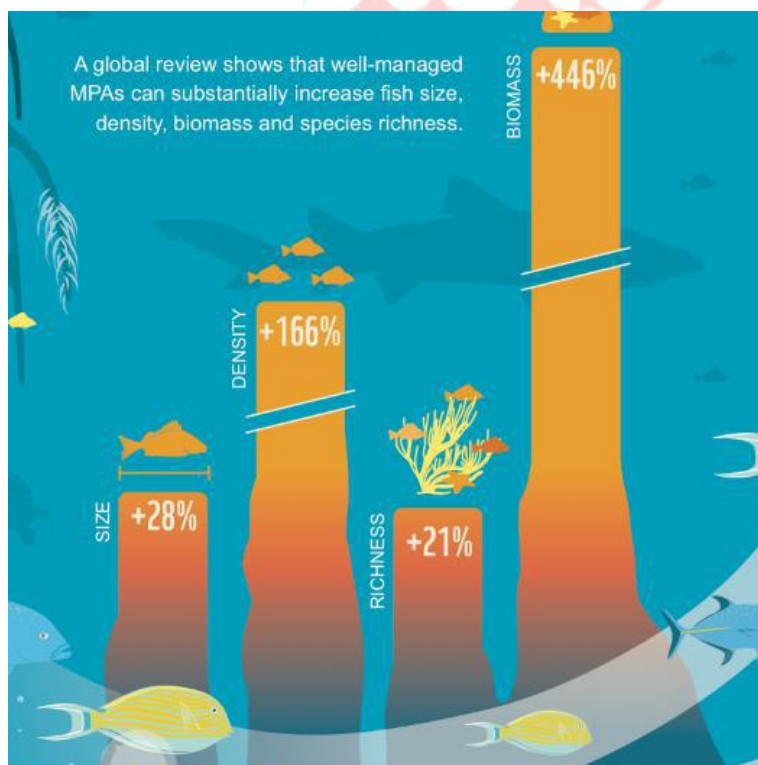
- Tristan Da Cunha has been declared as the largest Protected Marine Reserve in the Atlantic Ocean.

Tristan da Cunha:

- It is a remote group of volcanic islands in the south Atlantic Ocean.
- It is the most remote inhabited archipelago in the world.
- It is a British Overseas Territory with its own constitution.
- It was once the main trading route between Europe and the Indian Ocean.

Biodiversity:

- The water around the islands is considered to be the richest in the world.
- Home to the World Heritage Site of Gough and Inaccessible Islands, which is one of the most important seabird islands in the world.
- Home to several species of land birds that live nowhere else, including the Wilkins bunting, the U.K.'s rarest bird, and the Inaccessible rail, the world's smallest flightless bird.
- Thus, it is home millions of seabirds and several unique land birds that are comparable to the Galapagos island finches.



Marine Protection Zone:

- Marine Protected Zones (MPZs) involve the management of certain natural areas for biodiversity conservation or species protection and are created by delineating zones with permitted and non-permitted areas within that zone.
- After being declared a Protected Marine Reserve, Tristan da Cunha has become the largest no-take zone in the Atlantic Ocean and the fourth largest on the planet.
- This prohibits fishing, mining, and any such activities.
- This development is also supported by the Blue Belt Program which is an initiative of the United Kingdom to support UK Overseas Territories with the protection and sustainable Management of their Marine Environments.

9. Examining the Climate Finance Gap for Small-Scale Agriculture Report

Why in News?

- A Report titled Examining the Climate Finance Gap for Small-Scale Agriculture was released recently.
- It was prepared by the UN's International Fund for Agricultural Development (IFAD) and the Climate Policy Initiative (CPI).

What is Climate Finance?

- Climate finance aims at reducing emissions and enhancing sinks of greenhouse gasses and aims at reducing vulnerability and maintaining and increasing the resilience of human and ecological systems to Negative Climate Change Impacts.

