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INDEX

TOPICS	PAGES
1) Polity and Governance	03-10
2) International Relations	11-27
3) Security and Defence	28-34
4) Economy	35-55
5) Science and Technology	56-67
6) Ecology and Environment	68-83
7) Social Issues	84-92
8) Miscellaneous	93-98

POLITY AND GOVERNANCE

Paper II: This section is relevant to Polity and Governance Section of GS Paper II

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1.1 CHIEF ELECTION COMMISSIONER

Topic: Functions and Responsibilities of Various Constitutional Bodies

Why in News: The President has appointed **Shri Sushil Chandra as the Chief Election Commissioner** in the Election Commission of India.

Election Commission of India

- The **Election Commission of India (ECI) is an autonomous constitutional authority responsible for administering Union and State election processes in India.**
- It was established in accordance with the Constitution on 25th January 1950 (celebrated as national voters' day). The secretariat of the commission is located in New Delhi.
- **By Article 324** of the Constitution of India, it is vested with the power of conducting elections to Parliament, State Legislatures, the office of President and Vice-President of India.
- It is not concerned with the elections to panchayats and municipalities in the states. For this, the Constitution of India provides for a separate State Election Commission.

Composition of Election Commission

- Since the inceptions and till 15th October 1989, the EC functioned as a single member body consisting of the CEC.
- The Election Commissioner Amendment Act 1989, it has been made a multi-member body The Election Commission shall consist of the Chief Election Commissioner (CEC) and such number of other election commissioners, if any, as the President may from time to time fix. Presently, it consists of the CEC and two Election Commissioners.
- In case of difference of opinion amongst the CEC and/or two other election commissioners, the matter is decided by the Commission by majority.

Appointment and Tenure of Commissioners

- The President appoints the Chief Election Commissioner (CEC) and Election Commissioners.
- **They have tenure of six years, or up to the age of 65 years, whichever is earlier.**
- **They enjoy the same status and receive salary and perks as available to Judges of the Supreme Court of India.**

Limitations

- The Constitution has not prescribed the qualifications (legal, educational, administrative or judicial) of the members of the Election Commission.
- The Constitution has not debarred the retiring election commissioners from any further appointment by the government.

Removal

- They can resign anytime or can also be removed before the expiry of their term.
- The CEC can be removed from office only through a process of removal similar to that of a SC judge by Parliament.

Budget & Expenditure

- The Secretariat of the Commission has an independent budget, which is finalized directly in consultation between the Commission and the Finance Ministry of the Union Government.
- If elections are being held only for the Parliament, the expenditure is borne entirely by the Union Government.
- If elections are being held only for the State Legislature, the expenditure is borne entirely by the concerned State.
- In case of simultaneous elections to the Parliament and State Legislature, the expenditure is shared equally between the Union and the State Governments.

Powers and Functions of ECI

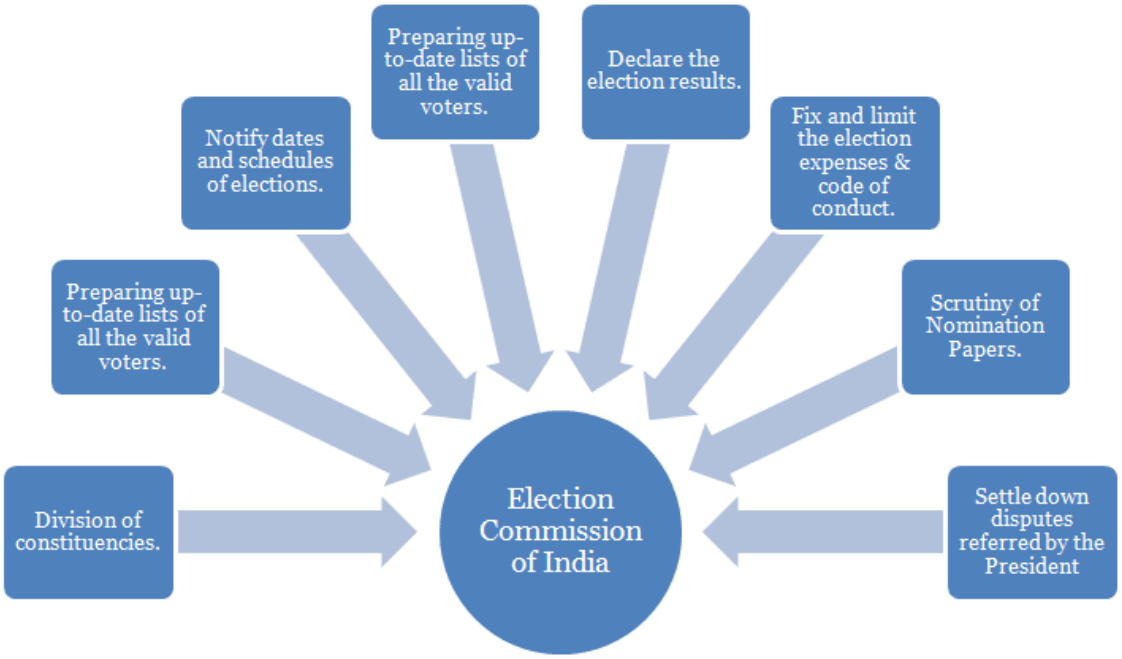
Administrative

- To determine the territorial areas of the electoral constituencies throughout the country on the basis of the Delimitation Commission Act of Parliament.
- To prepare and periodically revise electoral rolls and to register all eligible voters.
- To grant recognition to political parties and allot election symbols to them.
- Election Commission ensures a level playing field for the political parties in election fray, through strict observance by them of a Model Code of Conduct evolved with the consensus of political parties.

Advisory Jurisdiction & Quasi-Judicial Functions

- Under the Constitution, the Commission has advisory jurisdiction in the matter of post election disqualification of sitting members of Parliament and State Legislatures.

- The opinion of the Commission in all such matters is binding on the President or, as the case may be, the Governor to whom such opinion is tendered.
- Further, the cases of persons found guilty of corrupt practices at elections which come before the SC and High Courts are also referred to the Commission for its opinion on the question as to whether such person shall be disqualified and, if so, for what period.
- The Commission has the power to disqualify a candidate who has failed to lodge an account of his election expenses within the time and in the manner prescribed by law.



1.2 GNCTD

Why in News: The Government of NCT of Delhi (Amendment) Act has been notified by the Centre. The amended Act significantly changes the functioning of the government in Delhi.

Background

Enactment of GNCTD Act

- The GNCTD Act was enacted in 1991 to "supplement provisions of the Constitution relating to the Legislative Assembly and a Council of Ministers for the National Capital Territory of Delhi".
- It enabled the process of an elected government in Delhi.

- The Supreme Court had in the past appreciated the 1991 developments, stating that the real purpose behind the Constitution (69th Amendment) Act, 1991 is to establish a democratic set-up and representative form of government wherein the majority has a right to embody their opinions in laws and policies pertaining to the NCT of Delhi subject to the limitations imposed by the Constitution.

69th Amendment Act, 1992

- **It added two new Articles 239AA and 239AB under which the Union Territory of Delhi has been given a special status.**
- **Article 239AA** provides that the Union Territory of Delhi be called the National Capital Territory of Delhi and its administrator shall be known as Lt. Governor.
- **It also creates a legislative assembly for Delhi which can make laws on subjects under the State List and Concurrent List except on these matters: public order, land, and police.**
- It also provides for a Council of Ministers for Delhi consisting of not more than 10% of the total number of members in the assembly.
- **Article 239AB** provides that the President may by order suspend the operation of any provision of Article 239AA or of all or any of the provisions of any law made in pursuance of that article. This provision resembles Article 356 (President's Rule).

The GNCTD Act, 1991 was passed simultaneously to supplement the constitutional provisions relating to the Assembly and the Council of Ministers in Delhi.

The GNCTD Act outlines the powers of the Assembly, the discretionary powers of the L-G, and the duties of the Chief Minister with respect to the need of sharing information with the L-G. However, over the year, there has been a lack of clarity between the government in Delhi and the Centre over policy decisions and the powers of the L-G.

Supreme Court's decision on the issue

- In its 2018 verdict, the Supreme Court had held that the L-G's concurrence is not required on issues other than police, public order and land.
- However, the SC said that the decisions of the Council of Ministers will have to be communicated to the L-G.
- It further held that the status of the Lieutenant Governor of Delhi is that of an administrator and not of a Governor of a State.

LG's power

- The SC had observed the LG was bound by the aid and advice of his council of ministers in matters where the assembly has legislative powers.
- However, the LG does have the power to refer any matter, over which there is a disagreement with the elected government, to the President under Article 239AA (4). The SC had also pointed that the LG should not act in a mechanical manner to refer every decision of the Council of Ministers to the President.

National Capital Territory of Delhi (Amendment) Bill, 2021

In March 2021, the Centre introduced the National Capital Territory of Delhi (Amendment) Bill, 2021 in the Parliament. Thereafter, it was passed by both the houses and received the President's assent.

Major Provisions of the GNCT of Delhi (Amendment) Act 2021

- It amended the Sections 21, 24, 33 and 44 of the 1991 Act.
- It States that the "government" in the National Capital Territory of Delhi meant the Lieutenant-Governor of Delhi.
- It gives discretionary powers to the L-G even in matters where the Legislative Assembly of Delhi is empowered to make laws.
- It seeks to ensure that the L-G is "necessarily granted an opportunity" to give her or his opinion before any decision taken by the Council of Ministers (or the Delhi Cabinet) is implemented.
- It bars the Assembly or its committees from making rules to take up matters concerning day-to-day administration, or to conduct inquiries in relation to administrative decisions.

News Update

The Government of NCT of Delhi (Amendment) Act has been notified by the Centre, to be effective from the 27th of April, 2021.

As per the centre's notification after the Bill was enacted, the expression 'Government' referred to in any law to be made by the legislative assembly of Delhi shall mean Lieutenant Governor (LG).

Further, the elected government will have to obtain the opinion of the LG before taking any executive action based on the decisions of the Cabinet to any individual minister. Moreover, the LG can specify the matters on which his opinion should be taken.

NOTE: This Topic has been covered in March 2021 also. Kindly have a look

1.3 SUPREME COURT ON HIGH COURT VACANCIES

Why in News: The Supreme Court recently laid down a timeline for the Centre to clear names recommended for appointment as high court judges, by the High Court Collegiums.

- The SC noted that High Courts are in a crisis situation and there are almost 40% vacancies in the High Courts, with many of the larger High Courts working under 50% of their sanctioned strength.
- **The High Courts have a total vacancy of 416 regular judges against the sanctioned judicial strength of 1,080.**

Background

- The issue of judicial vacancies came up while the Supreme Court was hearing a petition related to a strike by lawyers in Odisha.
- According to the judiciary, delays on the part of the central government have been cited as the reason for vacancies in high courts. However, as per the Centre, unreasonable delay from high courts in sending names to the government was the reason behind the vacancies.
- The Centre had also pointed that it had not received names for 220 vacancies out of a total of 416 pending vacancies.

Memorandum of Procedure (MoP) for appointing High Court judges

- The Memorandum of Procedure (MoP) is a crucial document agreed upon by the government and the judiciary for appointment of judges.
- As per the current MoP, the High Court Collegium headed by the Chief Justice of the HC initiates the process of appointment of other judges.
- Once the recommendation is made, the opinion of state governments is sought. The State governments cannot take more than six weeks to send their views.
- If the state governments do not send their views within six weeks, the Central Government can assume that the state government has no objection on the recommendation.
- The recommendations are then processed by the Union Law Ministry (Central government), which includes background checks of the candidates by Intelligence Bureau (IB).
- After conducting an inquiry the law ministry has to send the recommendation to the SC Collegium. **However, there is no timeframe for the law ministry to forward the recommendations to the SC collegium.**

- **The SC collegium should send the recommendations back within four weeks to the law ministry, which should then be forwarded to the Prime Minister's Office (PMO) in three weeks.**
- The recommendation is then forwarded to the President from the PMO. **The MoP does not mention the timeframe for the PMO to send the recommendation to the President, who is the appointing authority for judges.**

News Update

Changes announced in the MoP for HC judges

- To address the delay in filling up the judicial vacancies, the Supreme Court in the current judgement, has essentially altered the Memorandum of Procedure (MoP) through a judicial order.
- The SC held that the Intelligence Bureau (IB) should submit its report/ inputs within 4 to 6 weeks from the date of recommendation of the High Court Collegium, to the Central Government.
- Further, it would be desirable if the Central Government forwards the recommendations to the SC within 8 to 12 weeks from the date of receipt of views from the State Government and the report from the IB.
- It further added that the government should make the appointment immediately once it receives the names from the SC collegium.
- If the Centre disagrees with the SC collegium, the Centre must send the file back within a reasonable period with specific reasons.
- However, if the SC collegium repeats the same recommendation, then the appointment should be done within three to four weeks.

Addressing delays in recommendations from High Court

During earlier hearings, the Centre had blamed the high courts for not forwarding the recommendations on time. On this issue, the SC expressed concern and has asked high court chief justices to follow the MoP timeline.

As per the MoP, the High Court collegium must send proposals six months before a vacancy arises in the high court.

The SC said that nothing prohibits the HC chief justices to make periodical recommendations, without unnecessarily waiting for the outcome of the earlier set of recommendations. However, the SC, in its current ruling, has not set any deadline for HCs to initiate the process of appointments.

2.4 ARTICLE 244 (A)

Why in News: In the midst of campaign for the Assam assembly elections, some political leaders Promised to implement Article 244 (A) of the Constitution, to safeguard the interests of the people living in the state's tribal-majority districts.

Sixth Schedule of the Indian Constitution

- The Sixth Schedule of the Constitution, under Article 244 (2) and Article 275 (1), provides for the administration of tribal areas in the states of Assam, Meghalaya, Tripura and Mizoram.
- Passed by the Constituent Assembly in 1949, it allows for the constitution of Autonomous District Councils & Regional Councils in these states, to safeguard the rights of tribal population.
- An autonomous district council is empowered to make laws in respect of areas under its jurisdiction which covers land, forest, cultivation, inheritance, indigenous customs and traditions of tribals, etc. It is also empowered to collect land revenue and certain other taxes.
- The Governors of these states are empowered to increase or decrease the areas or change the names of the autonomous districts.
- The Councils have also been endowed with civil and criminal judicial powers, for example establishing village courts, etc. However, the jurisdiction of these councils is subject to the jurisdiction of the concerned High Court.

Sixth Schedule and Assam

In Assam, the tribal areas in The North Cachar Hills District, The North Cachar Hills District (renamed as Dima Hasao District in 2010) and The Bodoland Territorial Areas District have been declared as autonomous districts under Sixth Schedule.

Article 244 (A) of the Indian Constitution

Background

In the 1950s, demand for a separate hill state arose by certain sections of the tribal population of undivided Assam. This finally led to the creation of the state of Meghalaya in 1972. Meanwhile, people of Karbi Anglong and North Cachar Hills were also part of movement for separate hill state but they decided to stay in Assam (and not be part of Meghalaya) as the then Government promised more autonomy. Since then, there has been a demand for its implementation.

Article 244 (A)

- By the 22nd Constitutional Amendment Act (1969), Article 244 (A) was inserted into the Indian Constitution empowering the Parliament to enact a law for constituting an 'autonomous state' within the state of Assam.
- It provides for a Legislature or a Council of Ministers or both within the 'autonomous state' with such powers and functions as may be defined by that law. This 'autonomous state' shall also have the jurisdiction of law & order which is not provided to the Autonomous District Councils under the Sixth schedule of the Constitution.

Present Scenario

Ever since the insertion of Article 244(A) in the Constitution, the tribal-districts of Assam have been demanding its implementation.

In the 1980s, this demand took the form of a movement with a number of Karbi groups resorting to violence. It soon became an armed separatist insurgency demanding full statehood.

However, in February 2021, more than a 1,000 militants of five militant groups of Karbi Anglong district ceremonially laid down arms at an event in Guwahati in the presence of Chief Minister of Assam.

The entire political discourse in the region still revolves around the demand for grant of 'autonomous state' status to the region. However, it is not clear if the government of India is willing to go ahead with the implementation of Article 244 (A) at this time.

INTERNATIONAL RELATIONS

Paper II (GS): All the Articles of this section are relevant to the following topics:

- **India and its Neighbourhood – Relations**
- **Bilateral, Regional and Global Groupings and Agreements involving India and / or affecting India's Interests**
- **Prelims Oriented Questions and Places in News for Maps/ Matching**

2.1 BIMSTEC

Why in News: Recently, the External Affairs Minister of India participated in the **17th Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Ministerial Meeting.** The meeting, chaired by Sri Lanka, was held in virtual mode.

BIMSTEC

- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organization.
- **It comprises seven countries. Five of these seven countries- India, Nepal, Sri Lanka, Bhutan and Bangladesh- are from South Asia while the remaining two, Thailand and Myanmar, are from Southeast Asia.**
- The group remained dormant for many years till it was revived a few years ago as an alternative to the South Asian Association for Regional Cooperation (SAARC), which despite having the potential, has not been able to move forward due to friction between India and Pakistan.
- With a focus on intra-regional cooperation, the BIMSTEC has also formed a platform with the SAARC and the Association of Southeast Asian Nations (ASEAN) member countries.
- Currently, the BIMSTEC is involved in 15 sectors including trade, technology, agriculture, tourism, fisheries, energy and climate change among others, for sectoral cooperation.

Secretariat: Dhaka, Bangladesh.

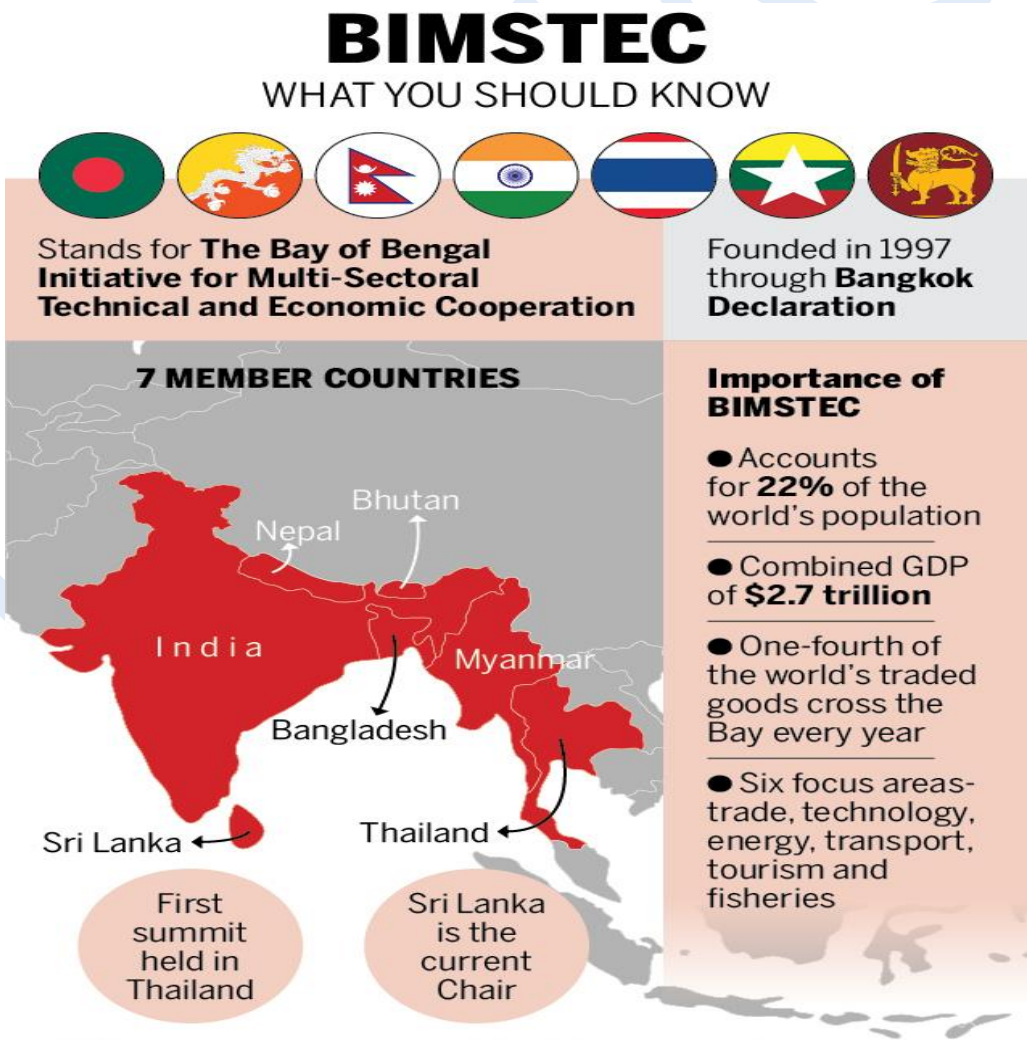
Objectives

- Creating an enabling environment for the rapid economic development of the sub-region.
- Encouraging the spirit of equality and partnership.
- Promoting active collaboration and mutual assistance in the areas of common interests of the member countries.
- Accelerating support for each other in the fields of education, science, and technology, etc.

