



# CURRENT AFFAIRS MAY 2021

**Copyright © by Classic IAS Academy**

All rights are reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of Classic IAS Academy.

## Table of Contents

Page   2	1. National Financial Reporting Authority	26. Small Savings Instruments
	2. 100% Tap Water Connection in Rural Areas in Puducherry JJM	27. Model Insurance Villages
	3. MLA-LAD Scheme	28. RBI's Measures to Fight Covid-Second Wave
	4. Post Devolution Revenue Deficit	29. Falling Bond Yield
	5. SVAMITVA Scheme	30. Super Cycle of Commodities
	6. State Disaster Response Fund	31. NITI Aayog's Report for a Digitally Inclusive Bharat
	7. Operation Samudra Setu-II	32. G7 Foreign Ministers' Meet
	8. Vande Bharat Mission	33. Participation of Women & Youth in State Assemblies
	9. World Press Freedom Day 2021	34. Kyrgyzstan-Tajikistan Border Tension
	10. Spread of Covid Infection in Vulnerable Tribal Groups	35. India-UK Virtual Summit
	11. Waiving Intellectual Property Protection for Covid-19 Vaccines	36. Al-Aqsa Mosque & Sheikh Jarrah Israel-Palestine
	12. Media has Right to Report Court Proceeding SC	37. India Receives Taiwan's Assistance
	13. Pradhan Mantri Garib Kalyan Ann Yojana	38. India-EU Leaders' Meeting
	14. Mission for Integrated Development of Horticulture	39. 4th India-Swiss Financial Dialogue
	15. Article 311 of the Constitution	40. Dengue Prevention and Identification
	16. Sovereign Gold Bond Scheme 2021-22 Series	41. Mucormycosis
	17. India's Sovereign Rating	42. Nomenclature & Classification of Corona Variants
	18. Report on Global Remittances World Bank	43. Covid-19 and Neanderthal Genomes
	19. Regulations Review Authority 2.0	44. Positron the Antimatter Counterpart of the Electrons
	20. Report on Social Stock Exchanges	45. SUTRA Model
	21. Export of Organic Millets	46. Recent Findings about Venus
	22. Pradhan Mantri Mudra Yojana	47. NASA's OSIRIS-REx Mission
	23. Purchasing Managers' Index	48. Beema Bamboo
	24. Asian Development Outlook 2021 ADB	49. Xylophis deepaki
	25. Core Sector Output	50. Pulayar Community and Anamalai Tiger Reserve

## Current Affairs May-2021

### 1. National Financial Reporting Authority:

- National Financial Reporting Authority (NFRA) is in the process of creating a verified and accurate database of companies (Public Interest Entities) and auditors that come under the regulatory ambit of it.
- In this regard, the NFRA has been engaging with the Corporate Data Management (CDM) division of the Ministry of Corporate Affairs (MCA) and three recognised stock exchanges in India.

#### Key Points:

- **Constitution:** NFRA was constituted in 2018 by the Government of India under section 132 (1) of the Companies Act, 2013. It is an audit regulator.
- **Background:** The decision to constitute the NFRA was taken after the role of auditors and the Institute of Chartered Accountants of India came under the scanner for alleged lapses in various corporate scams including that at the Punjab National Bank.
- **Composition:** It consists of a chairperson, who shall be a person of eminence and having expertise in accountancy, auditing, finance or law, appointed by the Central Government and such other members not exceeding 15.

#### Functions and Duties:

- Recommends accounting and auditing policies and standards to be adopted by companies for approval by the Central Government.
- Monitor and enforce compliance with accounting standards and auditing standards.
- Oversee the quality of service of the professions associated with ensuring compliance with such standards and suggest measures for improvement in the quality of service.
- Protect the public interest.