Highlights:

- Only 1.7 per cent of climate finance goes to small-scale farmers in developing countries.
- Small-scale farmers in developing countries are disproportionately experiencing the effects of climate change and variability and are at risk of external shocks such as the COVID-19 pandemic
- Small scale farmers face technical, political and commercial barriers to access climate finance.
- **Political barriers:**
 - ✓ Aspects related to governance and legal framework, the legitimate actions of Governmental institutions to implement their regulatory powers through policy.

- **Technical Barriers:**

- ✓ They can include physical aspects related to technology and weather-related risks, as well as aspects related to technical capacity and knowledge.

- **Commercial and Financial barriers:**

- ✓ These barriers originate in the economic context and are related to the availability and cost of capital, investment real and perceived risks, the profitability of financial service providers, and the investment readiness of agricultural businesses.

- ✓ Third-party research places the agricultural and household-related financial needs of small-scale farmers at approximately USD 240 billion per year globally.

- Low GHG emission and climate-resilient infrastructure received the largest share of funds (36%), followed by investments to improve agricultural production at farm level (14%), and improvement of livelihoods of rural communities in general (also 14%).
- India's governmental support for agriculture was estimated in the early 2010s at \$85 billion per year, of which only around \$3 billion directed to the soil, water conservation, forestry, and wildlife.
- There are around 21.6 crore small and marginal farmers (or 4.3 crore families) who are reeling under distress due to cycles of Unseasonal rains and Droughts.

Recommendations:

- Promote better information on measuring progress towards climate adaptation and mitigation for small-scale agriculture.
- Enhance collaboration between the public and private sectors to mitigate the risk associated with investments in the agricultural sector and leverage financial resources.
- Governments should make more effective use of public resources and policies targeting risk management and capacity building for climate-related finance while incentivizing conservation efforts at the local level.
- International and domestic climate flows should stimulate the transition of agribusinesses and finance service providers towards low emission supply chains.
- Build consistent tools to report and track international climate finance towards smallscale agriculture.
- Recipient governments should track progress through domestic climate finance tracking in small-scale agriculture to support their policy-making processes.

10. Peatlands and their Importance

Why in News?

- Sustainably managing peatlands – peat-swamp forests found around the tropics – can Protect Humans from Future Pandemics, according to a New Study.

Peatlands:

- Peatlands are terrestrial wetland ecosystems in which waterlogged conditions prevent plant material from fully decomposing.
- Consequently, the production of organic matter exceeds its decomposition, which results in a net accumulation of peat.
- Over millennia this material builds up and becomes several metres thick.
- They occur in almost every country on Earth, currently covering 3% of the global land surface.
- Peatland landscapes are varied – from blanket bog landscapes with open, treeless vegetation in the Flow Country of Scotland – a tentative World Heritage site – to swamp forests in Southeast Asia.

Significance:

- Peatlands are the largest natural terrestrial carbon store. This area sequesters 0.37 gigatonnes of CO₂ a year.
- In their natural, wet state peatlands provide vital ecosystem services.
- By regulating water flows, they help minimise the risk of flooding and drought and prevent seawater intrusion.
- In many parts of the world, peatlands supply food, fibre and other local products that sustain local economies.
- They also preserve important ecological and archaeological information such as pollen records and Human Artefacts.

Why Conserve Peatlands?

- The protection and restoration of peatlands are vital in the transition towards a low-carbon and circular economy.
- Damaged peatlands contribute about 10% of greenhouse gas emissions from the land-use sector.
- CO₂ emissions from drained peatlands are estimated at 1.3 gigatonnes of CO₂ annually.
- This is equivalent to 5.6% of global anthropogenic CO₂ emissions.

-
- Draining peatlands reduces the quality of drinking water due to pollution from dissolved compounds.

What is the New Study?

- Peatlands were rich in biodiversity, including many potential vertebrate and invertebrate vectors, or carriers of disease, the study said.
- These included numerous vertebrates known to represent a risk of spreading zoonotic diseases, such as bats, rodents, pangolins and primates.
- These areas also faced high levels of habitat disruption such as wild or human-made fires and wildlife harvesting that was perfect conditions for potential emerging zoonotic diseases.
- The first reported case of Ebola in 1976 was from a peatland area.
- The cradle of the HIV/AIDS pandemic was believed to be around Kinshasa in the Democratic Republic of the Congo, another area with extensive peatlands.