Evolution of BIMSTEC

- **BIMSTEC was established as a grouping of four nations — India, Thailand, Bangladesh, and Sri Lanka — through the Bangkok Declaration of 1997.**

- BIMSTEC was expanded later to include three more countries: Myanmar, Nepal, and Bhutan.
- Initially, BIMSTEC didn't hold much geopolitical weight. This can be reflected by only just three summits in the first 20 years of its formation. However, BIMSTEC suddenly received special attention as India chose to treat it as a more practical instrument for regional cooperation, as SAARC continues to remain defunct.
- The BIMSTEC Leaders' Retreat, followed by their Outreach Summit with the BRICS leaders in Goa in October 2016, drew considerable international limelight to the low-profile regional grouping.
- At the second swearing-in of the Indian Prime Minister in May 2019, the leaders of BIMSTEC, not SAARC, were invited as honored guests. Soon thereafter, the External Affairs Minister observed that India saw a mix of "energy, mindset and possibility" in BIMSTEC.



India's Stand at the Meeting

India's Commitment

- To further build the momentum of regional cooperation under the BIMSTEC framework and make the organization stronger, vibrant, more effective and result-oriented
- Highlighted progress achieved in sectors where India is the Lead Country viz Counter Terrorism & Trans-national Crime, Transport & Communication, Tourism, and Environmental & Disaster management and other activities.

Importance of Connectivity

Robust connectivity is an essential prerequisite for economic integration of the region with smooth cross-border movement of people and goods.

BIMSTEC Master Plan for transport connectivity was approved. It is expected to be adopted at a summit which is to be held in Sri Lanka later this year.

BIMSTEC Master Plan

- It is an ambitious air, land and sea connectivity master plan.
- It would be an important step towards fulfilling the aspirations of the people of this region for better connectivity and integration.
- It is the outcome of more than a decade of discussions among members of BIMSTEC and studies by the Asian Development Bank (ADB) in 2007 and 2014.
- It identified 167 connectivity projects in the region at an estimated cost of about $50 billion.
- It will also promote synergy with other connectivity frameworks such as the ASEAN master plan on connectivity 2025.

Some of the arterial links included in the master plan are:

  - India-Myanmar-Thailand trilateral highway
  - Kolkata-Birgunj and Kolkata-Kathmandu links
  - Kolkata-Siliguri-Guwahati-Imphal link
  - Kandy-Colombo link.
  - India's north eastern states form a key part of the master plan, with several road and river links passing through the region.

Concerns

- Cohesion among the members has been difficult to achieve mainly because of the **Rohingya refugee crisis which created bitterness between Myanmar and Bangladesh.** This affected the working of the organisation to some extent as it could not develop a common charter.

- **Unfinished Economic Agenda:** BIMSTEC Free Trade Area Framework Agreement was signed in 2004, but over 20 rounds of negotiations it is still to be operationalized.

- **Internal Tussle**: A strong BIMSTEC presupposes cordial and tension-free bilateral relations among all its member-states. This has not been the case, given the trajectory of India-Nepal, India-Sri Lanka, and Bangladesh-Myanmar ties in recent years. Moreover, both Nepal and Sri Lanka want the SAARC summit revived. However, India maintains that terror and talks can't go hand in hand.

- **China's Intrusion:** China's decisive intrusion in the South-Southeast Asian space is causing a limiting effect on India's zone of influence.

- **Myanmar Coup:** The military coup in Myanmar, brutal crackdown of protesters, and continuation of popular resistance resulting in a protracted impasse have produced a new set of border management challenges for India

2.2 INDIA-NETHERLANDS

Why in News: Virtual summit was held between the Prime Ministers of India and the Netherlands. Both the countries reiterated their commitment to a rules-based multilateral order for ensuring international peace, stability and prosperity.

Virtual Meet

The bilateral relations between the two countries are underpinned by the shared values of democracy, rule of law, pluralism, and equality, freedom of speech and respect for human rights and the historic bonds of friendship between the two countries.

India and Netherland held an in-depth exchange of views on further strengthening the bilateral relationship in wide-ranging areas of cooperation including trade and economy, smart cities and urban mobility, science & technology cooperation, etc.

- **Fight against Covid-19 Pandemic**

- The Netherlands acknowledged and appreciated India's supply of Covid-19 vaccines to more than 80 countries through its 'Vaccine Maitri' initiative.
- Both the countries have an air-bubble agreement to facilitate travel while maintaining Covid-19 safety guidelines.

- **Trade, Commerce and Investments**

  - Digital Trade Mission was held between the two countries in February, 2021.
  - Despite Covid-19 trade related constraints, Netherlands was the third largest FDI investor in India and India the fourth largest FDI investor in the Netherlands in the year 2019-20

Towards a Strategic Partnership on Water

- India and Netherlands agreed to launch 'Strategic Partnership on Water'. On-going projects on water between the two countries are:

'**Dutch India Water Alliance for Leadership Initiative (DIWALI)'**: Implemented By: Department of Science and Technology (DST) and the Netherlands Organisation for Scientific Research (NWO).

'Local Treatment of Urban Sewage Streams for Healthy Reuse (LOTUS-HR)': Implemented By: Department of Biotechnology (DBT) and the NWO.

Smart Cities and Urban Mobility

- The Netherlands is uniquely placed as a preferred partner in India's development in key sectors such as smart cities, mobility and sustainable urban development.
- India invited the Netherlands to consider adoption of smart cities in India as well as to explore financial support for green projects in smart cities.

Science and Technology

India and Netherlands agreed to launch two new calls on the **WAH! Agenda.** The WAH! Agenda focuses on societal challenges in the areas of Water, Agriculture, and H

Indo-Pacific

Both the countries agreed to work together and with regional bodies like the Indian Ocean Naval Symposium (IONS) to support maritime security, rule of law, freedom of navigation and over flight, democratic values.

Climate Action

- India welcomed the Netherlands' decision of joining the Coalition for Disaster Resilient Infrastructure (CDRI)
- The CDRI is an international coalition of countries and multilateral organizations that aims to promote disaster-resilient infrastructure.

India – Netherlands Relations

- Indo-Dutch relations date back to more than 400 years when the Dutch East India Company began trading in India.
- Diplomatic relations between India and Netherlands were established in 1947.
- Netherlands is home to the third largest Indian diaspora in Europe.
- The UK and Italy, respectively, have the largest Indian diaspora in Europe.

Trade & Investment

- The Netherlands is India's fourth largest trading partner in EU after the UK, Germany and Belgium.
- During the financial year 2018-19, total two-way trade stood at US$6.28 Billion.
- India's Exports: Petroleum and related products, pharmaceutical products, marine products, rice and coffee, clothing and apparels, etc.
- India's Imports: General industrial machinery, scientific instruments, telecommunications instruments, animal and vegetable materials, etc.

2.3 FREEDOM OF NAVIGATION OPERATIONS (FONOP)

Why in News: The US navy recently declared that it had conducted "freedom of navigation operations" (FONOP) in India's exclusive economic zone (EEZ) near Lakshadweep, without seeking India's prior consent.

- The US statement also declared that the FONOP upheld the rights, freedoms and lawful uses of the sea recognised in international law by challenging India's excessive maritime claims.
- The FONOP was conducted by US Naval ship - USS John Paul Jones, from its 7th Fleet. The 7th Fleet is the largest of the US Navy's forward deployed fleets.

Freedom of Navigation Operations (FONOP)

- Freedom of Navigation Operations (FONOP) involves passages conducted by the US Navy through waters claimed by coastal nations as their exclusive territory.
- According to the US Department of Defense (DoD), the FON Program has existed for 40 years. The US which has not ratified the UNCLOS unlike India and China, regularly conducts FONOPs, to exercise and assert its navigation and overflight rights and freedoms around the world.
- It is used by US to communicate that the United States does not accept excessive maritime claims of other nations, and thus prevents those claims from becoming accepted in international law.

News Update

- The US navy recently declared that it had conducted "freedom of navigation operations" (FONOP) in India's exclusive economic zone (EEZ) near Lakshadweep, without seeking India's prior consent.
- From the US perspective, FONOP is country-neutral, and it is conducted against several countries including its allies and partners. Thus, the U.S. has been regularly conducting FONOPs in Indian EEZ.
- From 2007 onwards till 2017, the U.S. carried out multiple FONOPs every year challenging excessive Indian maritime claims. However, India has been accommodative of these US FONOP and has, in the past, not challenged the movement of the US naval fleet.

India's response related to the current FONOP

- In response India stated that its position on the UNCLOS is that the Convention does not authorise other States to carry out military exercises (in particular those involving the use of weapons or explosives), in the EEZ and on the continental shelf, without the consent of the coastal state.
- India has conveyed its concerns regarding the current FONOP in its EEZ to the US government through diplomatic channels.

Concerns associated with the current FONOP

Usually, in the past, the US Department of Defense has mentioned all FONOP challenges and assertions in its annual report to Congress (US Parliament). However, the current episode is the first time the US Navy has issued a public statement giving details of the operation.

Therefore, the statement issued after the FONOP is more concerning than the FONOP itself. Moreover, the tone of aggressive public declaration raises concerns, as it comes at a time when

US is seeking India's close cooperation through the Quad to control China's aggression in the Indo-Pacific.

UNCLOS

- The United Nations Convention on the Law of the Sea (UNCLOS), also called the Law of the Sea Convention or the Law of the Sea treaty is an international agreement.
- It defines the rights and responsibilities of nations with respect to their use of the world's oceans.
- It establishes guidelines for businesses, the environment, and the management of marine natural resources.
- The Convention was signed in 1982 and came into force in 1994. As mentioned above, India ratified the UNCLOS in 1995 but the US has not ratified it till now.

Exclusive Economic Zone (EEZ)

As per UNCLOS, the EEZ is an area beyond and adjacent to the territorial sea, governed by the provisions of UNCLOS. The EEZ only allows resource rights and the law enforcement capacity to protect those rights. It does not give a coastal State the right to prohibit or limit freedom of navigation

The Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976

Under Indian law; The Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976, India's EEZ is an area beyond and adjacent to the territorial waters and extends up to 200 nautical miles from the baseline.

The limit of India's territorial waters extends up to 12 nautical miles from the baseline (usually the mean low-water mark). As per the 1976 Act, all foreign ships (other than warships including sub-marines and other underwater vehicles) enjoy the right of innocent passage through the territorial waters.

Foreign warships including submarines and other underwater vehicles may enter or pass through the territorial waters after giving prior notice to the Central Government. **Innocent passage means a passage that is not harmful to the peace, good order or security of India.**

2.4 BASIC NATIONS AND CARBON TAX

Why in News: **BASIC nations Brazil, South Africa, India and China** have jointly opposed 'carbon border tax', proposed by the European Union.

The countries expressed their concern at the 30th Ministerial meeting of BASIC nations, hosted by India.

BASIC Nations

BASIC grouping is a bloc of four developing countries, Brazil, South Africa, India and China, established in November, 2009.

Objective

- To act together at the then upcoming United Nations Climate Change Conference, commonly known as Copenhagen Climate Summit, to be held in December, 2009.
- The BASIC countries constituted one of the two parties in the Copenhagen Accord reached with the US-led grouping.
- The Copenhagen Accord endorsed the continuation of Kyoto Protocol.

Significance of the grouping

- Brazil, South Africa, India and China put together has one-third of the world' geographical area and nearly 40% of the world's population.
- The BASIC countries, all recently industrialized, have a broadly common position on reducing greenhouse gas emissions and raising funds that are needed to fight climate change.

'Carbon Border Tax'

- A carbon border tax is a tax on carbon emissions attributed to imported goods that have not been carbon-taxed at 'source'.
- It is intended to protect a country's local manufacturers, motivating them to adhere to green regulations.

European Union's Proposal on carbon border tax

- The EU is considering the implementation of a carbon border tax to protect European companies from non-European competitors where climate change regulations are less strict.

- The carbon border tax proposal is a part of the European Commission's European Green Deal that aims to make Europe the first climate-neutral continent by 2050.
- By the end of 2018, the EU already had reduced greenhouse gas emissions by 23% since 1990.
- According to the EU, many EU companies are at a cost disadvantage as they have been paying a carbon border tax and for carbon emissions since 2005 under the EU's Emissions Trading System.

News Summary

- The BASIC nations have jointly opposed the carbon border tax, saying such trade barrier would not only be discriminatory but also against the principles of equity and CBDR-RC (Common but Differentiated Responsibilities and Respective Capabilities).
- CBDR-RC is a principle within the United Nations Framework Convention on Climate Change (UNFCCC) that acknowledges the different capabilities and differing responsibilities of individual countries in addressing climate change.
- The BASIC nations argued that the carbon border tax will discourage the global will to tackle climate change together, as the tax would unfairly obstruct the growth of certain countries' economies.
- The proposed tax would disadvantage Indian steel and iron-makers, damaging the economy and making it harder for the sector to transition away from fossil fuels.
- The BASIC nations also raised the issue of climate financing.
- The ministers also urged developed nations to revisit their targets on mitigation under the UNFCCC and Kyoto Protocol, and fulfill their commitments of providing support to developing nations.

Way Forward

Carbon border taxes could help the world move more efficiently towards sustainability. But for such taxes to be part of a consensual multilateral approach, rather than a new source of conflict, the policymakers must tackle distributional issues upfront as part of a strategic design, not as an afterthought.

2.5 WORLD POPULATION REPORT 2021

Why in News: The United Nations Population Fund (UNFPA) recently released its Flagship State of **World Population Report 2021 titled 'My Body is My Own'.**

State of World Population Report 2021

- **This is the first time a United Nations report has focused on bodily autonomy, defined as the power and agency to make choices about one's body without fear of violence.**
- The report measures women's access to bodily autonomy through their power to make their own decisions about their reproductive health care, contraceptive use and sexual relations.
- It also explores the extent to which the laws of the countries support or interfere with a woman's right to make these decisions. Examples of violation of bodily autonomy include child marriage, female genital mutilation, lack of contraceptive choices leading to unplanned pregnancy, unwanted sex exchanged for a home and food.

Key findings of the report

- Hundreds of millions of women and girls do not own their own bodies and their lives are governed by others.
- Only 55 per cent of women are fully empowered to make choices over health care, contraception and the ability to say yes or no to sex.
- Only 71 per cent of countries guarantee access to overall maternity care.
- Only 75 per cent of countries legally ensure full, equal access to contraception.
- Only about 80 per cent of countries have laws supporting sexual health and well-being.
- Only about 56 per cent of countries have laws and policies supporting comprehensive sex education.
- Girls and boys with disabilities are nearly three times more likely to be subjected to sexual violence, with girls at the greatest risk.

Social norms and laws inhibiting bodily autonomy:

- For many women and girls, deprivation of bodily autonomy is a part of social norms and laws.
- Twenty countries or territories have "marry-your-rapist" laws, where a man can escape criminal prosecution if he marries the woman or girl he has raped.
- Forty-three countries have no legislation addressing the issue of marital rape (rape by a spouse).
- More than 30 countries restrict women's right to move around outside the home.

Status in India

- In India, according to National Family Health Survey-4 (2015-2016), only about 12% of currently married women (15-49 years of age) independently make decisions about their own healthcare, while 63% decide in consultation with their spouse.
- For a quarter of women (23%), it is the spouse that mainly takes decisions about healthcare.
- Only 8% of currently married women (15-49 years) take decisions on the use of contraception independently, while 83% decide jointly with their spouse.
- Information provided to women about use of contraception is also limited only 47% women using a contraceptive were informed about the side effects of the method, and 54% women were provided information about other contraceptives.

Impact

- A woman's power to control her own body is linked to how much control she has in other spheres of her life, with higher control associated with advances in health and education, income and safety.
- Lack of bodily autonomy has massive implications beyond the harms to individual women and girls.
- It can potentially reduce economic productivity and skill development, and lead to extra costs to health care and judicial systems.

Way Ahead

Realising bodily autonomy is essential to achieving the UNFPA's goals of ending the global unmet need for contraception, preventable maternal deaths, gender-based violence and harmful practices by 2030.

Addressing these issues requires much more than a disconnected series of projects or services. Real and sustained progress largely depends on uprooting gender inequality and all forms of discrimination, and transforming the social and economic structures that maintain them.

In this effort, men must become allies (partners) and they must step away from patterns of privilege and dominance that reduces bodily autonomy, and move towards ways of living that are fair, harmonious and benefits everyone.

2.6 OPEC+

Why in News: Oil prices rose as OPEC+ alliance sticks to its existing plans to boost oil output from May 1.

OPEC

- The Organization of the Petroleum Exporting Countries is an intergovernmental organization of 13 nations (as of February 2021), founded in 1960 in Baghdad by the first five members (Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela), and headquartered since 1965 in Vienna, Austria.
- The current OPEC members are Algeria, Angola, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, the Republic of the Congo, Saudi Arabia (the de facto leader), the United Arab Emirates and Venezuela. Ecuador, Indonesia and Qatar are former members.
- Its mission is to ensure the stabilization of oil markets, in order to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers, and a fair return on capital for those investing in the petroleum industry.
- The organization is also a significant provider of information about the international oil market.
- The formation of OPEC marked a turning point toward national sovereignty over natural resources, and OPEC decisions have come to play a prominent role in the global oil market and international relations.

OPEC+

- OPEC+ is an agreement between OPEC and 10 Non-OPEC nations (notable among them Russia, Mexico and Kazakhstan) in order to protect oil prices from a global slowdown.
- OPEC's 13 members control 35 percent of global oil supplies and 82 percent of proven reserves. With the addition of the 10 Non-OPEC nations, those shares had increased to 55 percent and 90 percent respectively.
- The agreement signed in January 2017 in Vienna, called for the members of the deal to cut production by 1.8 million barrels/day of crude oil from global supplies from the beginning of 2017.
- The principle aim was to help ease the oversupply situation back then and importantly reduce the huge stocks that had been delaying the much-needed rebalancing of the oil market.

OPEC+ output boost plan

- In the beginning of April this year, OPEC+ had agreed to increase the oil production gradually in the coming months.
- The Organization of Petroleum Exporting Countries and its allies would add more than 2 million barrels a day to world oil supplies from May to July.