#### Powers:

- It can undertake investigation related to the following class of companies and bodies corporate called Public Interest Entities:
- Companies whose securities are listed on any stock exchange in India or outside India.
- Unlisted public companies having paid-up capital of not less than Rs. 500 crores or having annual turnover of not less than Rs. 1,000 crores or having, in aggregate, outstanding loans, debentures and deposits of not less than Rs. 500 crores as on the 31st March of immediately preceding financial year.
- Insurance companies, banking companies, companies engaged in the generation or supply of electricity.
- Where professional or other misconduct is proved, it has the power to make order for imposing penalty of
  - not less than one lakh rupees, but which may extend to five times of the fees received, in case of individuals; and
  - not less than ten lakh rupees, but which may extend to ten times of the fees received, in case of firms.
- Its account is monitored by the Comptroller and Auditor-General of India.
- It is headquartered in New Delhi.

### 2. 100% Tap Water Connection in Rural Areas in Puducherry: JJM:

- The Union Territory of Puducherry has become the fourth State/UT after Goa, Telangana and Andaman & Nicobar Islands to provide assured tap water supply to every rural home under Jal Jeevan Mission (JJM).

- The State of Punjab and the UTs of Dadra & Nagar Haveli and Daman & Diu have also crossed the milestone of covering 75% of rural homes with assured tap water supply.

**Jal Jeevan Mission:**

- JJM envisages supply of 55 litres of water per person per day to every rural household through Functional Household Tap Connections (FHTC) by 2024.
- It is under the Ministry of Jal Shakti.
- JJM focuses on integrated demand and supply-side management of water at the local level.
- Creation of local infrastructure for source sustainability measures as mandatory elements, like rainwater harvesting, groundwater recharge and management of household wastewater for reuse, is undertaken in convergence with other government programmes/schemes.

**It also encompasses:**

- Prioritizing provision of FHTCs in quality affected areas, villages in drought prone and desert areas, Sansad Adarsh Gram Yojana (SAGY) villages, etc.
- Providing functional tap connection to Schools, Anganwadi centres, Gram Panchayat buildings, Health centres, wellness centres and community buildings.
- Technological interventions for removal of contaminants where water quality is an issue.
- The Mission is based on a community approach to water and includes extensive Information, Education and Communication as a key component of the mission.
- JJM looks to create a jan andolan for water, thereby making it everyone's priority.
- The fund sharing pattern between the Centre and states is 90:10 for Himalayan and North-Eastern States,
- 50:50 for other states, and 100% for Union Territories.
- The total allocation to the scheme is over Rs. 3 lakh crore.

**Jal Jeevan Mission (Urban):**

- Launch: In the Budget 2021-22, Jal Jeevan Mission (Urban) was announced under the Housing and Urban Affairs Ministry to provide universal coverage of water supply to all households through functional taps in all statutory towns in accordance with Sustainable Development Goal- 6 (clean water and sanitation).

**Objectives:**

1. Securing tap and sewer connections.
2. Rejuvenation of water bodies.
3. Creating a circular water economy.

**3. MLA-LAD Scheme:**

- Recently, Rajasthan Government has approved a proposal to provide Rs. 3 crore each from the MLA Local Area Development (LAD) Fund to mobilise resources for Covid-19 Vaccination of the people in the age group of 18 to 44 years.
- For meeting the expenses, the fund for each legislator has been increased from Rs. 2.25 crore to Rs. 5 crore a year.

**Key Points:**

- Members of Legislative Assembly Local Area Development (MLA-LAD) Scheme:
- It is the States' version of a central government scheme - Members of Parliament Local Area Development Scheme (MPLAD).
- The objective of this scheme is to create local need based infrastructure, to create assets of public utility and to remove regional imbalances in development.
- This scheme is implemented in rural areas as well as urban areas of a state.
- MLAs do not receive any money under this scheme. The government transfers it directly to the respective local authorities.