6. INTERNATIONAL RELATIONS

1. India-UAE High-Level Joint Task Force on Investments

Why in News?

- Recently, the eighth meeting of the India-UAE High-Level Joint Task Force on Investments was held in India.

Highlights:

- The Joint Task Force was created in 2012.
- It is a forum for further deepening the already strong economic ties between the UAE and India.
- It is important as the two countries entrench the Comprehensive Strategic Partnership Agreement signed in January 2017.
- Address specific perceived barriers to trade between the two countries.
- Both sides reviewed the existing UAE Special Desk ('UAE Plus') and the Fast Track Mechanism created in 2018 to facilitate investments and to resolve any challenges experienced by UAE investors in India.

India-UAE Relations:

- India and the United Arab Emirates established diplomatic relations in 1972.
- **Economic & Commercial Relations:**
 - ✓ India-UAE trade is currently around US\$ 60 billion
 - ✓ UAE is India's third-largest trading partner for the year 2018-19.
 - ✓ UAE is the second-largest export destination of India (after the US) with an amount of over US\$ 30 billion for the year 2018-19.
 - ✓ For UAE, India was the second-largest trading partner during 2018 with US\$ 36 billion (non-oil trade).
 - ✓ UAE's investment in India is estimated to be around US\$13-14 billion; it is the 10th biggest FDI investor for India.
- **UAE's investments in India are mainly in five sectors:**
 - ✓ Services Sector (15.78%)
 - ✓ Sea Transport (8.80%)
 - ✓ Power (8.34%)
 - ✓ Construction Activities (Infrastructure -7.15%)

- Construction Development (Townships, Housing, Built-Up Infrastructure and Construction-Development Projects - 7.08%).
- A consortium led by India's state-owned Oil and Natural Gas Corporation (ONGC) including Indian Oil and Bharat Petro Resources, was awarded a 10 per cent stake in the Lower Zakum Concession in February 2018.
- The annual remittances made by the Indian community in UAE amount to over US\$ 17.56 billion (The year 2018, Source: UAE Central Bank).
- **Defence and Security Cooperation:**
 - ✓ Regular high level & functional level exchanges between the two countries.
 - ✓ Numerous bilateral exercises were held such as the Gulf Star 1 between the navies of the two countries.
 - ✓ IN Ships have been regularly participating in IDEX/NAVDEX held in Abu Dhabi biennially.

Indian Diaspora:

- Indian expatriate community of approx. 3.3 million.
- The largest ethnic community in the UAE.
- Constituting roughly about 30 per cent of the country's population.
- Around 35% of the Indian community is made up of professionally qualified personnel, businessmen & other white-collar Non-Professionals.

2. New US India Relations may affect India's economy

Why in News?

- The United States of America has elected its new President i.e. Joseph Robinette Biden Jr.
- There are several ways in which the US economy, its health and the policy choices under the new Administration would influence India. In fact, the US could yet again provide a Growth impulse to the Global Economy.

Highlights:

- **Trade Relations:**
 - ✓ India enjoys a trade surplus (i.e. more exports than imports) with United States of America.
 - ✓ In fact, India has always had a trade surplus with the US.
 - ✓ Moreover, the trade surplus has widened from \$5.2 billion in 2001-02 to \$17.3 billion in 2019-20 and peaked at \$21.2 billion in FY18 (2017-18).

- ✓ In 2019-20, India exported goods worth \$53 billion to the US (17% of all Indian exports that year). It imported goods worth \$35.7 billion in return (Roughly 7.5 per cent of all Indian imports).
- ✓ India accounts for nearly 5 per cent of USA's services imports from the World. In 2019, US imports of services from India were \$29.7 billion.