- This would restore about a quarter of the crude they are still withholding after making deep cuts a year ago in response to the pandemic.
- The current plan of the group is to boost output by 350,000 barrels a day in May and June, before an increase by 440,000 barrels a day in July.
- Saudi Arabia proposed the supply boost.
- It would include phasing out its voluntary extra 1 million barrel-a-day supply cut.

News Update

- The alliance has expressed its concerns over surging COVID-19 cases but kept its oil demand forecast unchanged.
- It believes that improvements in the global economy will outweigh the surge of coronavirus cases in India.
- India is the world's third-largest crude importer. It has been reporting daily rise of more than 300,000 cases for past several days. It has also reported a total of almost 200,000 deaths. Due to positive demand forecasts and robust vaccination programs in various countries, it is expected that production increase would not have a negative impact on prices.

SECURITY AND DEFENCE

❖ **Paper III: This section is relevant to the following topics:**

- **Linkages between development and spread of extremism.**
- **Role of external state and non-state actors in creating challenges to internal security.**
- **Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention**
- **Security challenges and their management in border areas; linkages of organized crime with terrorism**
- **Various Security forces and agencies and their mandate**

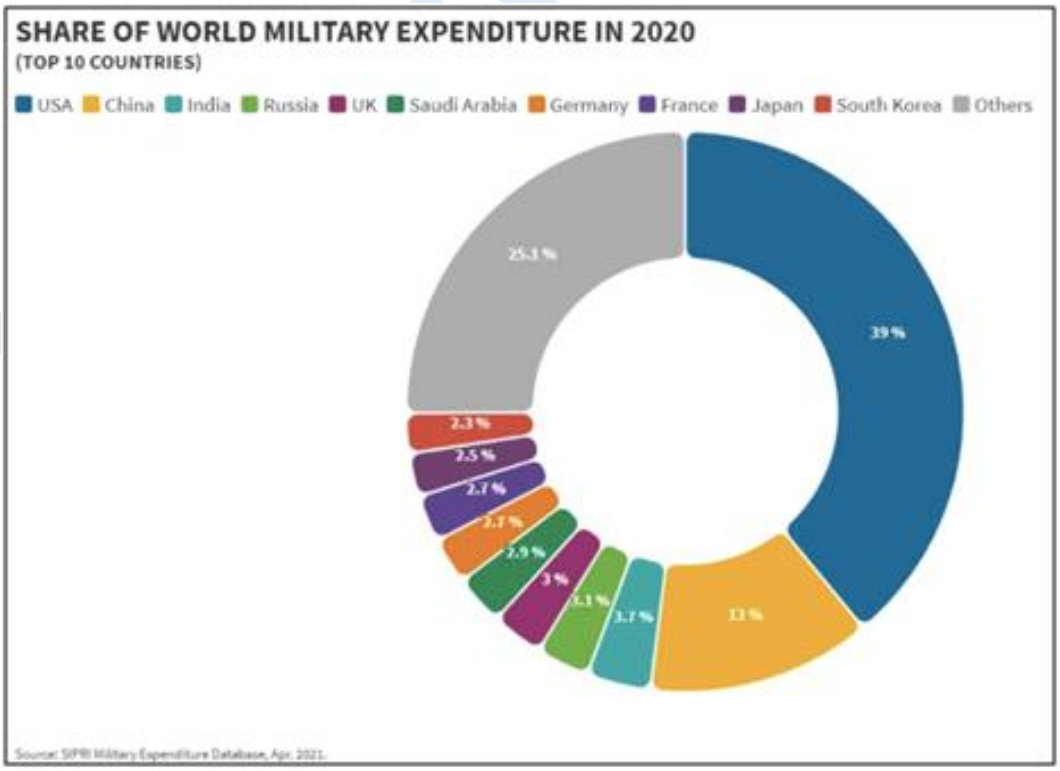
❖ **Prelims Oriented Questions**

3.1 SIPRI

Why in News: The Stockholm International Peace Research Institute (SIPRI) recently released the SIPRI Military Expenditure Database. SIPRI monitors developments in military expenditure worldwide and maintains the most comprehensive, consistent and extensive publicly available data source on military expenditure.

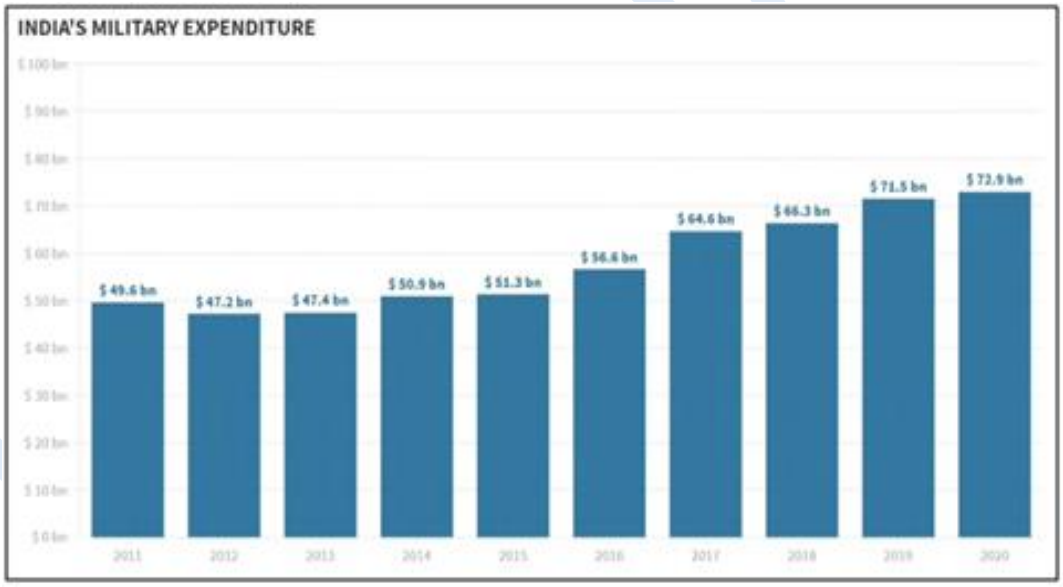
Key findings of the report

- In 2020, total global military expenditure rose to $1981 billion, an increase of 2.6 per cent from 2019.
- The 2.6 per cent increase came in a year when global gross domestic product (GDP) reduced by 4.4 per cent, due to the economic impacts of the Covid pandemic.
- As a result, the military burden (military spending as a share of GDP), reached a global average of 2.4 per cent in 2020, up from 2.2 per cent in 2019.
- This was the biggest year-on-year rise in the military burden since the global financial and economic crisis in 2009.



Country wise military expenditure

- The five biggest spenders in 2020, were the United States, China, India, Russia and the United Kingdom, accounting for 62 percent of the total military expenditure across the world.
- In 2020, US military expenditure reached an estimated $778 billion. As the world's largest military spender, the USA accounted for 39 per cent of total military expenditure in 2020.
- China's military expenditure, the second highest in the world, is estimated to have totaled $252 billion in 2020.
- China's spending has risen for 26 consecutive years, the longest series of uninterrupted increases by any country.
- 12 NATO members spent 2 per cent or more of their GDP on their militaries, compared with 9 members in 2019.
- North Atlantic Treaty Organization (NATO) has a guideline target of spending at least two percent of GDP on military, for its members.



India's military expenditure

- India accounted for a 3.7 percent of the total world military spending in 2020, third highest, after the US and China.
- However, India is far behind the US that spends more than 10 times and China almost four times India's defence budget. India's military expenditure in 2020 was 2 percent higher at $72.9 billion over 2019.

- This increase is largely due to India's ongoing conflict with Pakistan over Kashmir and renewed border tensions with China, as well as India's more general rivalry with China as the main regional power in Asia and Oceania.
- India's annual military expenditure includes a huge pension bill for veterans and defence civilians. For instance, in the 2021-2022 defence budgets, the pension bill was Rs 1.15 lakh crore out of the total Rs 4.78 lakh crore outlay.
- Moreover, India has a weak domestic defence-industrial base. This makes India the world's second-largest arms importer just behind Saudi Arabia. India accounted for 9.5% of the total global arms imports during 2016-2020.

SIPRI

- **SIPRI is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.**
- **Established in 1966, SIPRI provides data, analysis and recommendations, to policymakers, researchers and media.**
- It has a vision of a world, in which sources of insecurity are identified and understood, conflicts are prevented or resolved, and peace is sustained.
- Based in Stockholm, SIPRI is regularly ranked among the most respected think tanks worldwide.

3.2 LEFT WING EXTREMISM

Why in News: The Union home minister, Chhattisgarh's chief minister and several other officials conducted a review meeting after 22 security personnel were killed in an encounter with Maoists in Sukma district of Chhattisgarh. A detailed plan was drawn up at the review meeting to increase operations against Maoists.

The Central government and Chhattisgarh government are also planning to conduct a massive anti-Maoist operation soon. Since the 2010 Chintalnar massacre that claimed 76 lives, the Dantewada-Sukma-Bijapur axis has claimed the lives of more than 175 security personnel in Maoist attacks.

Background

LWE has its genesis in poor governance, lack of development in the tribal belt, and an oppressive/exploitative hierarchy of the state and society that has pushed the tribal population, the landless, to the margins of survival.

Making a beginning in Naxalbari in West Bengal and Telangana region in Andhra Pradesh in the 1970s, the movement has since spread to many states: Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, and Orissa. **This region, affected by LWE, is referred to as the Red corridor.**

The most prominent among the groups that have mushroomed in recent years are the People's War Group (PWG) and the Marxist Communist Centre (MCC). Most Serious Threat: In November 2005, then PM Manmohan Singh described the LWE challenge as the most serious security threat to India and exhorted the professionals to evolve appropriate responses.

Issues Related to Dealing with LWE

Leadership Issue: In the current scenario, barring a few exceptions, many of the senior police officers (IPS cadre) who are parachuted into the central police forces at senior ranks have little or no platoon/battalion experience.

- By training, the police officer is expected to be a competent Superintendent and to maintain law and order.
- This is not the skill-set that is relevant when an officer has to "command" and lead his men into insurgency operations.

Threatening Democracy: They resort to violence through their guerrilla tactics and attempt to set up their own government in the local villages. They threaten the locals before the conduct of elections and prevent them from voting. This violates the principle of participative democracy.

Measures and Initiatives by Government to Curb LWE

SAMADHAN policy: The Government of India in 2017 announced a new doctrine, SAMADHAN. The doctrine was announced during the Review Meeting of Left Wing Extremism affected States

- S- Smart Leadership,
- Aggressive Strategy,
- M- Motivation and Training,
- Actionable Intelligence,
- D- Dashboard Based KPIs (Key Performance Indicators) and KRAs (Key Result Areas),
- H- Harnessing Technology,
- Action plan for each Theatre, and
- N- No access to Financing.

Progressive Works: Effective steps to reduce ethnic and social inequalities, disparities in educational and employment opportunities, and for creating effective machinery for the redressal of public grievance, are absolutely essential to improve the environment in which extremist violence flourishes.

Steps to reduce economic deprivation and improve the delivery of essential services can erode the base of public support on which the extremist movements survive.

Para-Military Reforms: The Kargil Review Committee (KRC) report noted that in wake of Internal security challenges that the country faces, the role and the tasks of the paramilitary forces have to be restructured particularly with reference to command and control and leadership functions.

Cooperative Federalism: Given the complexities involved in India's national-security architecture, it is crucial to improve coordination between various federal and state security agencies.

Modernizing Police: States play a vital role in maintaining law and order. So, emphasis should be laid on the capacity-building and modernization of the local police forces. Local forces can efficiently and effectively neutralize the LWE organizations.

Marginalization of LWE Groups: States also need to adopt a focused time-bound approach to completely eliminate LWE groups and ensure all-around development of the affected regions.

States should rationalize their surrender policy in order to bring innocent individuals caught in the trap of LWE into the mainstream. Apart from this, the Government needs to ensure two things; the security of the peace-loving people and the development of the Naxalism-affected regions.

The government has envisaged SAMADHAN policy to deal with the LWE. If implemented effectively, this doctrine can act as the one-stop solution for the LWE problem, as it encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels.

ECONOMY

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.**
- **Inclusive growth and issues arising from it.**
- **Government Budgeting.**
- **Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.**
- **Infrastructure: Energy, Ports, Roads, Airports, Railways etc.**
- **Investment models.**
- **Agriculture**

4.1 GLOBAL GENDER GAP REPORT 2021

Why in News: The World Economic Forum recently released the Global Gender Gap report 2021.

Global Gender Gap Index

The Global Gender Gap Index benchmarks the evolution of gender-based gaps in four key areas:

- Economic Participation and Opportunity
- Educational Attainment
- Health and Survival
- Political Empowerment

- It also examines the reasons of gender gaps and outlines the policies and practices needed for a gender-inclusive recovery.
- Now in its 15th year, this year's index benchmarks 156 countries, providing a tool for cross-country comparison.
- The Index measures scores on a 0 to 100 scale and scores can be interpreted as the distance to parity (i.e. the percentage of the gender gap that has been closed).

Summary of Global Gender Gap report 2021

Global Findings

- **Iceland remains the world's most gender-equal country, followed by Finland, Norway, New Zealand and Sweden.**
- Globally, the average distance completed to parity (equality) is at 68 per cent, which has declined compared from 2020 (by -0.6 percentage points).
- Based on the current performance, it will now take 135.6 years to close the gender gap worldwide.

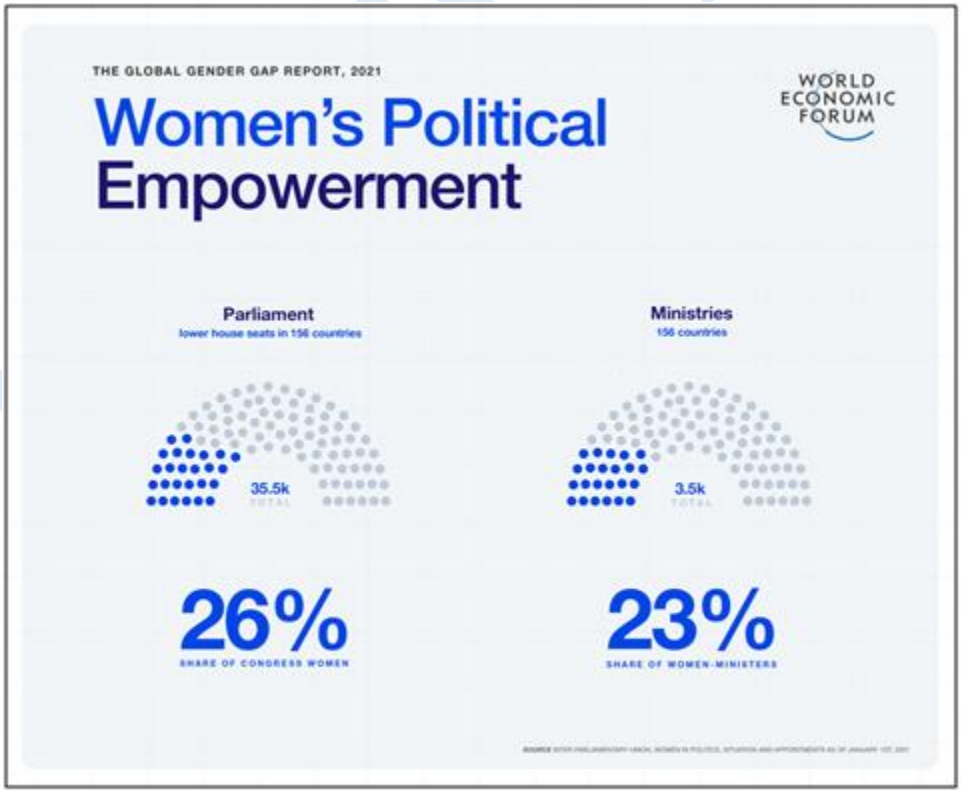
Global performance on various sub-indices

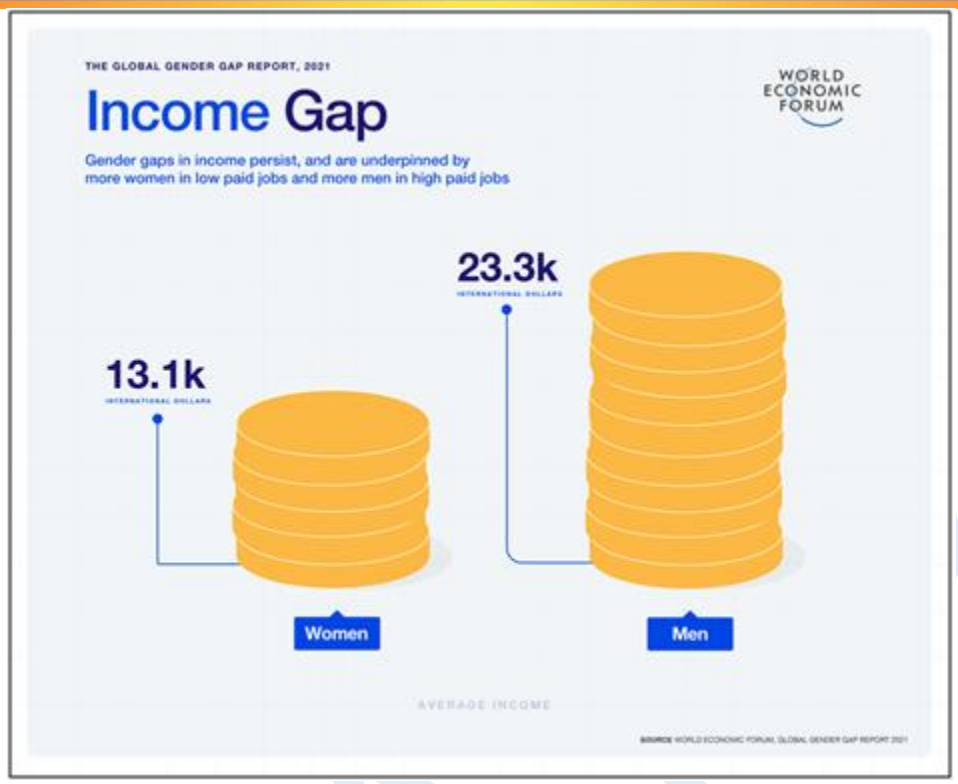
- **The gender gap in political empowerment remains the largest of the four gaps**
- Across the 156 countries covered by the index, women represent only 26.1% of some 35,500 parliament seats and just 22.6% of over 3,400 ministers worldwide
- In 81 countries, there has never been a woman head of state, as of 15th January 2021.

- **The second-largest gender gap among the four components is for the Economic Participation and Opportunity sub index.** Globally, only 58.3 per cent of this gap has been closed so far.
- However, gender gaps in Educational Attainment and Health and Survival are nearly closed.
- In Educational Attainment, 95% of this gender gap has been closed globally, with 37 countries already at parity. In Health and Survival, 96% of this gender gap has been closed.

Regional performance

- Western Europe region has progressed the most towards gender equality (77.6%).
- North America is the second-most advanced (76.4%), followed by Latin America and the Caribbean (72.1%) and Eastern Europe and Central Asia (71.2%).
- Among regions, South Asia is the second-lowest performer on the index, with 62.3 per cent of its overall gender gap closed.
- The report estimates that it will take South Asia 195.4 years to close the gender gap, while Western Europe will take 52.1 years.
- The Middle East and North Africa region remains the area with the largest gap (60.9%).





Findings from India

- **India has fallen 28 places to rank 140th among 156 countries, becoming the third-worst performer in South Asia.**
- The country had ranked 112th among 153 countries in the Global Gender Gap Index 2020.
- Among India's neighbours, Bangladesh ranked 65, Nepal 106, Pakistan 153, Afghanistan 156, Bhutan 130 and Sri Lanka 116.
- India has closed 62.5 per cent of its gender gap till date.