- The legislators can only recommend works in their constituencies based on a set of guidelines.
- Amounts per MLA varies across the states. Delhi has the highest allocation under MLALAD; each MLA can recommend works for up to Rs. 10 crore each year.
- The guidelines for use of MLA-LAD funds differ across states.
- For example, Delhi MLAs can recommend the operation of fogging machines (to contain dengue mosquitoes), installation of CCTV cameras etc.
- After the legislators give the list of developmental works, they are executed by the district authorities as per the government's financial, technical and administrative rules.
- **Members of Parliament Local Area Development Scheme (MPLAD):**
  1. It is a Central Sector Scheme.
  2. It was announced in December 1993 and initially came under the control of the Ministry of Rural Development. Later, in October 1994, it was transferred to the Ministry of Statistics and Programme Implementation.
  3. Each year, MPs receive Rs. 5 crore in two instalments of Rs. 2.5 crore each. Funds under MPLAD Scheme are non-lapsable.

#### **Objectives:**

- To enable MPs to recommend works of developmental nature with emphasis on the creation of durable community assets based on the locally felt needs to be taken up in their Constituencies.
- Lok Sabha Members can recommend works within their constituencies and elected Members of Rajya Sabha can recommend works within the State they are elected from.
- Nominated Members of both the Rajya Sabha and Lok Sabha can recommend works anywhere in the country.
- To create durable assets of national priorities viz. drinking water, primary education, public health, sanitation and roads, etc.
- Since June 2016, the MPLAD funds can also be used for implementation of the schemes such as Swachh Bharat Abhiyan, Accessible India Campaign (Sugamya Bharat Abhiyan), conservation of water through rain water harvesting and Sansad Aadarsh Gram Yojana, etc.
- The Union Cabinet has given its nod to the temporary suspension of MPLAD Funds during 2020-21 and 2021-22 in view of the adverse impact of the outbreak of Covid-19 in India.

#### **Criticism:**

- It is inconsistent with the spirit of the Constitution as it co-opts legislators into executive functioning.
- The second criticism stems from allegations of corruption associated with allocation of works.

#### **4. Post Devolution Revenue Deficit:**

- The Ministry of Finance has released the second monthly instalment of Post Devolution Revenue Deficit (PDRD) Grant of Rs. 9,871 crore for the year 2021-22 to 17 States.

#### **About the Post Devolution Revenue Deficit (PDRD):**

- The Centre provides the Post Devolution Revenue Deficit Grant to the States under Article 275 of the Constitution.
- The grants are released as per the recommendations of the Finance Commission in monthly installments to meet the gap in Revenue Accounts of the States post-devolution (of the divisible tax pool of the Centre).
- The 15th Finance Commission has recommended post devolution revenue deficit grants amounting to about Rs. 3 trillion over the five-year period ending FY26.
- The number of states qualifying for the revenue deficit grants decreases from 17 in FY22, the first year of the award period to 6 in FY26, the last year.

- The eligibility of States to receive this grant and the quantum of grant was decided by the Commission based on the gap between assessment of revenue and expenditure of the State.

#### **States Recommended for PDRD Grants:**

- Over the five-year period, Andhra Pradesh, Assam, Haryana, Himachal Pradesh, Karnataka, Kerala, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand and West Bengal are recommended to be provided with the deficit grants. The Ministry of Finance has accepted the recommendation.

#### **Article 275 of the Constitution:**

- It provides for the payment of such sums as Parliament may by law provide as grants-in aid to such States as Parliament may determine to be in need of assistance.
- The grants are paid out of the Consolidated Fund of India in each year, and different sums may be fixed for different States.
- These grants are to be of the nature of capital and recurring sums as may be necessary.
- These aim to enable that State to meet the costs of such schemes of development as may be undertaken by it with the approval of the Government of India for the purpose of promoting the welfare of the Scheduled Tribes in that State or raising the level of administration of the Scheduled Areas there in to that of the administration of the rest of the areas of that State.
- Grants are primarily intended to correct Inter-State disparities in financial resources and to coordinate the maintenance and expansion of the welfare schemes of the State Governments on a uniform national level.