Source of Foreign Direct Investment:

- The US is the fifth-biggest source for Foreign Direct Investment (FDI) into India. Of the total \$476 billion FDI that has come in since April 2000, the US accounted for \$30.4 billion – roughly 6.5 per cent – directly.
- Only Mauritius, Singapore, Netherlands, and Japan have invested more FDI since 2000.
- The US also accounts for one-third of all Foreign Portfolio Investments (that is, investment in financial assets) into India.
- FPI data shows that, as of September 2020, total Assets Under Custody were Rs 33.22 lakh crore and the US accounted for Rs 11.21 lakh crore of this amount.

Possibilities Under the New Administration:

- A renewed push towards a rules-based trading system and move away from the protectionist approach being followed across the world.
- Policy consistency is likely to be preferred.
- India's trade with the US could recover from the dip since 2017-18.
- Reconsideration of India's exclusion from the US' Generalized System of Preference.
- Normalisation of US-Iran ties are important to ensure regular supply of oil and protect India's Energy Security.

Help India against China:

- Re-joining the Paris Climate Accord may help countries India in dealing with the massive challenges on both technical and Financial Fronts.
- Address the problem of H1-B visa issue. The earlier regime followed an America First approach.

Possible Issues:

- Data localisation.
- Capping prices of medicines and medical devices.
- Problem of Civil liberties and democratic rights in India may be a point of concern.

3. UN launches the Food Coalition

Why in News?

- The Food and Agriculture Organisation of the United Nations (FAO) launched the Food Coalition.

FAO Food Coalition:

- It was first proposed by Italy and now led by Food and Agriculture Organization (FAO).
- **Aim:** to increase resilience of agricultural food systems, ensure global food access.
- **Objective:** To help countries achieve Sustainable Development Goals by 2030, especially the ones on ending hunger and poverty (SDG 2 and SDG 1).
- How to achieve this objective? It has a trust fund and a web-based hub which allows participants to access project-focused information and funding needed for such projects.
- Structure: The alliance would work as a voluntary network of networks and a multi-stakeholder coalition for a unified Global Action.

Need:

- As per State of Food Security and Nutrition in the World report, 2020, 690 million people were hungry in 2019.
- Now, COVID-19 pandemic could 130 million more people into chronic hunger by the end of 2020. Also, Global food prices continued to rise in October 2020 for the fifth successive month. Thus, new coalition will support measures to ensure food access and increase the resilience of agricultural food systems in response to COVID-19.

4. Greater India-Canada convergence

Why in News?

- The third round of India-Canada Track 1.5 Dialogue, comprising senior diplomats, officials and independent experts, will be held on a virtual platform.
- This promising interaction represents a major, deliberate endeavour to boost the bilateral relationship.

Convergence on China Issue:

- Common challenges of the COVID-19 era accelerated the momentum of bilateral engagement.
- Canada's travails with China, starting with the arrest of Huawei's chief financial officer in Canada in December 2018.

- Later, the ‘hostage diplomacy’ practised by Beijing which arrested two Canadian nationals, has caused huge stress in Canada-China relations, turning Canadian public opinion against China.
- This opened the door to a closer relationship with India.
- In this backdrop, developments concerning the Indo-Pacific — strengthening of the Quad and the growing interest of France, Netherlands and Germany to be active players in the region — are of immense relevance to Ottawa.
- The forthcoming dialogue can deepen the India-Canada convergence on this issue.

Principal areas of bilateral cooperation:

- Canada-India merchandise trade exceeded C\$10 billion in 2019.
- Canada’s cumulative investment, including foreign direct investment and by Canadian pension funds, is a substantive C\$55 billion.
- Addressing virtually the ‘Invest India’ conference in Canada on Prime Minister pointed out that mature Canadian investors have been present in India for many years and assured them that no barriers would come in their way.
- Indian students are increasingly being educated in Canada, and a quarter million of them spent an estimated \$5 billion in tuition fees and other expenses last year, a solid contribution to the Canadian economy.
- Of 330,000 new immigrants accepted by Canada last year, 85,000 i.e. nearly 25%, were from India.
- The Indian diaspora in Canada is now 1.6 million-strong, representing over 4% of the country’s total population.
- The principal areas of bilateral cooperation are best defined by five Es: Economy, Energy, Education, Entertainment and Empowerment of women.
- In particular, the digital domain holds immense potential, given Canada’s proven assets in technology — especially its large investment in Artificial Intelligence, innovation and capital resources, and India’s IT achievements, expanding digital payment architecture and Policy Modernisation.