Political empowerment and economic participation sub index:

- Most of India’s decline occurred on the political empowerment sub index, where India fell by 13.5 percentage points, with a significant decline in the number of women ministers (from 23.1 per cent in 2019 to 9.1 per cent in 2021).
- India performed poorly in the economic participation index. There is a decrease in women's labour force participation rate, which fell from 24.8 per cent to 22.3 per cent.
- The share of women in senior and managerial positions also remains low, with only 14.6 per cent of these positions being held by women and there are only 8.9 per cent firms with female top managers.

- Further, the estimated earned income of women in India is only one-fifth of men's income, which puts India among the bottom 10 globally on this indicator.

Health and survival sub index

- Discrimination against women is also reflected in the health and survival sub index
- With 93.7 per cent of this gap closed to date, India ranks among the bottom five countries in this sub index.
- Wide gaps in sex ratio at birth are due to the prevalent gender-based sex-selective practices. In addition, more than one in four women has faced intimate violence in her lifetime.

The report offers ways for countries to work towards closing their gender gaps. These include further investment in the care sector and equitable access to care leave for working men and women.

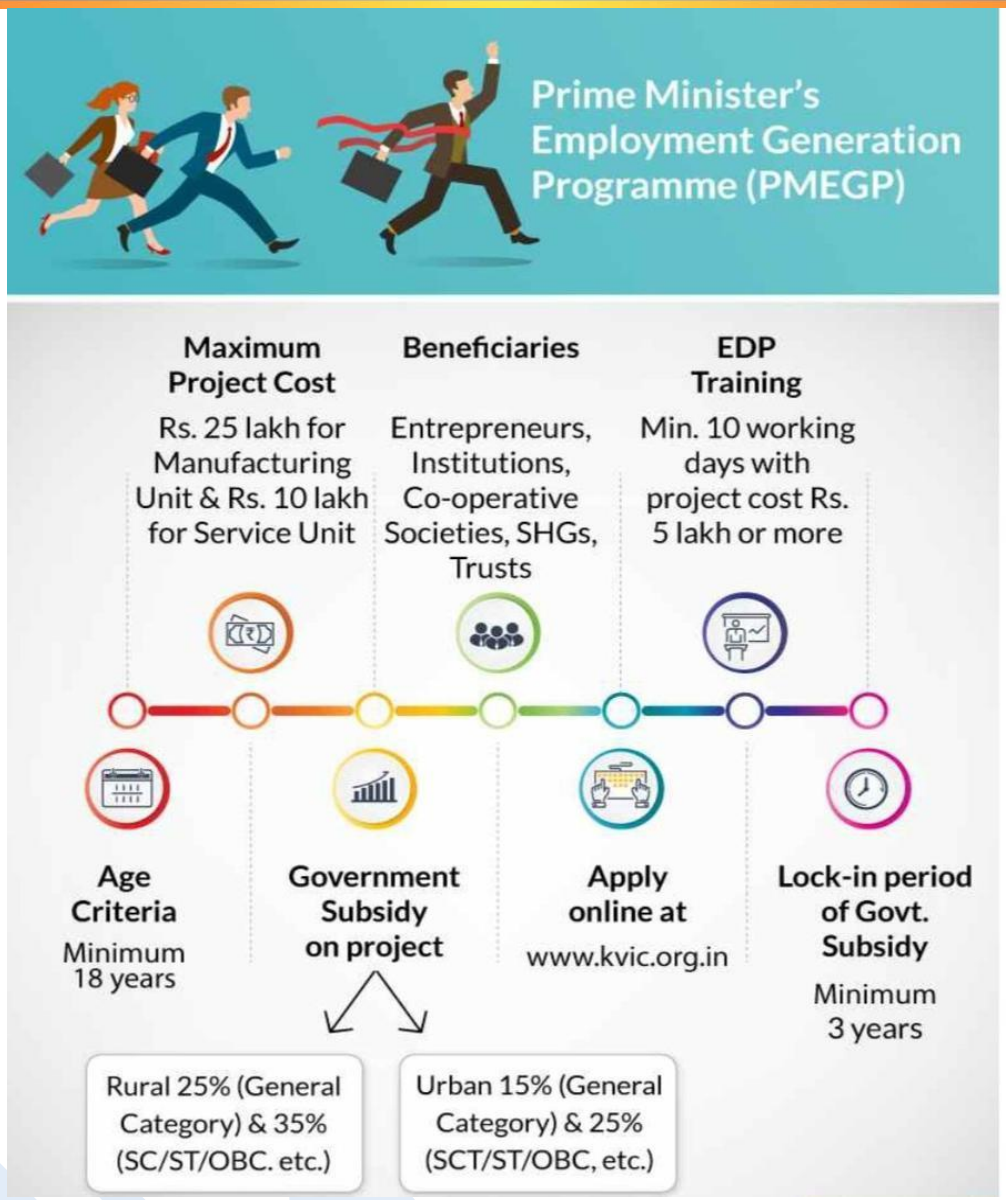
It advocates policies that focus on overcoming occupational separation by gender, effective mid-career skills-development policies for women, and managerial practices based on unbiased hiring and promotion practices.

4.2 PRIME MINISTER EMPLOYMENT GENERATION PROGRAM

Why in News: Khadi and Village Industries Commission (KVIC) has recently recorded its best ever performance in job creation under the Prime Minister's Employment Generation Program (PMEGP).

Prime Minister's Employment Generation Program (PMEGP)

- It was launched in 2008.
- It is a major credit-linked subsidy program,
- It was formed by merging the two schemes namely Prime Minister‟s Rojgar Yojana (PMRY) and Rural Employment Generation Program (REGP).
- It is for the generation of employment opportunities through establishment of micro enterprises in rural as well as urban areas.



Objectives

- To generate employment opportunities in rural as well as urban areas of the country through setting up of new self-employment ventures/projects/micro enterprises.
- To bring together widely dispersed traditional artisans/ rural and urban unemployed youth and give them self-employment opportunities to the extent possible, at their place.
- To provide continuous and sustainable employment to a large segment of traditional and prospective artisans and rural and urban unemployed youth in the country, so as to help arrest migration of rural youth to urban areas.

- To increase the wage earning capacity of artisans and contribute to increase in the growth rate of rural and urban employment.

Administration

It is a central sector scheme administered by the Ministry of Micro, Small and Medium Enterprises (MoMSME).

Implementation

- The Scheme is implemented by Khadi and Village Industries Commission (KVIC) as the single nodal agency at the National level.
- KVIC is a statutory organization under the administrative control of the Ministry of MSME.
- At the State level, the Scheme is implemented through State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs) and District Industries Centres (DICs) and banks.

Subsidy

- The Government subsidy under the Scheme will be routed by KVIC through the identified Banks for eventual distribution to the beneficiaries / entrepreneurs in their Bank accounts.
- For rural Areas: 25% for general category and 35% for special category.
- Special category includes SC/ST/OBC/Minorities/Women, Ex-servicemen, Physically handicapped, NER, Hill and Border Areas.
- For Urban Areas: 15% for general category and 25% for special category.

Eligibility Conditions of Beneficiaries

- Any individual, above 18 years of age
- There will be no income ceiling for assistance for setting up projects under PMEGP. For setting up of project costing above Rs.10 lakh in the manufacturing sector and above Rs. 5 lakh in the business /service sector, the beneficiaries should possess at least VIII standard pass educational qualification.
- Self Help Groups are also eligible for assistance under PMEGP. Self Help Groups belonging to BPL are eligible provided that they have not availed benefits under any other Scheme.
- Institutions registered under Societies Registration Act,1860

- Production Co-operative Societies
- Charitable Trusts

Online portal

- An online PMEGP e-portal has been introduced in 2016 and the entire process is made real time and online.
- Applicants have to apply on the online portal and they can track the status of their application on the PMEGP-e-portal.
- There is an online feedback mechanism for providing feedbacks by the beneficiaries, which has been encouraging.

In FY 2020-21, which was largely affected by the nationwide lockdown, KVIC disbursed Rs. 2188.78 crore to create a whopping 5,95,320 jobs under PMEGP, the highest ever since its launch in 2008. In 2020-21, KVIC established 74,415 projects across the country.

The creation of local jobs would provide livelihood to lakhs of people, in turn, bolstering the country's economy. The government's thrust to local manufacturing has prompted many youths, women and distressed people to take up self-employment activities under PMEGP.

Two major decisions by KVIC regarding timely execution of applications also helped the cause. First, the timeframe for scrutinizing and forwarding the applications to the banks by its state directors reduced from 90 to 26 days. Second, monthly coordination meetings with the banks were started at different levels which has also helped timely disbursal of loans to the beneficiaries.

4.3 INSOLVENCY BANKRUPTCY CODE

Why in News: The **central government has passed an ordinance to amend the Insolvency and Bankruptcy Code (IBC), providing for a pre-packaged insolvency resolution process for MSMEs.**

Insolvency and Bankruptcy Code

- The Insolvency and Bankruptcy Code (IBC), 2016 provides a time bound process for resolving insolvency in companies and also among individuals.
- Insolvency is a situation where individuals or companies are unable to repay their outstanding debt.
- If a default occurs, the IBC allows the creditors of the company or the company itself to initiate a corporate insolvency resolution process (CIRP) by filing an application before the National Company Law Tribunal (NCLT).

Latest Development

Ordinance to amend IBC:

- The Insolvency and Bankruptcy Code (Amendment) Ordinance 2021 provides for a pre-packaged insolvency resolution process for micro, small and medium enterprises (MSME) under the IBC.
- The ordinance allows the Central Government to notify pre-packaged process for defaults (failure to repay debt) of not more than Rs 1 crore.
- A pre-packaged insolvency process is an informal plan worked out by the creditor and debtor for debt resolution.
- This system of insolvency proceedings has become a popular mechanism for insolvency resolution in the UK and Europe over the past decade.

Reasons for introducing the ordinance

- The ordinance has been promulgated to offer an alternative resolution mechanism to MSMEs that is quicker and cost-effective.
- It also aims to maximize the outcomes for all the stakeholders, in a manner which is least disruptive to the continuity of businesses and preserves jobs.

Pre-packaged insolvency process

- As per the ordinance, the pre-packaged insolvency process allows the promoters and the management of the firm (debtors) to create an informal plan for debt resolution with its creditors.
- The resolution plan can then be taken for approval by the secured creditors to the National Company Law Tribunal (NCLT).
- However, the resolution plan has to be approved by a minimum of 66 per cent of financial creditors that are unrelated to the corporate debtor, before submitting the resolution plan to NCLT.
- Further NCLTs are also required to either accept or reject any application for a pre-pack insolvency proceeding before considering a petition for a CIRP.

Role of the resolution professional

- Once the resolution process starts, the National Company Law Tribunal (NCLT) will appoint a resolution professional. Unlike the CIRP process where the resolution professional takes control of the company, under the pre-pack process, the resolution professional will only act as a facilitator.

- Thus, during the resolution process, the company will continue to be controlled by the existing management instead of coming under the control of a resolution professional. The resolution professional will help to improve the base plan or invite a competitive plan if required.

Alternate resolution plans

- The pre-pack mechanism also allows for **a Swiss challenge** for any resolution plans which provide less than full recovery of dues to operational creditors. Under the Swiss challenge mechanism, any third party would be permitted to submit a resolution plan for the distressed company.
- Creditors are also permitted to seek resolution plans from any third party if they are not satisfied with the resolution plan offered by the promoters of the company.

Timeline

- In line with the time-bound resolution process under the IBC, the pre-pack scheme also prescribes timelines.
- It allows for 120 days for the entire process 90 days for the submission of the resolution plans, and 30 days for the NCLT to improve them.

Advantages of pre-packaged mechanism

- The pre-packaged mechanism allows the management of the firm to be a part of the restructuring exercise, giving them another chance for correction. Moreover, keeping the control of the business with the promoters during the resolution process, will lead to minimal disruption of operations.
- One of the key criticisms of the CIRP has been the time taken for resolution. At the end of December 2020, over 86 per cent of the 1717 ongoing insolvency resolution proceedings had crossed the 270-day threshold.
- Initially, as per the IBC, the resolution process had to be completed within 270 days from the beginning of the insolvency proceedings. This was later extended to 330 days.
- The pre-pack process is a much faster and efficient process, as the company will itself initiate the resolution plan with the approval of 66 percent of financial creditors.
- Faster resolution of cases will also bring down the costs associated with the resolution process and reduce the burden of NCLT, which will lead to faster disposal of other cases.

Types of creditors

Financial and Operational creditors:

Financial creditors are basically entities (lenders like banks) that have provided funds to the corporate. Their relationship with the entity is a pure financial contract, such as a loan. On the other hand, business and other entities that have provided inputs and other materials and services and to whom the defaulted corporate owes a debt are called as operational creditors.

Secured Creditor

- A secured creditor is any creditor or lender that gives credit (loan) after taking collateral (guarantee).
- If a borrower defaults the secured creditors have a legal right to the secured asset used as collateral. The secured creditor can either take control of the asset or sell it to recover the debt.

Unsecured Creditor

An unsecured creditor is an individual or institution that lends money without obtaining specific assets as collateral. This leads to a higher risk to the creditor.

NCLT

- The National Company Law Tribunal is the adjudicating authority for insolvency resolution process of companies under the Insolvency and Bankruptcy Code.
- The tribunal was established under the Companies Act 2013 and was constituted in 2016 by the government.
- NCLT bench is chaired by a Judicial member who is supposed to be retired/Serving High Court Judge and a Technical member who is from Indian Corporate Law Service, ICLS Cadre.
- Decisions of NCLT may be appealed to the National Company Law Appellate Tribunal, the decisions of which may further be appealed to the Supreme Court.

4.4 G- SAP

Why in News: In the latest policy review, the RBI has launched a government securities (G-Secs) acquisition program or G-SAP.

G-secs

G-secs are tradable debt securities issued by RBI on behalf of the central government and can have a tenure ranging from a few days to 40 years. Since they are issued by the government, they carry no risk of default (risk of losing money), and hence, are called gilts or gilt-edged instruments.

G-SAP

- Under, G-SAP, RBI will commit to a specific amount of open market purchases of government securities.
- For the first quarter of the financial year 2021-22, RBI will conduct a G-SAP of Rs 1 lakh crore, and the first purchase of government securities for an amount of Rs 25,000 crore will be conducted on April 15. The aim is to ensure stable financial conditions for the economic recovery to accelerate.

Impact of G-SAP

Market participants have always wanted to know the RBI's Open Market Operations (OMO) purchase calendar. Open Market Operations (OMO) refers to the buying and selling of government securities by the central bank of a country.

The RBI has purchased Rs. 3.13 trillion worth of bonds from the secondary market in FY21. However, it was carried out in an ad hoc manner with the market waiting for RBI purchase announcements on a weekly basis. Now that RBI will announce its purchase decisions beforehand under G-SAP, market participants will be able to plan their borrowing program.

It will also provide certainty to the bond (securities) market and reduce volatility in bond prices.

Variable Rate Reverse Repo auctions

- The central bank also announced that it will conduct 14-day Variable Rate Reverse Repo (VRRR) auctions of longer maturity.
- Reverse repo operations are conducted by RBI to borrow money from banks. It is used to control liquidity (amount of money) and inflation in the economy. RBI will conduct Variable Rate Reverse Repo (VRRR) auctions to remove excess liquidity from the markets.
- Moreover, as banks will keep surplus funds with RBI at close to the reverse repo rate for longer periods, the incentive to lend at lower rates will reduce. The amount and duration of these auctions will be decided based on the evolving liquidity and financial conditions.

4.5 PRADHAN MANTRI MUDRA YOJANA (PMMY)

Why in News: Pradhan Mantri MUDRA Yojana marks six years of its completion.

Pradhan Mantri MUDRA Yojana (PMMY): It was launched in 2015. It is a flagship scheme of the government to fund the unfunded by bringing such enterprises to the formal financial system and extending affordable credit to them.

Objective

To create an inclusive, sustainable and value based entrepreneurial culture, in collaboration with partner institutions in achieving economic success and financial security.

Working

Under PMMY collateral free loans of up to Rs. 10 Lakh are extended by Member Lending Institutions (MLIs) to the non-corporate, non-farm small/micro enterprises. MLIs include:

- Scheduled Commercial Banks
- Regional Rural Banks (RRBs)
- Small Finance Banks (SFBs)
- Non Banking Financial Companies (NBFCs)
- Micro Finance Institutions (MFIs) etc.

Activities involved

The loans are given for income-generating activities in:

- Manufacturing
- Trading
- Services sectors
- Activities allied to agriculture.

Categories

Mudra loans are offered in three categories to signify the stage of growth, development and funding needs of the beneficiary micro unit / entrepreneur and also provide a reference point for the next phase of graduation / growth to look forward to. These three categories are:

- **Shishu:** Loans up to Rs 50,000
- **Kishore:** Loans above Rs 50,000 and up to Rs 5 lakh
- **Tarun:** Loans above Rs 5 lakh and up to Rs 10 lakh

It would be ensured that at least 60% of the credit flows to Shishu Category Units and the balance to Kishor and Tarun Categories. There is no subsidy for the loans given under PMMY. However, if the loan proposal is linked with some Government scheme, wherein the Government is providing capital subsidy, it will be eligible under PMMY also.

Purpose of MUDRA loan

Mudra loan is extended for a variety of purposes which result in income generation and employment creation. The loans are extended mainly for:

- Business loan for Vendors, Traders, Shopkeepers and other Service Sector activities
- Working capital loan through MUDRA Cards
- Equipment Finance for Micro Units
- Transport Vehicle loans – for commercial use only
- Loans for agri-allied non-farm income generating activities, e.g. pisci culture, bee keeping, poultry farming, etc.
- Tractors, tillers as well as two wheelers used for commercial purposes only

Funding Support:

The funding support from MUDRA is of two types:

- Micro Credit Scheme (MCS) for loans up to 1 lakh finance through MFIs
- Refinance Scheme for Commercial Banks / Regional Rural Banks (RRBs) / Small Finance Banks / Non Banking Financial Companies (NBFCs)

The eligible banks/NBFC can avail of refinance from MUDRA for the loans given by them for eligible MUDRA compliant activities under Shishu, Kishore and Tarun categories.

4.6 UNIVERSAL BANK AND SMALL FINANCE BANKS

Why in News: Eight institutions and individuals have applied for 'on-tap licenses' to set up universal banks and small finance banks**. The Reserve Bank of India (RBI) had set up Shyamala Gopinath Committee to evaluate applications for universal banks and small finance banks.**

Universal Bank

A universal bank is a bank that combines the three main services of banking under one roof:

- **Retail Banking:** Retail banking services members of the public and small and medium-size businesses. It focuses on looking after customers' money as well as offering loans and mortgages.
- **Wholesale Banking:** Wholesale banking involves borrowing and lending money on a large scale. Wholesale banks' customers include pension funds, giant companies, governments, and other financial institutions.

- **Investment Banking:** Investment banks focus on services for major investors and companies. They do not accept deposits.

A typical universal bank also offers other financial services such as insurance. ICICI Bank was the first bank to offer universal banking in India.

Eligibility

- According to the guidelines released by the RBI in 2016, eligible entities seeking universal bank license must have:
- At least 10 years of experience in banking and finance.
- Assets of Rs 5,000 crore or above.
- Foreign shareholding in the bank should not be greater than 74 per cent.

Small Finance Bank

- **In 2013, RBI constituted Nachiket Mor committee recommended differential licensing in the form of Small Finance Banks and Payment Banks.**
- Accordingly, the RBI released guidelines for a new class of banking entity, 'Small Finance Banks', to cater to the diverse needs of the low income group.
- It offers all basic banking services such accepting deposits and lending.

Objective

- To perform lending activities among weaker sections of the community and achieve complete financial inclusion.
- To provide credit to small business units, small and marginal farmers, micro and small industries, and other unorganized sector.

Eligibility

- Minimum 10 years of experience in banking and finance.
- Companies and societies owned and controlled by residents.
- Minimum Paid-up capital: 100 crore.
- It needs to open at least 25% of its banking outlets in unbanked rural centers.
- Must extend 75% of its adjusted net bank credit to the Priority Sector Lending (PSL).
- Required to maintain CRR (Cash Reserve Ratio) and SLR (Statutory Liquidity Ratio) as applicable to existing commercial banks.

'ON-Tap' licensing

- Under 'on-tap' licensing facility, RBI accepts applications and grants license for banks throughout the year.
- The policy allows aspirants to apply for universal bank or SFB license at any time, subject to the fulfillment of the set conditions.

RBI had suggested allowing large corporate and industrial houses to set up banks in India after suitable amendments to the Banking Regulation Act.

In March 2021, RBI had set up a five-member committee headed by former RBI Deputy Governor Shyamala Gopinath for evaluating applications for universal banks as well as small finance banks. The applications for universal banks and small finance banks will be initially screened by the RBI to ensure prima facie eligibility of the applicants.

4.7 CURRENCY MANIPULATOR

Why in News: The United States has recently placed 11 countries in the currency practices monitoring list.

'Currency manipulators' as categorized by the US

Countries can manipulate the currency by artificially weakening its currency by selling it in exchange for a foreign currency, usually the US dollar. However, most countries undertake this exercise to maintain currency volatility, especially in times of high capital flows.

For example, when there are huge dollar investments into India, if RBI does not intervene, rupee will appreciate suddenly impacting financial stability. So RBI buys up some of the dollars to prevent that.

The Trade Facilitation and Trade Enforcement Act of 2015 of the US requires its Treasury Department to report to the Congress in every six months if any country is manipulating its currencies to gain trade advantages over the US.

As part of this, the US Treasury Department undertakes a bi-annual exercise to categorize some economies into 'watch list' and 'currency manipulator' list. The US says that some economies artificially weaken their currency to make their exports cheaper, thereby gaining an unfair trade advantage over another country's exports.

Criteria

There are three criteria the US Treasury looks at in placing a country on the watch list:

- Significant trade surplus with the US

- A large current account surplus
- Persistent, one-sided intervention in foreign exchange markets

The countries that meet two out of the three criteria are placed on the 'watch list'. When a country meets all three specified criteria discussed above, the U.S. labels it as a 'currency manipulator'.

Impact On those put on 'watch list':

- Being on 'watch list' does not involve any trade restrictions. It is more of a warning that they might in the future be put in 'currency manipulator' list that comes with hard impact.
- Those on 'watch list' may be more heavily scrutinized by the US, even if they are not directly accused of being a currency manipulator
- It reduces the confidence of the investors about a country in the global financial markets.
- This can create some market uncertainties about the potential impact on the economy and monetary policy of the country.
- The US can slap tariffs on countries that undervalue its currencies and can also countervail currency subsidies of that country that harm U.S. industries.
- The US could impose sanctions on the country that deemed to be a currency manipulator.

News Update

The report on Macroeconomic and Foreign Exchange Policies of Major Trading Partners of the United States reviews currency practices of the U.S.'s 20 biggest trading partners.

The 11 countries placed in the US currency practice monitoring list are: India, China, Japan, South Korea, Germany, Italy, Ireland, Malaysia, Singapore, Thailand and Mexico. All except Ireland and Mexico were covered in the December 2020 report.

The list was disclosed in the US Treasury's semi-annual currency manipulation report.

India was on the list in the December 2020 report as well. According to the U.S Treasury Department, India has now met two of the three criteria:

- Trade surplus criterion
- Persistent, one-sided intervention criterion

Over the four quarters through December 2020, India intervened in the foreign exchange market in a sustained, asymmetric manner with the effect of weakening its currency.

4.8 CORPORATE SOCIAL RESPONSIBILITY (CSR)

Why in News: The Ministry of Corporate Affairs (MCA) has clarified that spending of Corporate Social Responsibility (CSR) funds for setting up makeshift hospitals and temporary COVID care facilities is an eligible CSR activity.

Corporate Social Responsibility (CSR)

- Corporate social responsibility (CSR) is a concept that helps a company be socially accountable- to itself, its stakeholders, and the public at large.
- By practicing corporate social responsibility, also called corporate citizenship, companies can be conscious of the kind of impact they are having on all aspects of society, including economic, social, and environmental.
- To engage in CSR means that, in the ordinary course of business, a company is operating in ways that enhances society and the environment, instead of contributing negatively to them.

Rationale of CSR

CSR is not just an ethical obligation of businesses to be contributing to the environment and society in which they operate. CSR activities can help forge a stronger bond between employees and corporations; boost morale; and help both employees and employers feel more connected with the world around them.

Concept of CSR in India

- CSR in India has traditionally been seen as a philanthropic activity in India. In keeping with the Indian tradition, it was believed that every company has a moral responsibility to play an active role in discharging the social obligations, subject to the financial health of the company.
- Mahatma Gandhi introduced the concept of trusteeship helping socio-economic growth. CSR here was influenced by family values, traditions, culture and religion.

The Companies Act, 2013

- On 29th August 2013, The Companies Act 2013 replaced the Companies Act of 1956. The new Act has introduced an additional section i.e. Section 135 which is clause on Corporate Social Responsibility obligations for companies listed in India.

- The clause covers the essential prerequisites pertaining to the execution; fund allotment and reporting for successful project implementation.

CSR Committee

- The Act requires companies to setup a CSR committee which shall recommend a Corporate Social Responsibility Policy to the Board of Directors and also monitor the same from time to time.
- On April 1, 2014, India became the first country to legally mandate corporate social responsibility and introduced framework to identify potential CSR activities. This was done by amending Section 135 of India's Companies Act.
- The new rules in Section 135 of India's Companies Act make it mandatory for companies of a certain turnover and profitability to spend two percent of their average net profit for the past three years on CSR.

Applicability of CSR

The CSR provisions within the Act is applicable to companies with an annual turnover of 1,000 crore and more, or a net worth of Rs. 500 crore and more, or a net profit of Rs. 5 crore and more.

Indicative Activities under CSR

The indicative activities, which can be undertaken by a company under CSR, have been specified under Schedule VII of the Act. The activities include:

- Eradicating extreme hunger and poverty
- Promotion of education, gender equality and empowering women
- Combating Human Immune deficiency Virus, Acquired Immune Deficiency Syndrome and other diseases,
- Ensuring environmental sustainability;

Contribution to the Prime Minister's National Relief Fund or any other fund set up by the Central Government or the State Governments for socio-economic development and relief and funds for the welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women etc.

Latest Update

- In 2020, MCA had said that spending of CSR funds for Covid-19 would be treated as an eligible CSR activity and that the corona virus outbreak would be treated as a notified

disaster. Later MCA went a step further to treat the R&D spend on Covid-19 vaccines, drugs and medical devices as an eligible CSR spend.

- In its latest circular, MCA has clarified that spending of CSR funds for setting up makeshift hospitals and temporary Covid care facilities would be treated as an eligible CSR activity.
- This would be permitted as an eligible CSR activity under schedule VII of the companies Act regarding promotion of healthcare, including preventive healthcare and disaster management. Companies may undertake these activities in consultations with the State governments.
- This will be allowed so long as companies comply with the Companies (CSR Policy) rules 2014 and the circulars related to CSR issued by the ministry from time to time.
- This clarification from MCA may come in handy for India Inc as the government had recently allowed corporate India to vaccinate their employees at the companies' premises without them having to go to vaccination Centers.

4.9 SEBI REGULATION ON FUND MANAGER COMPENSATION

Why in News: Securities and Exchange Board of India (SEBI) has issued a circular regulating fund manager compensation. The new rule makes it compulsory for top officials of mutual funds to invest 20 percent of their salaries in their own schemes. This rule will be effective July 1, 2021.

Mutual Funds

- A mutual fund is an investment instrument where many investors pool their money to earn returns on their capital over a period.
- This pool of funds is managed by an investment professional known as a fund manager or portfolio manager.
- It is his/her job to invest the money in different securities such as bonds, stocks, gold and other assets and seek to provide potential returns.
- The gains (or losses) on the investment are shared collectively by the investors in proportion to their contribution to the fund.

Regulation of mutual funds

In India, Mutual Funds are regulated by SEBI. The objectives of SEBI are to protect the interest of investors in securities and to promote the development of and to regulate the securities market. As far as mutual funds are concerned, SEBI formulates policies, regulates and supervises mutual funds to protect the interest of the investors.

Background

Last year, Franklin Templeton had closed six funds. An audit alleged that some employees of the mutual fund sold their holdings in these funds just before the closure of the six schemes. It has also been found, that some funds houses take excessive risks for higher returns.

With the current change, SEBI wants to ensure that the interests of the fund managers are aligned to those of the mutual fund unit holders (investors).

SEBI's new rules on compensation

- A minimum 20% of the compensation of mutual fund managers and other key personnel in a mutual fund house should be in the form of units of the mutual fund schemes they manage. Key personnel, refers to chief executive officer, chief investment officer, research analysts and some others who are directly involved in running each scheme.
- Moreover, the 20% compensation will be proportionate to the assets under management of the schemes in which the key employee of the fund house has a role or oversight. For example, a CEO who has overall oversight will have 20% of her compensation spread across all the schemes.
- On the other hand, a fund manager who manages only one fund will have at least 50% of this type of compensation in the scheme she manages. The other half would be from funds whose risk profile (as defined by SEBI) are the same or higher.

Conditions for holding the units

- These units allotted to key employees must be locked in for three years. The lock-in rule will continue even if the person leaves the fund house.
- If the employee retires at the age of superannuation, then the units can be redeemed (sold). The units cannot be sold if the employee retires before the age of superannuation. Superannuation refers to retirement after reaching a predetermined age (for example 60 years).
- Key employees are however allowed to borrow from the fund house in case of medical emergency or humanitarian grounds against the units held in lock-in.

Benefits of the change

The current change will ensure that fund houses actually link the pay of fund managers to performance. It will boost transparency in fund house compensations and increase accountability. It will give a lot of psychological comfort to investors, as the fund manager will share the risks and rewards associated with the fund.

SCIENCE AND TECHNOLOGY

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Science and Technology- developments and their applications and effects in everyday life**
- **Achievements of Indians in science & technology; indigenization of technology and developing new technology.**
- **Awareness in the fields of IT, Space, Computers, robotics, Nano-technology, bio-technology and issues relating to intellectual property rights.**
- **Prelims**

5.1 Ct Value

Why in News: Recently, the Maharashtra Government requested the Indian Council of Medical Research (ICMR) to clarify whether it is advisable to treat a person as Covid-negative if the Ct value is more than 24 and the person is asymptomatic.

The ICMR has written back saying the proposed revision in the positivity criteria will cause too many infections to be missed and further transmit the disease.

Ct Value

- The cycle threshold (Ct) value emerges in RT-PCR (Reverse Transcription - Polymerase Chain Reaction) tests for the coronavirus, and determines whether a person is positive for Covid-19 or not. It is a measure of how soon after an RT-PCR test, the SARS-CoV-2 is detected in a sample.
- **Ct is short for 'Cycle Threshold'.** The Ct value refers to the number of cycles after which the virus can be detected.
- If a higher number of cycles is required, it implies that the virus went undetected when the number of cycles was lower. The lower the Ct value, the higher the viral load-because the virus has been spotted after fewer cycles.
- It has been found that the time since the onset of symptoms has a stronger relationship with Ct values as compared to the severity of the disease.

Viral Load

- It refers to the amount of genetic material, commonly RNA, of a virus present in an infected person's blood.
- This is expressed as the total number of viral particles present in each milliliter of blood.
- A higher viral load in the blood means that the virus is replicating and the infection is progressing.
- An infected person with a high viral load is more likely to shed more virus particles, in the process known as "viral shedding".

Ct value measured

- In an RT-PCR test, RNA (Ribonucleic acid) is extracted from the swab collected from the patient. It is then converted into DNA (Deoxyribonucleic acid), which is then amplified.

- Amplification takes place through a series of cycles; one copy becomes two, two becomes four, and so on — and it is after multiple cycles that a detectable amount of virus is produced.

How is Ct value determined?

The Ct value refers to the number of cycles after which the virus can be detected. If a higher number of cycles is required, it implies that the virus went undetected when the number of cycles was lower.

The lower the Ct value, the higher the viral load — because the virus has been spotted after fewer cycles, hence:

- LOWER CT VALUE = HIGHER viral load
- HIGHER CT VALUE = LOWER viral load

Globally, the accepted cut-off for Ct value for Covid-19 ranges between 35 and 40. The ICMR has arrived at the Ct value of 35 based on laboratory experiences and inputs taken from several virology labs.

Experts say Ct value does not have any bearing on the severity of the disease. A patient can have a low Ct value, which means her viral load is high enough to be detected rapidly, but she may still be asymptomatic. Ct value indicates the viral load in throat and not in lungs.

5.2 Tianhe

Why in News: Recently, **China launched the main module of its first permanent space station that will host astronauts for long term. The Tianhe, or "Heavenly Harmony," module was launched into space atop a Long March 5B rocket.**

Background of Chinese Space Program

The space program of the People's Republic of China is directed by the China National Space Administration (CNSA). In 2003, China became only the third country, after USSR and USA, to independently send humans into space.

China has allocated significant funding into its space efforts, and in 2019 became the first country to send an un-crewed rover to the far side of the Moon. China's space program has also recently brought back the first new lunar samples in more than 40 years and expects to land a probe and rover on the surface of Mars in 2021.

Tiangong Program

- Tiangong is a space station program of the People's Republic of China.
- To improve researchers' ability to conduct science experiments in space, beyond the duration offered by China's existing space laboratories. So far, China has sent two previous space stations into orbit. The Tiangong-1 and Tiangong-2 were trial stations though, simple modules that allowed only relatively short stays by astronauts.
- Also known as Large Modular space station, it will be placed in Low Earth orbit between 340 and 450 km above the surface.
- The Chinese Space Station will be roughly one-fifth the mass of the International Space Station and about the size of the decommissioned Russian Mir space station.
- The station is designed to operate for at least 10 years.

Significance of China's indigenous space station

- The only current space station in orbit is the ISS (International Space Station) which is a collaboration between Russia, the US, Canada, Europe and Japan.
- China has been blocked from participating in it due to U.S. objections over the Chinese program's secretive nature and close military ties.
- The ISS is due to be retired after 2024, which could potentially leave Tiangong as the only space station in Earth's orbit.

The launch of Tianhe module is the first of 11 missions necessary to complete, supply and crew the space station by the end of 2022. This core module is the section of the station where astronauts will live for up to six months at a time.

International Space Station (ISS)

International Space Station is a modular space station launched in 1998. It is a large laboratory in space that allows astronauts to come aboard and stay for weeks or months to carry out experiments in microgravity.

Objective: To conduct scientific research in astrobiology, astronomy, meteorology, physics, and other fields.

- Altitude: 400 km
- It is the largest artificial object in space.
- It circles the Earth in roughly 93 minutes.

Participating Countries

It is a multinational collaborative project involving five participating space agencies:

- National Aeronautics and Space Administration (USA)
- Roscosmos State Corporation for Space Activities (Russia)
- Japan Aerospace Exploration Agency (Japan)
- European Space Agency (Europe)
- Canadian Space Agency (Canada)

The station is divided into two sections:

- The Russian Orbital Segment (ROS) is operated by Russia,
- The United States Orbital Segment (USOS) is run by the United States as well as many other nations.

The ownership & use of the space station is established by intergovernmental treaties & agreements.

Russia's contribution has been significant in making the ISS a success, with other space agencies relying on advanced Russian modular space station construction technology to build the space station in the initial years.

ROSCOSMOS' Soyuz passenger vehicle served as the only way for transporting astronauts to the ISS ever since the US retired its Space Shuttle Program in 2011. Russia's decision to withdraw from the ISS also comes at a time when its relations with the western countries have gone from bad to worse.

Russia's own space station:

Building a new space station will help Russia to overcome challenges that its astronauts currently face on the ageing ISS, such as conducting experiments and adapting the latest technology to a hardware architecture that is over two decades old.

Russia's new space module is being assembled. The station will reportedly orbit the Earth at higher latitude, enabling it to better observe the polar regions, especially since Russia plans to develop the Arctic sea route as the ice melts.

5.3 OXYGEN CONCENTRATORS

Why in News: The huge rise in Covid cases in the country, has increased the stress on health infrastructure in the country.

This has led to a shortage of liquid medical oxygen (LMO) and oxygen cylinders to support Covid patients. In these times, oxygen concentrators are being used as devices for oxygen therapy, especially among patients in home isolation and for hospitals running out of oxygen.

According to industry experts, the demand of oxygen concentrators has gone up from 40,000 annually to 30,000-40,000 a month.

Oxygen transport

- Manufacturers prepare liquid oxygen with 99.5% purity, which is stored in jumbo tankers, and transported, to distributors in cryogenic tankers at a specified temperature.
- Cryogenic tanks are designed for storage and transport at sub- zero temperatures.
- At distributor level, a process of re-gasification is followed to convert the oxygen into gaseous form and fill it in jumbo cylinders. These cylinders then go to smaller suppliers or directly to hospitals.

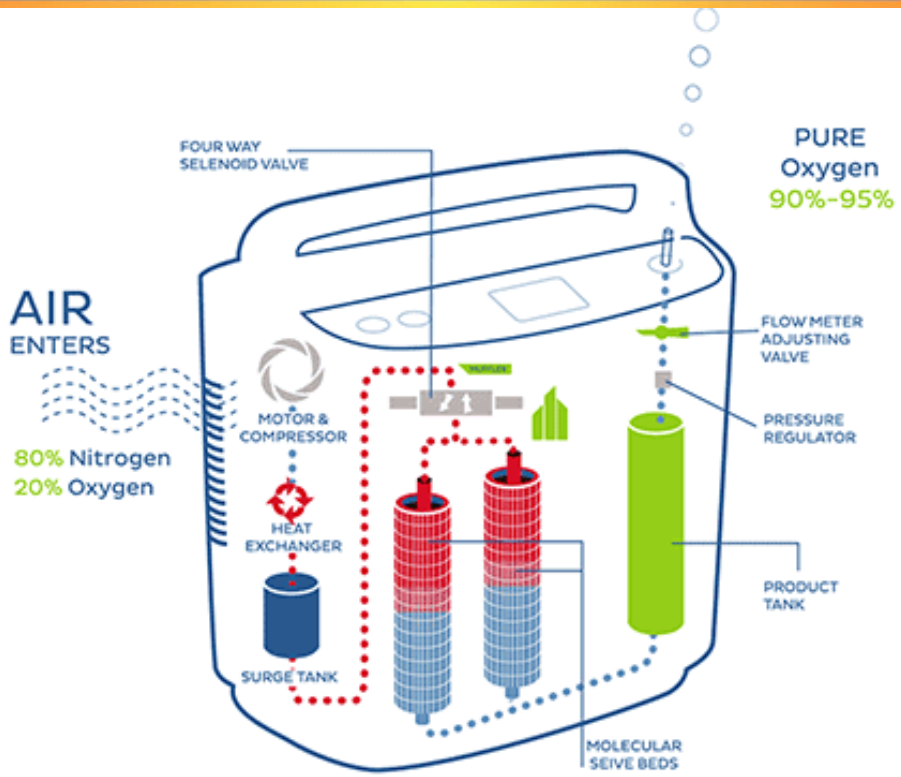
Oxygen Concentrator

- Atmospheric air has about 78 per cent nitrogen and 21 per cent oxygen, with other gases making up the remaining 1 per cent.
- An oxygen concentrator is a medical device that concentrates oxygen from atmospheric air.
- The oxygen concentrator takes in atmospheric air and filters it. After filtering the air, the concentrator releases nitrogen back into the air, and works on the remaining oxygen.
- The filtered oxygen is stored in a cylinder and is delivered to the patient through a mask or cannula.
- A pressure valve in concentrators helps to regulate oxygen supply, ranging from 1-10 liters per minute.
- The machine operates on electricity and requires uninterrupted power supply with power-back ups.