5. UAE’s Golden Visa Program

Why in News?

- The United Arab Emirates will extend its “golden” visa system — which grants 10-year residency in the West Asian nation — to certain professionals, specialised degree-holders and others.

Golden Visa Programme:

- The “Golden Card” programme is open to investors and “exceptional talents” such as doctors, engineers, scientists, students and artists.
- **The visa categories include:**
- General investors who will be granted a 10 years visa
- Real estate investors, who can get a visa for 5 years Visa
- Entrepreneurs and talented professionals such as doctors, researchers and innovators: 10 years Visa
- Outstanding students – will also be permitted residency visas for 5 years
- All categories of visas can be renewed upon expiry.

Benefits for India:

- The Indian expatriate community is reportedly the largest ethnic community in the UAE, constituting roughly about 30 per cent of the country’s population of around nine million.
- Though most of the Indians living in the UAE are employed, about 10 per cent of the Indian population constitutes dependent family members, according to the Indian Embassy.

6. One Health Global Leaders Group on Antimicrobial Resistance

Why in News?

- In the wake of rising antimicrobial resistance (AMR), a global group called ‘One Health Global Leaders Group on Antimicrobial Resistance’ was launched by Food and Agriculture Organization (FAO), World Organization for Animal Health (OIE) and the World Health Organization (WHO).

One Health Global Leaders Group on Antimicrobial Resistance:

- **Composition:**
- ✓ This 20-member group comprises heads of states, current and former ministers of different countries, leaders from the private sector and civil society.
- ✓ It is co-chaired by the Prime Ministers of Barbados and Bangladesh.
- ✓ The heads of FAO, OIE and WHO are ex-officio members of the group.
- ✓ The group will meet twice a year.



- **Functions:**

- ✓ The Group has to monitor the global response to antimicrobial resistance.
- ✓ Maintain public momentum on the issue.
- ✓ Advocate for the inclusion of AMR 'lens' in investments on agriculture, health, development, food and feed production, etc.

Antimicrobial Resistance:

- AMR is the resistance acquired by any microorganism (bacteria, viruses, fungi, parasite, etc.) against antimicrobial drugs (such as antibiotics, antifungals, antivirals) that are used to treat infections.
- As a result, standard treatments becomes ineffective, infections persist and may spread to others.
- Microorganisms that develop antimicrobial resistance are sometimes referred to as “superbugs”.
- AMR is now regarded as a major threat to public health Across the Globe.

How does it Occur?

- It occurs naturally but is facilitated by the inappropriate use of medicines, for example using antibiotics for viral infections such as cold or flu, or sharing antibiotics.
- Low-quality medicines, wrong prescriptions and poor infection prevention and control also encourage the development and spread of drug resistance.
- Lack of government commitment to address these issues, poor surveillance and a diminishing arsenal of tools to diagnose, treat and prevent also hinder the control of Antimicrobial Drug Resistance.

What is the Difference between Antibiotic and Antimicrobial Resistance?

- Antibiotic resistance occurs when bacteria change in response to the use of antibiotics used to treat bacterial infections (such as urinary tract infections, pneumonia, bloodstream infections) making them ineffective.
- Antimicrobial resistance is a broader term, encompassing resistance to drugs that treat infections caused by other microbes as well, such as parasites (e.g. malaria or helminths), viruses (e.g. HIV) and fungi (e.g. Candida)

AMR in India:

- AMR is of particular concern in developing nations like India where the burden of infectious disease is high and healthcare spending is low.
- India is among the nations with the highest burden of bacterial infections.

- The Ministry of Health and Family Welfare identified AMR as one of the top 10 priorities for the ministry's collaborative work with WHO.
- India's Red Line Campaign demands that prescription-only antibiotics be marked with a red line, to discourage the over-the-counter sale of antibiotics.
- The government has also capped the maximum levels of drugs that can be used for growth promotion in meat and Meat Products.