According to a 2015 report by the WHO, concentrators are designed for continuous operation and can produce oxygen 24 hours a day, 7 days a week, for up to 5 years or more.

Cannula

A cannula is a thin tube that is inserted into a person's body cavity, such as the nose, or into a vein. It is used to give medication, provide oxygen or to drain fluids from the body.



Purity of oxygen from concentrators

Oxygen delivered by oxygen concentrators is around 90-95% pure. While it is not as pure as LMO (99%), it is good enough for mild and moderate Covid-19 patients with oxygen saturation levels of 85% or above. It is, however, not advisable for ICU patients.

Benefits of oxygen concentrators

Ideally, oxygen levels in the body should be above 95. However, Covid causes lung fibrosis and affects breathing among patients. In such cases, the patients need oxygen therapy at the earliest, as the oxygen saturation levels may start dropping.

An oxygen concentrator can be a life-saver during cases in which a patient needs mild oxygen support. The device can work as a support system during the recovery stage as well, as smaller doses of oxygen are required. This can help to reduce bed occupancy in hospitals, as the patient can continue treatment at home. These beds can then be used to treat critical patients.

5.4 B.1.617

Why in News: The National Institute of Virology (NIV) has shared data of 361 genome sequenced samples collected from Maharashtra between January and March this year.

- The data showed the presence of a double mutation in 220 samples (around 61%). This double mutant variant has been classified as the "B.1.617" variant.
- The new double mutant virus has been traced in at least 5 states in India, which have also recorded high caseload in the past month, including Maharashtra, Delhi, Punjab.
- The variant has spread globally too, with reports suggesting that cases have also been detected in the USA, UK, Singapore and Australia.

Genome Sequencing

Genome sequencing is a testing process to map the entire genetic code of an organism - in this case, the virus. The genetic code of the virus works like its instruction manual.

Studying genetic changes in the organism is important to understand the origin, transmission and impact of the virus on patients.

Virus Strain

In the current context, the term strain can be used while referring to Sars-Cov-2 – the main virus causing COVID-19. The Sars-Cov-2 is a strain of the larger family of corona-viruses – like Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). These are all different strains belonging to the same virus family.

Other viruses like influenza and rotavirus also produce many different strains. A new virus strain is more concerning, as in biological terms, it is a subtype of a species of microorganisms.

Mutation

- Mutations are a change in the genetic material in (the genome) of a cell or virus and viruses often mutate in small ways while replicating or making copies of itself.
- Mutations in viruses are common and a normal part of the virus life cycle through which a strain develops new variants.
- In the majority of the cases, viral mutations do not have any impact on the way the virus affects individuals. In fact, in many cases, the mutation could actually make a virus less effective.
- However, in certain instances, a mutation could give the virus an advantage. In such cases, the changes result in a virus variant that adapts to its environment in a better way compared to the original virus

Variant of a virus

A variant of a virus means it has slight genetic changes, but the changes are not enough to be classified as a new strain. During this epidemic, three kinds of changes are being keenly watched:

- Those that increase the ability of the virus to spread faster.
- Those that cause more severe disease in the infected person.
- Those that help the virus escape the immune response (antibodies).

The UK, Brazilian and South African variants are such strains.

B.1.617 variant

- The B.1.617 variant of SARS-CoV-2 carries two mutations, E484Q and L452R. Both are separately found in many other coronavirus variants, but they have been reported together for the first time in India.
- The two mutations are found in the virus' spike protein. The spike protein helps the virus attach itself to the human cells and then attack the organs.
- The E484Q mutation, can escape antibodies and L452R mutation is associated with increased infectivity. Thus, it is believed that together, E484Q and L452R can be more infectious, and can escape antibodies.
- Clinical experience suggests that 1.617 variant spreads faster, is more infectious, but is less virulent (harmful) and doesn't cause more hospitalisations.

Link between B.1.617 variant and rising cases

Clinicians and district administrators in Maharashtra are reporting that unlike in the first wave, entire families are getting infected in the second wave. This could indicate either that physical distancing and isolation measures are inadequate in the household, or that the virus has become more transmissible.

However, more genome sequencing data is required to understand which variant is increasing the number of new infections in different states. For an accurate answer at least 1 per cent of Covid-19 samples must be sequenced every week.

With India at present testing over 1 lakh cases daily, this would translate to roughly 1,000 genome sequences every day.

Low rate of genome sequencing in India

Till now, India has conducted very few genome sequences of the different variants in circulation. A low rate of genome sequencing might not be statistically significant to establish conclusions about the changing nature and behaviour of the virus, or in designing appropriate interventions to contain the spread of the epidemic.

Many other countries, including the United States and China, have analysed more than 100,000 gene sequences.

One of the major reasons for the slow pace of genome sequencing in India has been a lack of funds. To increase genome sequencing in India, the government had set up INSACOG in December, 2020.

Impact of B.1.617 variant on vaccination

In the current wave, there are many cases that have been infected even after getting the first dose of the vaccine. It also includes people who are re-infected by the virus. It is known that the South African variant is more capable of escaping antibodies. The more easily a variant can escape antibodies, the tougher it would be for vaccines to prevent infection.

There is limited data for B.1.617 to conclude that it can escape the immune response (escape antibodies). However, the vaccines are not expected to completely prevent infection, but they have been successful to prevent severe disease and death. Thus, vaccinating people in high numbers is still a good preventive tool against the virus.

INSACOG

INSACOG (Indian SARS-CoV2 Consortium on Genomics) is a grouping of 10 national laboratories for carrying out genomic sequencing. The overall aim of INSACOG is to monitor the genomic variations in the SARS-CoV-2 on a regular basis through a multi-laboratory network.

5.4 Moun g-2

Why in News: Newly published results of an international experiment hint at the possibility of new physics governing the laws of nature.

The results of the experiment, which studied a subatomic particle called the muon, do not match the predictions of the Standard Model, on which all particle physics is based.

The results of the current experiment reconfirm a discrepancy that had been detected in 2001, at Brookhaven National Laboratory, New York.

Standard Model of particle physics

- The Standard Model is the name given to a theory of fundamental particles and how they interact. It is a theory that predicts the behaviour of the basic building blocks of the universe.
- The Standard Model has successfully predicted numerous properties and behaviours of various fundamental particles.
- It specifies the rules for six types of quarks, six leptons, the Higgs boson, three fundamental forces, and how the subatomic particles behave under the influence of electromagnetic forces.

Quarks and Leptons

The universe is made of fundamental particles that are indivisible (cannot be divided further). Broadly, particles of matter that scientists know about as of now can be classified into quarks and leptons. Exploration in the field of physics so far has led to the discovery of over 12 such quarks and leptons.

Protons (carry a positive charge) and neutrons (no charge) are types of quarks, whereas electrons (carry a negative charge) are types of leptons.

Muon

The muon is a fundamental particle and is one of the leptons. It is similar to the electron, but 200 times larger, and much more unstable, surviving for a fraction of a second. Like electrons, muons act as if they have a tiny internal magnet. In a strong magnetic field, the direction of the muon's magnet wobbles (shakes) just like the axis of a spinning top.

g-factor

The rate at which the muon wobbles is described by the g-factor (gyro-magnetic factor). The g-factor can be calculated precisely using the Standard Model. However, the experiment conducted in 2001 at Brookhaven National Laboratory gave hints that the muon's behaviour disagreed with the Standard Model.

Muon g-2 experiment

The Muon g-2 experiment is an international collaboration between Fermi lab in US and more than 200 scientists from 35 institutions in seven countries.

The current experiment at Fermi lab measured the g–factor. This value is known to be close to 2, so scientists measure the deviation from 2, which leads to the name of the experiment - g–2.

In the experiment, muons were circulated in a large magnet. Under the current laws of physics, in the Standard Model, the experiment should make the muons wobble at a certain rate. However, the muon g-2 experiment found that muons wobbled at a faster rate than expected.

Significance of the findings

- The wobbling of muons at a faster rate cannot be explained by the Standard Model. In other words, the current laws of physics cannot alone explain the results measured in the experiment.
- Thus, the results from Brook haven, and now Fermi lab hint at the existence of unknown interactions between the muon and the magnetic field. These unknown interactions could involve particles or forces completely new to science. However, this is not concluding evidence of new physics.
- To claim a discovery, scientists require results that diverge from the Standard Model by 5 standard deviations. The combined results from Fermi lab and Brookhaven diverge by 4.2 standard deviations. In statistics, standard deviation is a measure of the amount of variation of a set of values.
- A low standard deviation indicates that the values tend to be close to the mean (also called the expected value) of the set, while a high standard deviation indicates that the values are spread out over a wider range.

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ECOLOGY and ENVIRONMENT

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Conservation, environmental pollution and degradation, environmental impact assessment**
- **Disaster and disaster management.**

❖ **Prelims Oriented Questions**

6.1 SULPHUR EMISSION

Why in News: Ministry of Environment, Forest and Climate Change had initially set a 2017 deadline for thermal power plants to install Flue Gas Desulphurization (FGD) units that cute missions of Sulphur Dioxide. But that was postponed to varying deadlines for different regions, ending in 2022.

The new order from the Ministry says plants near populous regions and New Delhi, in particular, will have to comply by 2022, while utilities in less polluting areas have up to 2025 to comply or retire units.

A task force will be constituted by the Central Pollution Control Board to categorise plants in three categories "on the basis of their location to comply with the emission norms".

Emissions from Coal-fired Power Plants:

- A coal-fired power station or coal power plant is a thermal power station which burns coal to generate electricity.
- Coal-fired power stations generate over a third of the world's electricity.
- Over 53 per cent of energy needs in India are met by coal-fired power plants.
- Thermal power plants are one of the main sources of Sulphur Dioxide (SO2).
- According to a report by Greenpeace (non-governmental organization), India is the largest emitter of SO2 in the world, contributing more than 15% of global anthropogenic emissions.
- SO2 emissions are a significant contributor to air pollution. High concentrations of SO2in the air generally lead to the formation of other Sulphur Oxides (SOx).
- SOx can react with other compounds in the atmosphere to form small particles. These particles contribute to Particulate Matter (PM) pollution.

Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to serious health problems. The vast majority of coal-based power plants in India lack Flue-Gas Desulphurization (FGD) technology to reduce air pollution

Flue Gas Desulphurization Technology

- The Flue Gas Desulphurization (FGD) plant removes Sulphur Dioxide from the flue gas before it is released into the atmosphere and hence reduces the impact on the environment.

- The FGD technology is based on a chemical reaction that occurs when the warm exhaust gases from the coal-fired boiler come into contact with limestone.
- This reaction removes 92% of the SO2 from the flue gas and converts the limestone into Calcium Sulphite.

The FGD technology can be done by wet scrubbing as well as dry scrubbing:

- In wet scrubbing, flue gases are brought in contact with an absorbent, which can be either a liquid or a slurry of solid material. SO2 dissolves in or reacts with the absorbent and becomes trapped in it.
- In dry scrubbing, the absorbent is dry pulverized lime or limestone; once absorption occurs, the solid particles are removed by means of filters.

Significance of FGD Technology for India

To meet India's new emission norms by 2022, a large number of coal-based thermal power plants have to install FGD systems. India has plenty of reserves of limestone to enable thermal power plants to install FGD systems.

The coal-based power sector would require only seven to ten million tones of limestone annually for operating FGD systems. This is less than 3 per cent of India's present limestone consumption.

Also, FGD gypsum, the by-product in the FGD process, can help India meet some of the shortfall in its output of gypsum. Gypsum is a scarce resource in India. The quality of FGD gypsum is at par or even better than mineral gypsum and it has become a substitute for mineral gypsum across the world. China is able to utilise more than 70 per cent of its FGD gypsum, largely in cement and construction.

6.2 NET ZERO EMISSION

Why in News: The US President's Special Envoy on Climate is on a visit to India, ahead of the Climate Leaders' Summit convened by the US President. At the summit, the US is expected to commit itself to a net-zero emission target for 2050.

'Net Zero' emission commitments

Net zero refers to the balance between the amount of greenhouse gases produced and the amount removed from the atmosphere. Also referred to as carbon-neutrality, net zero does not mean that a country would bring down its emissions to zero. Rather, net zero is a state in which

a country's emissions are compensated by absorption and removal of greenhouse gases from the atmosphere.

The IPCC (Intergovernmental Panel on Climate Change) has demonstrated in its report in 2018 that net emissions must be reduced to zero in order to stabilize global temperatures. The report states that any scenario that does not involve a reduction to net zero will not stop climate change.

Absorption of the emissions can be increased by creating more carbon sinks such as forests, while removal of gases from the atmosphere requires futuristic technologies such as carbon capture and storage.

Global Scenario

- A number of countries have already set targets, or committed to do so, for reaching net zero emissions on timescales compatible with the Paris Agreement temperature goals. So far, developed countries like the UK, France, Japan, South Korea, Sweden, Norway and Denmark have enshrined their net zero targets in national law.
- The European Union recently agreed to commit to be climate neutral by 2050 in its European Climate Law.
- China has promised to go net zero by 2060.
- Bhutan in South Asia and Suriname in South America are the only countries that absorb more greenhouse gases than they emit.
- India, the world's third biggest emitter of greenhouse gases, after the US and China, is the only major country which has not committed to net zero target.

India's Objections

India is in a unique situation

Over the next two to three decades, India's emissions are likely to grow at the fastest pace in the world, as it aims for higher growth to pull hundreds of millions of people out of poverty. No amount of afforestation or reforestation would be able to compensate for the increased emissions. Most of the carbon removal technologies right now are either unreliable or very expensive.

Net zero goal is not categorically mentioned in the Paris Agreement

India's argument is that instead of opening up a parallel discussion on net-zero targets outside of the Paris Agreement Framework, countries must focus on delivering on what they have already promised.

India is already doing more on climate than many other countries: Several studies have shown that India is the only G-20 country whose climate actions are compliant to the Paris Agreement goal of keeping global temperatures from rising beyond 2°C.

Failure of developed countries to adhere to their commitments: India has, repeatedly, pointed to the fact that the developed countries have never delivered on their past promises and commitments. For example, no major country achieved the emission-cut targets assigned to them under the Kyoto Protocol.

India has been arguing that the 2050 carbon-neutrality will also go undelivered. India insists that the developed countries should, instead, take more ambitious climate actions now, to compensate for the unfulfilled earlier promises. At the same time, India has not ruled out the possibility of achieving carbon neutrality by 2050 or 2060.

6.3 DOLPHIN BLOOM IN CHILIKA LAKE

Why in News: The population of dolphins in Chilika and along the Odisha coast has doubled this year compared with last year.

News Update

The State Environment Department released the final data on the dolphin census conducted in January and February this year. The census of three species of dolphin's i.e Irrawaddy dolphin, bottle-nose dolphin and humpback dolphin was conducted.

Census indicates a spectacular growth in numbers. This year 544 Irrawaddy, bottle-nose and humpback dolphins were sighted compared to 233 last year.

Irrawaddy Dolphin

They are euryhaline species of oceanic dolphin. They are found in coastal areas in South and Southeast Asia, and in three rivers: the Ayeyarwady (Myanmar), the Mahakam (Indonesian Borneo) and the Mekong.

These dolphins have a bulging forehead, short beak, and 12-19 teeth on each side of both jaws. They weigh around 198-440 pounds. There length is around 9-9 feet. They are primarily threatened by by catch and the accidental capture of aquatic animals in fishing gear.

IUCN conservation status: Endangered

Bottle-nose dolphin

Bottlenose dolphins are marine mammals. They live in tropical and temperate oceans (oceans with mild temperatures) around the world. These beautiful creatures have a short thick beak (as their name suggests) and a curved mouth, giving the appearance that they are always smiling.

They are usually grey in color, and measure around two to four meters in length. **These magnificent mammals also produce high-pitched clicks to help them navigate and find food. This process is called "echolocation".**

As they live so close to the shore, they are threatened by bycatch, coastal development and environmental degradation.

IUCN conservation status: Least Concern

Indian Ocean humpback dolphin

They are social delphinids (oceanic dolphins) that live in groups averaging twelve individuals, although group size can be highly variable.

It ranges between South Africa and India. They are a slow-swimming dolphin, typically travelling at an average speed of 4.8 km/hr.

Entrapment in abandoned fishing nets and vessel strikes, habitat loss from dredging, land reclamation, port and harbour construction, noise pollution and other developmental activities.

IUCN conservation status: Endangered

Chilika Lake

- It is the largest coastal lagoon in India and the second largest brackish water lagoon in the world after The New Caledonian barrier reef.
- It is spread over the Puri, Khurda and Ganjam districts of Odisha state on the east coast of India, at the mouth of the Daya River, flowing into the Bay of Bengal.
- The water spread area of Chilika varies between 1165 to 900 sq.km during the monsoon and summer respectively. A 32 km long, narrow, outer channel connects the main lagoon to the Bay of Bengal, near the village Motto. The mouth connecting the channel to the sea is close to the Northeastern end of the lagoon.

- It is the largest wintering ground for migratory birds on the Indian sub-continent and is home to a number of threatened species of plants and animals.
- It is one of the hotspot of biodiversity in the country, and some rare, vulnerable and endangered species listed in the IUCN Red List of threatened Animals inhabit in the lagoon for atleast part of their life cycle.
- Birds from as far as the Caspian Sea, Lake Baikal, Aral Sea and other remote parts of Russia, Kirghiz steppes of Kazakhstan, Central and southeast Asia, Ladakh and Himalayas come to Chilika lake.
- In 1981, Chilika Lake was designated as the first Indian wetland of international importance under the Ramsar Convention.

6.4 NORMAL MONSOON

Why in News: The India Meteorological Department (IMD) announced that it expects monsoon rainfall to be normal for year 2021. IMD issues Long Range Forecast (LRF) in two seasons. The first stage forecast is issued in April, while the second one in June.

News Update

- IMD mentioned that the monsoon season (June to September) rainfall is likely to be 98 % of the Long Period Average (LPA).
- The LPA is the average rainfall recorded over the country for the period ranging from 1961 to 2010, which is 88 centimeters.
- Rainfall between 96% and 104% of the LPA is considered to be in the “normal range”.

There is a very small probability of Indian Ocean Dipole (IOD) negative condition developing during monsoon. IOD is characterised by warmer sea surface temperature in the equatorial Indian Ocean. Positive IOD conditions are usually associated with normal or above normal monsoon.

IMD has also been making efforts to develop a separate forecast for the Monsoon Core Zone (MCZ). MCZ represents most of the rain-fed agriculture region in the country. A separate forecast for the MCZ will be more useful for agricultural planning and crop yield estimation etc. IMD has predicted that neutral ENSO (El Nino and Southern Oscillation) conditions will prevail during the monsoon.

Category	Rainfall Range (% of LPA)	Forecast Probability (%)	Climatological Probability (%)
Deficient	< 90	**14**	16
Below Normal	90 - 96	**25**	17
Normal	96 -104	**40**	33
Above Normal	104 -110	**16**	16
Excess	> 110	**5**	17

ENSO (El Nino and Southern Oscillation)

ENSO is one of the most important climate phenomena on earth due to its ability to change the global atmospheric circulation, which in turn, influences temperature and precipitation across the globe. Though ENSO is a single climate phenomenon, it has three states, or phases, it can be in:

El Nino

A warming of the ocean surface, or above-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean. It is associated with lower than normal monsoon rainfall in India.

La Nina

A cooling of the ocean surface, or below-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean. It is associated with a comparatively better monsoon rainfall in India.

Indian Meteorological Department (IMD): India Meteorological Department was established in 1875. It is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology and allied subjects.

Concerned Ministry: Ministry of Earth Sciences

6.5 NATIONAL CLIMATE VULNERABILITY ASSESSMENT REPORT

Why in News: The National climate vulnerability assessment report titled 'Climate Vulnerability Assessment for Adaptation Planning in India Using a Common Framework', was recently released by Department of Science and Technology (DST).

National climate vulnerability assessment report

- Based on an all-India assessment, the report identifies the most vulnerable states and districts in India with respect to current climate risk and the main drivers of vulnerability.
- A total of 94 representatives from 24 states and 2 Union Territories (UTs) participated in the nation-wide exercise to come up with the assessment report.
- The report was jointly supported by the DST and the Swiss Agency for Development & Cooperation (SDC). The state-level analysis had been carried out by the research team of IIT Mandi, IIT Guwahati and IISc Bengaluru.

Metrics used for assessment

State and district-level vulnerability indices are prepared, factoring in socio-economic features and livelihood; biophysical aspects and institution and infrastructure.

Socio-economic features and livelihood status include:

- Percentage of population living below the poverty line (BPL)
- Income share from natural resources
- Share of horticulture in agriculture
- Proportion of marginal and small landholdings; and
- Women's participation in the workforce.

Biophysical aspects cover:

- Yield variability of food-grains
- Area under rain-fed agriculture
- Forest area per 1000 rural population; and
- Incidences of vector-borne and water-borne diseases.

Institution and infrastructure measured:

- Area covered under centrally funded crop insurance schemes;

- Implementation of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA);
- Road and rail-network; and
- Density of healthcare workers.

Significance of the report

- Extreme events are on the rise both in terms of their number and severity. Mapping parts of India that are vulnerable to such changes will help initiate climate actions at the ground level.
- The assessment can assist in ranking and identification of the most vulnerable districts and states and help states to prioritise adaptation planning and investments.
- It is critical for developing adaptation projects for the Green Climate Fund, Adaptation Fund, and funds from multilateral and bilateral agencies.
- It will also facilitate India's reporting on Nationally Determined Contributions, under the Paris Agreement and support India's National Action Plan on Climate Change.

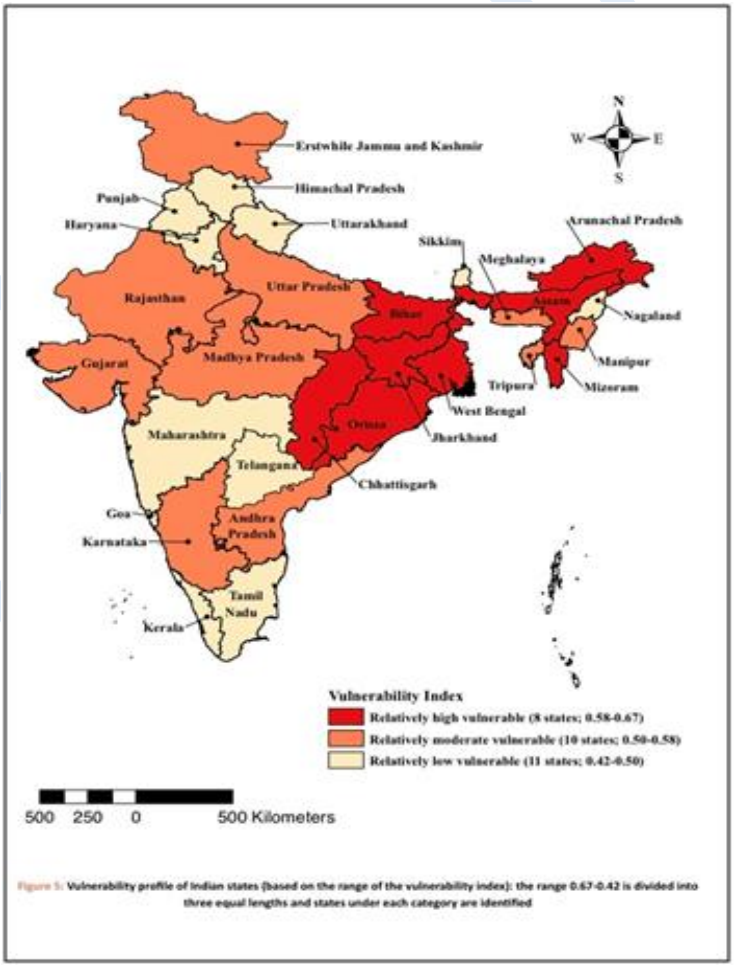


Figure 5: Vulnerability profile of Indian states (based on the range of the vulnerability index): the range 0.67-0.42 is divided into three equal lengths and states under each category are identified

Highlights of the report

- As per the report, all districts or states are vulnerable, but some are relatively more vulnerable than others.
- Jharkhand, Mizoram, Orissa, Chhattisgarh, Assam, Bihar, Arunachal Pradesh and West Bengal, mostly eastern part of India, are highly vulnerable to climate change.
- These states require prioritisation of adaptation interventions to face the impact of climate change such as extreme weather events, stress on water resources, soil degradation and desertification.
- In fact, Assam, Bihar, and Jharkhand have, over 60% districts in the category of highly vulnerable districts with Karimganj in Assam being the most vulnerable.
- Jammu & Kashmir, Uttar Pradesh, Tripura, Gujarat, Meghalaya, Rajasthan, Madhya Pradesh, Manipur, Andhra Pradesh and Karnataka come under the moderately vulnerable
- The low vulnerability category includes Maharashtra, Goa, Nagaland, Kerala, Tamil Nadu, Haryana, Uttarakhand, Punjab Sikkim, Telangana and Himachal Pradesh.
- Maharashtra was classified as the least vulnerable state in the country.

The report should be made easily accessible to all stakeholders so that it can benefit climate-vulnerable communities across India through development of better-designed climate change adaptation projects.

Assessing vulnerability was the first step towards assessing climate risk. There are two other components like Hazard and Exposure that need to be assessed to arrive at overall climate risk. DST would take up these assessments in the next phase along with sectoral vulnerability assessments and assessments at sub-district levels.

Swiss Agency for Development and Cooperation

- The Swiss Agency for Development and Cooperation (SDC) is an office-level agency in the federal administration of Switzerland.
- It is responsible for overall coordination of Swiss international development activities, as well as humanitarian aid.

6.6 STATE OF THE GLOBAL CLIMATE REPORT 2020

Why in News: The World Meteorological Organisation (WMO) recently released the 2020 State of the Global Climate report.

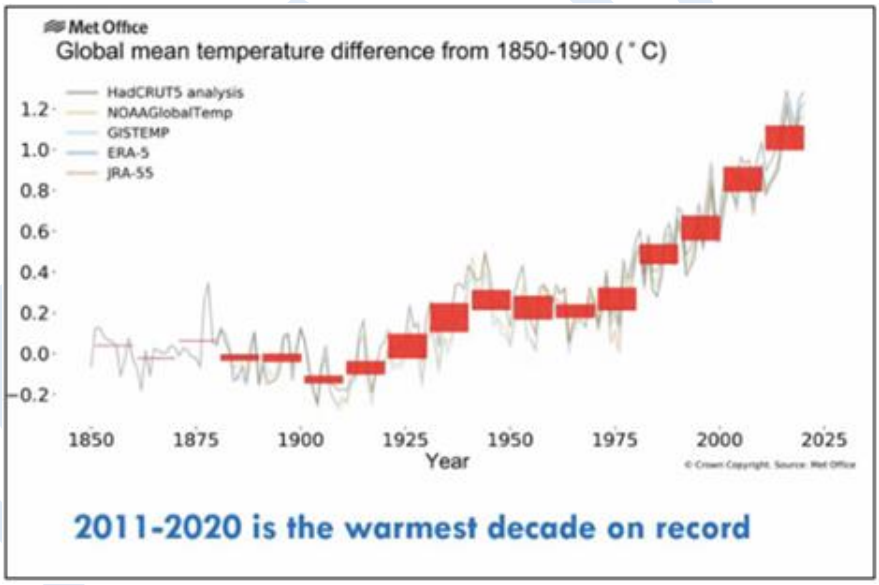
WMO had released a provisional report in December 2020, based on temperature data from January to October, 2020. The current version is an update of the provisional report and is the final version of the 2020 report.

State of the Global Climate report

- The report uses several global climate indicators to describe the changing climate and provides a broad view of the climate at a global scale.
- It also highlights impacts on socio-economic development, migration and displacement, food security and land and marine ecosystems.
- The report is based on contributions of various international organisations.

Key Findings

All key climate indicators in the report highlight continuing climate change, an increasing occurrence and intensification of extreme events, and severe losses and damage, affecting people, societies and economies.



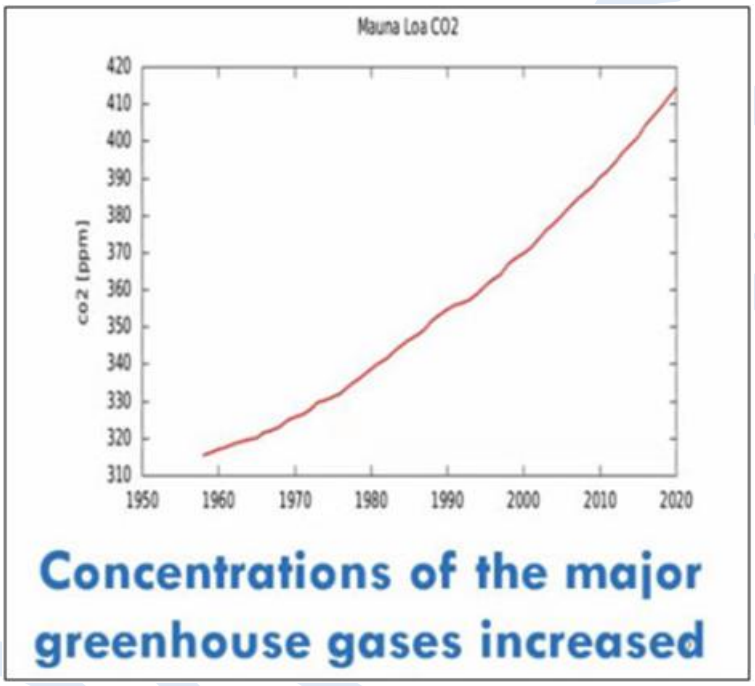
Increase in global temperatures:

2020 was one of the three warmest years on record. The global average temperature in 2020 was about 1.2° Celsius above the pre-industrial (1850-1900) level. That figure is dangerously close to the 1.5° Celsius limit advocated by scientists to prevent the worst impacts of climate change.

The six years since 2015 have been the warmest on record and 2011-2020 was the warmest decade on record.

Increase in Greenhouse Gases

Concentrations of the major greenhouse gases continued to increase in 2019 and 2020. The economic slowdown temporarily reduced new greenhouse gas emissions, but had no significant impact on atmospheric concentrations.



Impact on Oceans

- The ocean absorbs around 23% of the annual emissions of anthropogenic (due to human influence) CO2 and acts as a buffer against climate change.
- However, the CO2 reacts with seawater, lowering its pH and leading to ocean acidification. This in turn reduces its capacity to absorb CO2 from the atmosphere.
- Ocean acidification and de-oxygenation (reduction of oxygen in sea) have continued in 2020, impacting ecosystems, marine life and fisheries.
- The ocean also absorbs more than 90% of the excess heat from human activities. 2019 saw the highest ocean heat content on record, and this trend likely continued in 2020.
- Overall, global mean sea level continued to increase in 2020. Further, more than 80% of the ocean area experienced at least one marine heat wave in 2020.

Sea ice extent

- Sea ice extent serves as a useful indicator of climate change particularly because of the quick change that occurs at the poles and its widespread impact.
- Since the mid-1980s, the Arctic has warmed at least twice as fast as the global average. Record low sea-ice extents were observed in the months of July and October.
- This has potentially large implications not only for Arctic ecosystems, but also for the global climate.

Extreme Weather Events

Heavy rain and extensive flooding occurred over large parts of Africa and Asia in 2020. The Indian subcontinent and neighbouring areas, China, the Republic of Korea and Japan, and parts of South-East Asia also received abnormally high rainfall at various times of the year.

Long-term drought continued to persist in parts of southern Africa. In the USA, the largest fires ever recorded occurred in late summer and autumn. With 30 named storms, the 2020 North Atlantic hurricane season had its largest number of named storms on record.

Cyclone Amphan, which made landfall near the India-Bangladesh border was the costliest tropical cyclone on record for the North Indian Ocean, with reported economic losses in India of approximately US$14 billion.

Impact of extreme events

More than 50 million people were doubly hit in 2020 by climate-related disasters and by the COVID-19 pandemic. This worsened food insecurity and added another layer of risk to recovery and relief operations related to extreme weather events.

Nearly 690 million people, or 9% of the world population, were undernourished, and about 750 million, or nearly 10%, were exposed to severe levels of food insecurity in 2019. In 2020, the pandemic directly affected food supply and demand, with disruptions in the local, national and global supply chains.

Human Displacement

Over the past decade (2010–2019), weather-related events led to an estimated 23.1 million displacements of people on average each year, most of them within national borders. Some 8 million displacements, largely due to climate related hazards and disasters, were recorded during the first half of 2020, mainly concentrated in South and South-East Asia and the Horn of Africa.

Many displacement situations have become prolonged and they may also be subject to repeated and frequent displacement, leaving little time for recovery between one shock and the next.

Way Ahead

The climate is changing, and the impacts are already too costly for people and the planet. It is therefore important to invest in adaptation. One of the most powerful ways to adapt is to invest in early warning services and weather observing networks.

Countries need to commit to net zero emissions by 2050. They need to submit, ambitious national climate plans that will collectively cut global emissions by 45 per cent compared to 2010 levels by 2030. More importantly, climate commitments and plans must be backed with immediate action.

World Meteorological Organization (WMO)

- WMO is a specialized agency of the United Nations (UN) with 193 Member States and Territories. It originated from the International Meteorological Organization (IMO), which was founded in 1873.
- Established in 1950, the WMO became a specialized agency of the United Nations in 1951 and is headquartered in Geneva.
- Its mandate is in the areas of meteorology (weather and climate), operational hydrology and related geophysical sciences.
- It facilitates free and unrestricted exchange of data and information, products and services on matters relating to safety and security of society, economic welfare and the protection of the environment.
- It also contributes to policy formulation in the areas mentioned above at national and international levels, along with supporting the implementation of a number of environmental conventions.

6.7 INDIA-US CLEAN ENERGY AGENDA 2020

Why in News: The Prime Minister of India and the President of US jointly announced the launch of India-US Clean Energy Agenda 2030 Partnership at the Climate Leaders' Summit hosted by the US.

The virtual summit was held by the US to galvanize efforts by the major economies to tackle the climate crisis.

Summary of the Climate Leaders' Summit

- The summit was held on the Earth Day i.e. 22nd April.
- The summit was focused on themes such as clean energy innovation and the importance of oceans and forests.
- At the summit, the US has set a new target of reducing its greenhouse gas (GHG) emissions by between 50% and 52% by 2030, based on 2005 levels.
- The new goal will set the US on the path to net zero emissions by 2050.
- Canada also renewed its goal to reduce its GHG emissions by 45% by 2030, based on 2005 levels.
- Japan has set the target of reducing its GHG emissions by 46% by 2030, based on 2013 levels.
- China committed to "strictly limit increasing coal consumption" in the next five years and phase it down in the following five years.
- India did not announce any changes or upgrades to commitments already made under the Paris Agreement.
- India reiterated its committed to install 450 giga watts of renewable energy capacity by 2030.

India-US Clean Energy Agenda

- The bilateral initiative is intended to "mobilise investments, demonstrate clean technologies and enable green collaborations" in India that could also "create templates of sustainable development" for other developing countries.
- Through this collaboration, India and the US aim to demonstrate how the world can align swift climate action with inclusive and resilient economic development, taking into account national circumstances and sustainable development priorities.
- No details are yet available on the initiative.

News Update: The two-day summit comes at a time when scientists are warning that governments must take decisive action to prevent global temperatures from rising more than 1.5 degrees above preindustrial levels. The consequences of exceeding that threshold includes mass species extinctions, water shortages and extreme weather events that will be most devastating to the poorest countries least responsible for causing global warming.

The new emissions targets will set US on the path achieve 'net zero' emissions by 2050. Net zero, also known as carbon-neutrality, refers to the balance between the amount of greenhouse gases produced and the amount removed from the atmosphere.

SOCIAL ISSUES

❖ **Paper I: The articles in this section are relevant to the following topics:**

- **Salient features of Indian Society, Diversity of India.**
- **Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.**
- **Effects of globalization on Indian society**
- **Social empowerment, communalism, regionalism & secularism.**

7.1 JAL JEEVAN MISSION

Why in News: State of Assam has presented its Jal Jeevan Mission Annual Action Plan for the financial year 2021-22.

Jal Jeevan Mission (JJM)

The Jal Jeevan Mission was announced by the Central Government in August 2019. The main objective of the Mission is to provide piped water supply (Har Ghar Jal) to all rural households by 2024. It is also referred to as Functional Household Tap Connection (FHTC) Mission.

Vision of JJM

- Drinking water supply in adequate quantity and prescribed quality for every rural household.
- The water supply should be regular and long-term at affordable service delivery charges leading to improvement in living standards of rural communities.

Mission of JJM

Jal Jeevan Mission is to assist, empower and facilitate:

- States/ UTs in planning of participatory rural water supply strategy for ensuring potable drinking water security on long-term basis to every rural household and public institution.
- States/ UTs for creation of water supply infrastructure so that every rural household has Functional Tap Connection (FHTC) by 2024.
- States/ UTs to plan for their drinking water security.
- Gram Panchayats/ rural communities to plan, implement, manage, own, operate and maintain their own in-village water supply systems.

Broad Objectives of the JJM

- To provide Functional Household Tap Connection (FHTC) to every rural household by 2024
- To prioritize provision of FHTCs in quality affected areas, villages in drought prone and desert areas, Sansad Adarsh Gram Yojana (SAGY) villages, etc.
- To provide functional tap connection to Schools, Anganwadi centers, GP buildings, Health centers, wellness centers and community buildings

- To monitor functionality of tap connections
- To promote and ensure voluntary ownership among local community by way of contribution in cash, kind and/ or labour and voluntary labour (shramdaan)

Executing Agency of JJM: Department of Drinking Water and Sanitation under the Jal Shakti Ministry is the executing agency of the mission.

Implementing Strategy

- The Mission will focus on both demand and supply side water management at the local level.
- It will also focus on creation of local infrastructure like rainwater harvesting, groundwater recharge and management of household wastewater for reuse in agriculture.
- It will converge with other ongoing Central and State Government Schemes to achieve its objectives.

Funding of the Mission

The total estimated cost of JJM is Rs 3.6 lakh crore over 2019 to 2024. It had expected to get this money through a convergence of financing sources.

Various financing sources for JJM

- Direct budgetary allocations
- Funds from Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA) and the Compensatory Afforestation Fund (CAMPA) to create sustainable water sources.
- Corporate social responsibility, community donations and parliamentarians' funds for local area development to be used for the village-level infrastructure.
- The Finance Commission's grants for panchayats would be used for grey water management and operation and maintenance of the water supply system.