7. Asian centrality and challenges in securing Atmanirbhar Bharat

Why in News?

- The signing of RCEP marks a significant turn in history. It marks the trend towards rising centrality of Asia. However, India's challenge is in securing an 'Atmanirbhar Bharat' in the emerging digital order, navigating the U.S.-China technology and supply chain clash.

Significance of RCEP:

- The RCEP was led by ASEAN and includes Japan and Australia, military allies of the U.S., all opting for the Asian Century.
- 'ASEAN centrality' rejects the current frame of the West setting the agenda.
- RCEP allow individual countries to choose the scope and product categories for bilateral tariff schedules, and exclude divisive issues like labour and environment.
- The new frame goes beyond transfer of goods and services, focuses on integration and facilitating supply chains for sharing prosperity, requiring a very different calculus for assessment.
- RCEP's new rules on electronic commerce could offset losses in declining trade in goods.

Asian Centrality:

- Both China and India are breaking the monopoly of the West in wireless telecommunications, AI and other emerging technologies.
- India has also, in the UN, questioned Western domination calling for a "reformed multilateralism".
- The dilemma for the West is that sharing power will mark the end of its primacy in global affairs.
- With China having developed the capacity to bridge the technological gap, the U.S. weaponised interdependence by banning export of semiconductor chips and forcing sale of innovative Chinese technology.

- China's response is a 'dual circulation' strategy for self-reliance and military-technological prowess to surpass the U.S.
- The global governance role of the U.S. is already reduced.
- The U.S. now exercises power with others, not over them.
- Despite its military 'pivot' to Asia, the U.S. needs India in the Quad, to counterbalance the spread of China's influence through land-based trade links.
- India, like others in the Quad, has not targeted China and also has deeper security ties with Russia.
- With the ASEAN 'code of conduct' in the South China Sea, both the security and prosperity pillars of the U.S.-led Indo-Pacific construct will be adversely impacted.
- Leveraging proven digital prowess to complement the infrastructure of China's Belt and Road Initiative will win friends as countries value multi-polarity.

Atmanirbhar Bharat and Challenges:

- 'Atmanirbhar Bharat' will leverage endogenous technological strength, data and population. With the Rafale aircraft purchase, India has recognised that there will be no technology transfer for capital equipment.
- Military Theatre Commands should be tasked with border defence giving the offensive role to cyber, missile and special forces based on endogenous capacity, effectively linking economic and military strength. The overriding priority should be infrastructure including electricity and fibre optic connectivity; self-reliance in semiconductors, electric batteries and solar panels; and skill Development.

8. Asian centrality and challenges in securing Atmanirbhar Bharat

Why in News?

- The construction of several dams along the Yarlung (Brahmaputra) river on the Chinese side has been a repeated cause for concern for Indian local people, whose livelihoods depend on the river.

Issue:

- Inhabitants along the river have to deal with two floods annually, one caused by the melting of the Himalayan snow in summer and the other due to the monsoon flows.
- The frequency of these floods have increased and are devastating due to climate change and its impact on high and low flows.

- These pose a concern for the population and food security in the lower riparian states of India and Bangladesh.
- The river is in itself dynamic as frequent landslides and geological activity force it to change course very often.

Concern for China:

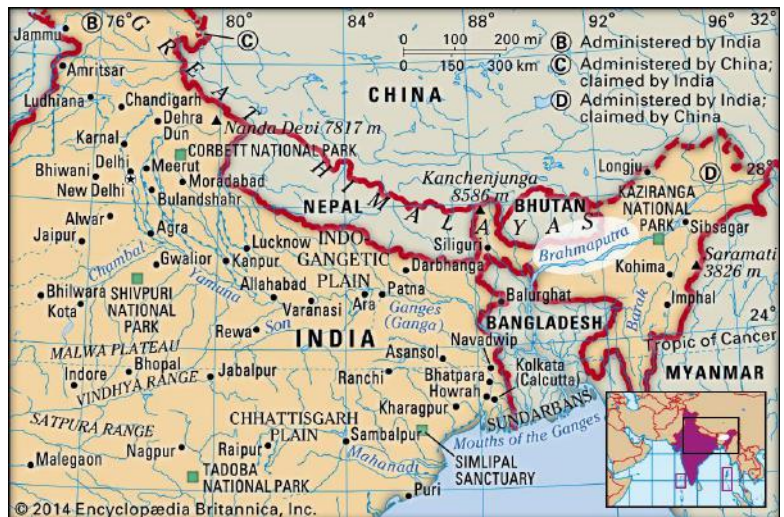
- As China continue to grow demographically as well as economically amid increased consumption among its citizenry, it face water constraints.
- China, which is home to close to 20 per cent of the world's population, has only 7 per cent of its water resources.
- Severe pollution of its surface and groundwater caused by rapid industrialisation is a source of concern for Chinese planners. China's southern regions are water-rich in comparison to the water-stressed northern part.
- The southern region is a major food producer and has significant industrial capacity as a consequence of more people living there.

Importance for China:

- China has an ambitious plan to link its south and north through canals, aqueducts and linking of major rivers to ensure water security.
- In pursuit of these goals, China, being an upper riparian state in Asia, has been blocking rivers like the Mekong and its tributaries, and affecting Southeast Asian countries like Thailand, Vietnam, Laos and Cambodia.
- It has caused immense damage to the environment and altered river flows in the region.
- China sees these projects as a continuation of their historic tributary system as the smaller states have no means of effectively resisting or even significant leverage in negotiations. Chinese projects in the Himalayas have only recently begun to operate amid protests from India.

Concerns for India:

- India is severely water-stressed. In summer, a vast majority of urban areas face water shortage. Similar to China, India has 17 per cent of the world's population and 4 per cent of



water. While a majority of India's population reside in the Gangetic plains, the southern and western regions experience harsh and dry summer and the rainfall is scarce and erratic in the eastern coast.

- As in China, an equally ambitious north-south river-linking project has been proposed in India, though it has come under criticism for potentially disturbing fragile ecosystems.
- Importance for India:
- Degradation of the entire basin: Massive amounts of silt carried by the river would get blocked by dams leading to a fall in the quality of soil and eventual reduction in agricultural productivity.
- Brahmaputra basin is one of the world's most ecologically sensitive zones.
- It is identified as one of the world's 34 biological hotspots.
- This region sees several species of flora and fauna that are endemic to only this part of the world – the Kaziranga National Park houses 35 mammalian species out of which 15 are listed as threatened in the IUCN conservation list.
- The river itself is home to the Gangetic river dolphin, which is listed as critically endangered.

The location of the dams in the Himalayas pose a risk:

- Seismologists consider the Himalayas as most vulnerable to earthquakes and seismic activity.
- Landslides resulting from earthquakes pose a significant threat – the 2015 Nepal earthquake and the resultant landslides wiped out several dams and other facilities.
- The sheer size of the infrastructure projects undertaken by China, and increasingly by India, poses a significant threat to the populations living downstream.
- Close to a million people live in the Brahmaputra basin in India and tens of millions further downstream in Bangladesh.
- The projects in the Himalayas threaten the existence of hundreds of thousands of people.

Suggestions:

- There are alternate solutions to solving the water crisis. Both sides must cease new constructions on the river and commit to potentially less destructive solutions.
- Building a decentralised network of check dams, rain-capturing lakes and using traditional means of water capture have shown effective results in restoring the ecological balance while supporting the populations of the regions in a sustainable manner.
- It is in the interest of all stakeholders to neutralise this ticking water bomb.