Components under JJM

- Development of in-village piped water supply infrastructure to provide tap water connection to every rural household.
- Development of reliable drinking water sources and/ or augmentation of existing sources to provide long-term sustainability of water supply.
- Wherever necessary, bulk water transfer, treatment plants and distribution network to cater to every rural household.
- Technological interventions for removal of contaminants where water quality is an issue.

- Retrofitting of completed and ongoing schemes to provide FHTCs at minimum service level of 55 lpcd.
- Grey water management.
- Any other unforeseen challenges/ issues emerging due to natural disasters/ calamities which affect the goal of FHTC to every household by 2024.

Annual Action Plan under JJM

Every year, under Jal Jeevan Mission States/ UTs prepare an Annual Action Plan. It includes:

- Number of FHTCs to be provided quarter-wise during the next financial year
- Prioritizing number of FHTCs to be provided through retrofitting for last-mile connectivity, Water Quality affected areas, desert and drought-prone areas
- Annual fund requirement
- Month-wise expenditure plan and FHTCs to be provided to achieve annual target
- Sources of fund apart from Central share
- Support activities plan

Committee for finalising the plan

- Finalization of the Annual Action Plan of States/ UTs under Jal Jeevan Mission is done by a national committee.
- It is chaired by the Secretary, Department of Drinking Water & Sanitation and comprised of members from different Central Ministries/ Departments and NITI Aayog.
- The committee carries out scrutiny of the proposed Annual Action Plan prepared by States/ UTs before finalizing the same.
- Funds are released throughout the year and regular field visits, review meetings are held to ensure implementation of the Annual Action Plan to achieve the goal of Jal Jeevan Mission.

Importance: The plan helps the State to achieve the goal of 'Har Ghar Jal'. It emphasizes on:

- Drinking water source strengthening/ augmentation
- Water supply works to provide household tap connections
- Grey water treatment & reuse, and operation & maintenance
- Various support activities including IEC (Information, Education & Communication) plan
- Training of stakeholders
- Community mobilization
- Water quality surveillance and monitoring
- Strengthening of water testing laboratories and their NABL accreditation
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7.2 PRADHAN MANTRI GARIB KALYAN YOJANA (PMGKAY)

Why in News: The Central government has announced that it will provide free food grains to all the 800 million beneficiaries of the National Food Security Act (NFSA), under Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY).

The announcement came after lockdowns are being announced in various parts of the country. The distribution of food grains will be along the lines of Pradhan MantriGarib Kalyan Anna Yojana (PMGKAY) launched during the first Covid wave last year.

Background

In 2020, during the nationwide lockdown, the Centre had launched PMGKAY in April 2020. Under this, the Centre distributed 5 kg of wheat or rice per person per month to almost 800 million beneficiaries over and above the normal entitlement under NFSA for free. In addition, all the eligible families were also distributed 1 kilogram of pulses per month for free.

News Summary:

Details of PMGKAY in 2021

- Under PMGKAY, five kilogram per person per month food grains (wheat/rice) will be provided for free, to all the 800 million beneficiaries of NFSA, in the months of May and June this year.
- The NFSA beneficiaries belonging to both Antyodaya Anna Yojana and Priority Householders categories will get the allocation, over and above their regular monthly NFSA entitlement. However, unlike the last year, the government will not distribute any free pulses along with wheat or rice, as it does not have adequate stocks.
- The Central government will bear the entire expenditure of over Rs 26,000 crore, on account of cost of food grains, intra-state transportation, etc.

National Food Security Act (NFSA)

The National Food Security Act was notified in 2013 with the objective to provide for food and nutritional security, by ensuring access to adequate quantity of quality food at affordable prices. NFSA provides a legal right to persons belonging to “eligible households” to receive food grains at subsidized price– under the Targeted Public Distribution System (TPDS).

It provides for coverage of up to 75% of the rural population and up to 50% of the urban population. Under the Act, the term “eligible households” comprises two categories — “priority

households", and families covered by the Antyodaya Anna Yojana (AAY). Priority households are entitled to receive 5 kg of food grains per person per month, whereas AAY households are entitled to 35 kg per month at the same price.

7.3 DIPTHERIA

Why in News: Researchers from India, the U.K. and Russia have analysed a large collection of 502 genomes sourced from over 16 countries and collected from over a period of 122 years of the bacteria that causes diphtheria.

The results of this massive and collaborative study hint that there will be an increase in incidence of diphtheria which may be caused by the diversity of the species, emergence of variant toxin genes and progression of antimicrobial resistance.

Diphtheria

- Diphtheria is a serious infection caused by strains of bacteria called Coryne bacterium diphtheria that make toxin (poison).
- Diphtheria particularly affects children aged 1 to 5 years.
- The diphtheria toxin causes inflammation of heart muscle and this can lead to death if not treated with diphtheria antitoxin and proper antibiotics.

Causes and Spread to others

Diphtheria bacteria spread from person to person, usually through respiratory droplets, like from coughing or sneezing. People can also get sick from touching infected open sores or ulcers.

Symptoms

- Diphtheria can infect the respiratory tract (parts of the body involved in breathing) and skin.
- Symptoms of diphtheria depend on the body part that is affected.

Respiratory Diphtheria: When the bacteria get into and attach to the lining of the respiratory system, it can cause:

- Weakness
- Sore throat
- Mild fever
- Swollen glands in the neck

- Within two to three days, the dead tissue forms a thick, gray coating that can build up in the throat or nose. Medical experts call this thick, gray coating a "pseudo membrane".
- It can cover tissues in the nose, tonsils, voice box, and throat, making it very hard to breathe and swallow.

Diphtheria Skin Infection

The bacteria can also infect the skin, causing open sores or ulcers. However, diphtheria skin infections rarely result in any other severe disease.

Treatment

- Diphtheria is fatal in only 5-10% cases.
- Using diphtheria antitoxin to stop the toxin made by the bacteria from damaging the body.
- Using antibiotics to kill and get rid of the bacteria.

Diphtheria prevalence in India

- Periodic outbreaks of the disease have been reported in India. For example, in 2018, Delhi witnessed a diphtheria outbreak when a total of 25 children died within a span of two months.
- India accounted for 50 per cent of the total cases recorded worldwide in 2018.
- DPT (Diphtheria, Pertussis, and Tetanus) is a part of the Universal Immunization Program (UIP) which includes 12 vaccines. UIP aims at giving all children born in India all these 12 vaccines free.

The Union Ministry of Health and Family Welfare has approved the National Policy for Rare Diseases, 2021. Under the new policy, patients of rare diseases will now be treated under the Central Government's Ayushman Bharat Scheme.

7.4 NATIONAL POLICY FOR RARE DISEASE 2021

Why in News: The Union Ministry of Health and Family Welfare has approved the National Policy for Rare Diseases, 2021. Under the new policy, patients of rare diseases will now be treated under the Central Government's Ayushman Bharat Scheme.

Rare Disease

A 'rare disease' is defined as a health condition of low prevalence that affects a small number of people when compared with other prevalent diseases in the general population. While there is

no universally accepted definition of rare diseases, countries typically arrive at their own descriptions on the basis of following parameters:

  - Disease prevalence
  - Disease severity
  - Existence of alternative therapeutic options
- India does not have a definition of rare diseases because there is a lack of epidemiological data on their incidence and prevalence. In the US, for instance, a rare disease is defined as a condition that affects fewer than 200,000 people. The US National Institutes of Health (NIH) has listed 7,000 rare diseases.
- While a majority of rare diseases are believed to be genetic, many — such as some rare cancers and some autoimmune diseases — are not inherited.

Need for a National policy on rare diseases

- The field of rare diseases is complex and heterogeneous as prevention, treatment and management of these diseases has multiple challenges.
- There are 7,000-8,000 classified rare diseases, but less than 5% have therapies available to treat them.
- Early diagnosis is a major challenge owing to a variety of factors that include lack of awareness among primary care physicians, lack of adequate screening and diagnostic facilities etc.
- Relatively little is known about the patho physiology or the natural history of majority of rare diseases, particularly in the Indian context.
- Rare diseases are also difficult to research upon as the patients pool is very small and it often results in inadequate clinical experience.
- Despite progress in recent years, there is a need to augment effective and safe treatment for rare diseases.
- The cost of treatment of rare diseases is prohibitively expensive. For example, treatment for Spinal Muscular Atrophy (SMA) costs approximately Rs. 16 crore.
- Various High Courts and the Supreme Court have also expressed concern about lack of a national policy for rare diseases.

National Policy for Rare Diseases, 2021

A provision for financial support up to Rs. 20 lakhs under the umbrella scheme of Rastriya Arogya Nidhi is proposed for treatment, of those rare diseases that require a one-time treatment.

Objective: To lower the high cost of treatment for rare diseases with increased focus on indigenous research.

Eligibility: Beneficiaries for financial assistance would not be limited to below poverty line (BPL) families, but extended to about 40% of the population, who are eligible under Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).

The policy has categorised rare diseases into three groups:

- Diseases amenable to one-time curative treatment;
- Diseases requiring long term or lifelong treatment;
- Diseases for which definitive treatment is available but challenges are to make optimal patient selection for benefit.

- The policy envisages creation of a national hospital based registry of rare diseases. The Policy focuses on early screening and prevention through primary and secondary health care infrastructure.
- Screening will be supported by Nidan Kendras set up by Department of Biotechnology.
- Policy also aims to strengthen tertiary health care facilities for prevention and treatment of rare diseases. This will be ensured by designating eight health facilities as Centre of Excellence (CoE).
- These CoEs will also be provided one-time financial support of up to Rs. 5 crores for up-gradation of diagnostics facilities.

MISCELLANEOUS

➢ GST COLLECTION

Why in News: Goods and Services Tax (GST) collections during March 2021 reached a high of ₹ 1,23,902 crore. This is the highest monthly GST collection since the introduction of GST. The overall GST collection includes CGST of ₹ 22,973 crore, SGST of ₹ 29,329 crore, IGST of ₹ 62,842 crore and Cess of ₹ 8,757 crore.

Increasing trend of GST collections

- After contracting for six months in a row since March 2020, GST collections started growing from September.
- GST revenues had declined by 41% and 8% in the first and second quarters of fiscal year 2020-21. Reversing the trend, GST revenues grew by 8% and 14% in the third and fourth quarters of 2020-21.
- Monthly GST revenues have crossed ₹ 1 lakh for the sixth time in a row and crossed ₹ 1.1 lakh crore for the fourth time in a row post pandemic.
- In line with the trend of recovery in GST revenue, the GST revenue for the month of March 2021 is27% higher than the revenue in the same month last year.
- Revenue from import of goods in March, 2021 is 70% higher and the revenue from domestic transaction (including import of services) is 17% higher than the revenues from these sources during the same month last year.

Reasons for improved collections

- The continuous increase in GST collections is due to the sustained economic recovery.
- Further, the introduction of new technological systems of e-invoicing and increased investigations to catch tax evaders also contributed to increase in GST collections.
- Under GST laws, e-invoice for B2B (business to business) transactions have been made compulsory for companies with turnover of over Rs 500 crore from October 1 last year.
- The e-invoicing system is connected to a central portal, which receives and validates invoices in real time. By doing so, it helps to reduce tax evasion and leakages.
- Tax evasion is an illegal activity in which a person or an organization avoids paying tax.
- Data exchange between Income tax, Customs, banks and GST [Goods and Services Tax] has improved, and is used to conduct data analytics, using artificial intelligence (AI). Due to this, the department is able to trace all fake transactions from the beginning of GST.

Prevention of excess input tax credit claim

Another important step taken to improve GST collections is to prevent fake claims of input tax credit. To do this, at the time of filing returns the amount of input tax credit a person can claim is clearly shown. This is calculated based on the returns filed by his suppliers. Therefore, any excess input tax credit (ITC) claim becomes very difficult.

BASICS

GST includes a tax imposed by the Centre on the intra-state supply of goods and services called Central GST (CGST). Further it also includes a tax imposed by states/UTs called the State GST (SGST/UTGST) on these goods and services.

CGST and SGST are imposed simultaneously on every purchase of goods and services, except the goods and services that are exempt from it. The consumer pays an overall rate under one of the major tax slabs — 5%, 12%, 18% and 28% — out of which half goes to the Centre and half to the state where consumption of the goods or services takes place.

IGST

Integrated GST (IGST) is the GST levied on inter-state transactions and exports/imports of goods and services. IGST is a combination of SGST and CGST and is imposed and administered by the Centre. The Centre then distributes it between the consuming state and itself.

Compensation Cess

In addition, a compensation cess — ranging from 1-200% — is imposed on sin and luxury goods like cigarettes, pan masala and certain categories of automobiles, over and above the topmost slab of 28%. For example, SUV vehicles (more than 4 meters) are charged 50 per cent GST, of which the GST tax rate is 28 per cent and the compensation cess is 22 per cent. Sin goods are goods considered harmful to the society.

Input tax credit

Input credit means at the time of paying tax on output, a person can reduce the tax he/she has already paid on inputs. For example, for a manufacturer if tax payable on the output (final product) is Rs. 500 and tax paid on input (purchases) is Rs 300, he can claim input tax credit of Rs 300 and has to deposit only Rs. 200 (difference between 500 and 300) as tax.

➢ AGRI EXPORTS

Why in News: Despite the Covid pandemic, export of Agri and allied commodities from India during Apr, 2020 - Feb, 2021 showed an increase of 18.5%.

Trade surplus in Agriculture

- India has consistently maintained trade surplus in the agricultural products over the years.
- Even, during the difficult time of Covid pandemic, India took care not to disturb the world food supply chain and continued to export.
- India's agricultural and allied exports during 2019-20 were Rs. 2.52 lakh Crores and imports were Rs. 1.47 lakh Crores.

Trade during Apr, 2020 - Feb, 2021

- India's agricultural and allied exports during April, 2020 - Feb, 2021 were Rs. 2.74 lakh crore as compared to Rs. 2.31 lakh Crore in the same period last year indicating an increase of 18.49%.
- During April 2020-February 2021, the country imported agri commodities worth Rs 1.41 lakh crore compared to Rs 1.37 lakh crore in the same period last year witnessing an increase of nearly 3%.

Commodities: Positive Growth

The commodities showing significant positive growth in exports are:

- Wheat
- Rice (other than Basmati)
- Soya meal
- Spices
- Sugar
- Raw Cotton
- Fresh Vegetable
- Processed Vegetables
- Alcoholic Beverages

Export of Wheat

- India has witnessed tremendous growth of 727 % for Wheat export. Wheat export has shown a huge growth over last year, increasing from Rs 425 crore to Rs 3,283 crore.

Export of Rice (other than Basmati)

- India has witnessed significant growth of 132% in export of (Non-Basmati) Rice.
- Export of Non-Basmati Rice has gone up from Rs 13,030 crores in 2019-20 to Rs 30,277 crores in 2020-21.

Export of Soya meal

- India also enhanced export of Soya meals by 132%.
- Soya meal has gone up from Rs 3087 crores in 2019-20 to Rs 7224 crores in 2020-21.

Reasons for increase in exports

Capturing new markets

India is capturing new markets namely, Timor-Leste, Papua New Guinea, Brazil, Chile, and Puerto Rico. Exports were also made to Togo, Senegal, Malaysia, Madagascar, Iraq, Bangladesh, Mozambique, Vietnam, Tanzania Rep and Madagascar.

Demand by countries

On specific demand from countries, NAFED has exported 50,000 MT wheat to Afghanistan and 40,000 MT wheat to Lebanon under G2G arrangement.

➢ Earth Day

Earth Day was celebrated on April 22.

Earth Day

- It is an international event celebrated around the world to pledge support for environmental protection. It is to increase the awareness among common public, especially among youngsters, to get full effect of the campaign of environmental safety.
- The United Nations General Assembly designated 22 April as International Mother Earth Day through a resolution adopted in 2009.

Organisation: org is the not for profit organisation that leads Earth Day worldwide.

History: It was first celebrated in 1970. On April 22, 1970, 20 million took to the streets to protest against environmental degradation. The event was triggered by the 1969 Santa Barbara oil spill, as well as other issues such as smog and polluted rivers.

➢ Reaching Zero Forum

Why in News: Harsh Vardhan, Union Minister of Health and Family Welfare recently chaired the "Reaching Zero" forum on malaria elimination to celebrate World Malaria Day. Every year, 25th April is observed as World Malaria Day. This year's theme for the day is "Reaching the Zero Malaria target."

Malaria

Malaria is a life-threatening disease caused by Plasmodium parasites. The parasites are spread to people through the bites of infected female Anopheles mosquitoes, called 'malaria vectors'. There are 5 parasite species that cause malaria in humans, and 2 of these species – Plasmodium falci-parum and Plasmodium vivax – pose the greatest threat.

Malaria transmission

- The intensity of transmission depends on factors related to the parasite, the vector, the human host, and the environment.
- Transmission is more intense in places where the mosquito lifespan is longer (so that the parasite has time to complete its development inside the mosquito) and where it prefers to bite humans rather than other animals.
- The long lifespan and strong human-biting habit of the African vector species is the main reason why approximately 90% of the world's malaria cases are in Africa.
- Transmission also depends on climatic conditions that may affect the number and survival of mosquitoes, such as rainfall patterns, temperature and humidity.
- In many places, transmission is seasonal, with the peak during and just after the rainy season.

Prevention and treatment

- Vector control is the main way to prevent and reduce malaria transmission.
- Two forms of vector control – insecticide-treated mosquito nets and indoor residual spraying – are effective in a wide range of circumstances.
- Early diagnosis and treatment of malaria reduces disease and prevents deaths. It also contributes to reducing malaria transmission.

Incidence of Malaria in India: As per World Malaria Report 2020, India has made considerable progress in reducing its malaria burden. India is the only high endemic country to have reported a decline of 17.6% in cases during 2019 as compared to the previous year.

- India also witnessed the largest absolute decline in WHO's South-East Asia region in 2019, though it still accounted for 88% of malaria cases and 86% of related death in the region. In 2020, as many as 116 districts in India reported zero malaria cases.
- States like Odisha, Chhattisgarh, Jharkhand, Meghalaya and Madhya Pradesh together accounted for nearly 45.47% of total malaria cases in the country in 2019. They were also responsible for 63.64% malaria deaths.
- In India, between 2000 and 2019, malaria cases dropped by over 83% to around 3.38 lakh, whereas deaths declined by 92%.

Malaria control efforts in India

- In 1953, India launched the National Malaria Control Program (NMCP) with a focus on indoor residual spraying. Within five years, the program helped to dramatically reduce the annual incidence of malaria.
- Encouraged by this, a more ambitious National Malaria Eradication Program (NMEP) was launched in 1958. This further reduced the number of malaria cases and eliminated deaths from the disease.
- However, after 1967, resistance to insecticides and the parasite's growing resistance to anti malarial drugs, led to a rise in malaria in India.

National Vector Borne Disease Control Program

In 2003, malaria control was integrated with other vector borne diseases under the National Vector Borne Disease Control Program (NVBDCP). NVBDCP is concerned with prevention and control of vector borne diseases namely Malaria, Filariasis, Kala-azar, Dengue and Japanese Encephalitis (JE).

The Directorate of NVBDCP is the nodal agency for program implementation in respect of prevention and control of these vector borne diseases.

National Framework for Malaria Elimination (NFME)

Later, in 2016, the Indian government intensified malaria elimination efforts with the launch of the National Framework for Malaria Elimination (NFME) 2016-2030. Under NFME, all States/UTs have been grouped into four categories.

Based on their malaria burden, specific objectives have been established for each of these categories and various implementation measures are devised. **NFME is implemented by the Directorate of National Vector Borne Disease Control Program (NVBDCP)** **(NOTE: KINDLY FOLLOW WEEKLY UPDATES TOO ALONG THIS MAGAZINE)**