Brahmaputra River:

- The Brahmaputra is a trans-boundary river which flows through China, India and Bangladesh.
- It is called Yarlung Tsangpo in Tibet, Siang/Dihang River in Arunachal Pradesh and Luit or Dilao in Assam.
- It has its origin in the Chemayungdung Glacier, Manasarovar Lake region, near the Mount Kailash, located on the northern side of the Himalayas in Tibet.
- It enters into India through Arunachal Pradesh and flows southwest through the Assam Valley as Brahmaputra and south through Bangladesh as the Jamuna.
- In the vast Ganges Delta, it merges with the Padma (popular name of the river Ganges in Bangladesh) and becomes the Meghna and empties into the Bay of Bengal.
- The Brahmaputra is a perennial river, with several peculiar characteristics due to its geography and prevailing climatic conditions



7. INTERNAL SECURITY & DISASTER MANAGEMENT

1. Corps Day of Army Aviation Corps (AAC)

Why in News?

- Army Aviation Corps (AAC) celebrated its 35th Corps Day on November 1.

Army Aviation Corps (AAC):

- The AAC are the youngest Corps of the Indian Army.
- The AAC now draws its officers from all arms of the Army, including a significant number from the artillery.
- The motto of AAC is 'Suveg and Sudridh' (Swift and Sure).
- The AAC currently operates Chetak, Cheetah, Lancer, Advanced Light Helicopter (ALH) Dhruv, and ALH Weapon System Integrated (WSI), also known as Rudra.

The Versatile role of AAC Helicopters:

- AAC choppers are adding an invaluable air dimension to the Army's capabilities by reconnaissance, observation, casualty evacuation, essential load drops, combat search and rescue. The AAC helicopters also participate in Humanitarian Aid and Disaster Relief (HADR) operations in peace times.
- Army helicopters can also act as Airborne Command Posts.
- In all types of weather and terrains, AAC choppers have proved valuable.
- In the wars of 1965 and 1971, the Air Observation Post helicopters flew close to the enemy lines and helped spot targets.
- Initially, AAC operated non-weaponised helicopters, in 2012, the government has allowed induction of weaponised choppers in the AAC.

Background:

- The AAC was raised as the Army Aviation wing of the Royal Air Force in India in 1942, and the subsequent formation of the first Indian Air Observation Post in August 1947.
- The Army Aviation Corps came as a separate formation on November 1, 1986 and was immediately inducted into "Operation Pawan" in Sri Lanka against the Tamil Tigers.

Key Facts:

- In October, 2019; the Army Aviation Corps were presented by the President's Colours in a ceremonial parade. The President's Colours is a ceremonial flag awarded to military units or institutions as symbol of their excellence, and as recognition of their contributions both during war and peace.

- Navy was the first of the three-armed forces to be awarded the President's Colour on 27 May 1951.

2. Malabar Exercise 2020

Why in News?

- Phase 1 of the Malabar Exercise 2020 is scheduled to be held from 3rd to 6th November.

Highlights:

- The 24th edition of the MALABAR naval exercise is scheduled in two phases in November 2020.
- Phase 1 is set to commence off Vishakhapatnam in the Bay of Bengal.
- **The participants are:**
 - ✓ Indian Navy (IN)
 - ✓ United States Navy (USN)
 - ✓ Japan Maritime Self Defence Force (JMSDF)
 - ✓ Royal Australian Navy (RAN)
- **Indian Navy participating units are:**
 - ✓ Destroyer Ranvijay
 - ✓ Frigate Shivalik
 - ✓ Off Shore Patrol Vessel Sukanya
 - ✓ Fleet Support Ship Shakti
 - ✓ Submarine Sindhuraj
 - ✓ Advanced Jet Trainer Hawk
 - ✓ Long-range maritime patrol aircraft P-8I
 - ✓ Dornier maritime patrol aircraft
 - ✓ Helicopters
- Although the Malabar Exercise started off in 1992 as a bilateral exercise between India and the US, Japan joined in 2015 to make it a trilateral exercise. Singapore and Australia have been non-permanent members previously.
- MALABAR 20 Phase 1 would witness complex and advanced naval exercises including surface, anti-submarine and anti-air warfare operations, cross deck flying, seamanship evolutions and weapon firing exercises.
- Phase 2 of MALABAR 20 is scheduled to be conducted in the Arabian Sea in mid-November 2020.