#### **Revenue Account and Capital Account:**

- A revenue account includes all the revenue receipts also known as current receipts of the government. These receipts include tax revenues and other revenues of the government.
- A capital account is an account that includes the capital receipts and the payments. It basically includes assets as well as liabilities of the government. Capital receipts comprise the loans or capital that are raised by governments by different means.

#### **Centre State Financial Relations:**

##### **Constitutional Provisions:**

- Indian Constitution has made elaborate provisions, relating to the distribution of the taxes as well as non-tax revenues and the power of borrowing, supplemented by provisions for grants-in-aid by the Union to the States.
- Article 268 to 293 in Part XII deals with the provisions of financial relations between Centre and States.

**Taxing Powers:** The Constitution divides the taxing powers between the Centre and the states as follows:

1. The Parliament has exclusive power to levy taxes on subjects enumerated in the Union List, the state legislature has exclusive power to levy taxes on subjects enumerated in the State List.
2. Both can levy taxes on the subjects enumerated in Concurrent List whereas residuary power of taxation lies with Parliament only.

##### **Distribution of the Tax Revenue:**

- Duties Levied by the Union but Collected and Appropriated by the States (Article 268): Includes stamp duties on bills of exchange, cheques, etc.
- Taxes Levied as well as Collected by the Union, but Assigned to the States (Article 269): These include taxes on the sale and purchase of goods (other than newspapers) in the course of inter-state trade or commerce or the taxes on the consignment of goods in the course of inter-state trade or commerce.
- Levy and Collection of Goods and Services Tax in Course of Inter-State Trade or Commerce (Article 269-A):



The Goods and Services Tax (GST) on supplies in the course of inter-state trade or commerce are levied and collected by the Centre.

But, this tax is divided between the Centre and the States in the manner provided by Parliament on the recommendations of the GST Council.

- Taxes Levied and Collected by the Union but Distributed between the Union and the States (Article 270):

This category includes all taxes and duties referred to in the Union List except the following:

1. Duties and taxes referred to in Articles 268, 269 and 269-A.
  2. Surcharge on taxes and duties referred to in Article 271 (this goes to the Centre exclusively).
  3. Any cess levied for specific purposes.
- **Grants-in-Aid:** Besides sharing of taxes between the Centre and the States, the Constitution provides for Grants-in-aid to the States from the Central resources. There are two types of grants:  
 Statutory Grants (Article 275): These grants are given by the Parliament out of the Consolidated Fund of India to such States which are in need of assistance. Different States may be granted different sums.  
 Specific grants are also given to promote the welfare of scheduled tribes in a state or to raise the level of administration of the Scheduled areas therein.
  - **Discretionary Grants (Article 282):** It empowers both the Centre and the states to make any grants for any public purpose, even if it is not within their respective legislative competence. Under this provision, the Centre makes grants to the states. These grants are known as discretionary grants, the reason being that the Centre is under no obligation to give these grants and the matter lies within its discretion.
  - **These grants have a two-fold purpose:** to help the state financially to fulfil plan targets; and to give some leverage to the Centre to influence and coordinate state action to effectuate the national plan.

#### 5. SVAMITVA Scheme:

- Recently, the Union Minister of Rural Development & Panchayati Raj has issued guidelines regarding the SVAMITVA scheme. The scheme was launched on the National Panchayati Raj Day (April 24).
- SVAMITVA (Survey of Villages and Mapping with Improved Technology in Village Areas) scheme is a collaborative effort of the Ministry of Panchayati Raj, State Panchayati Raj Departments, State Revenue Departments and Survey of India.
- It aims to provide an integrated property validation solution for rural India.
- It is a scheme for mapping the land parcels in rural inhabited areas using drone technology and Continuously Operating Reference Station (CORS).
- The mapping will be done across the country in a phase-wise manner over a period of four years - from 2020 to 2024.

#### Benefits:

- The scheme will help in streamlining planning and revenue collection in rural areas and ensuring clarity on property rights.
- The scheme will enable creation of better-quality Gram Panchayat Development Plans (GPDPs), using the maps created under this programme.
- The Gram Panchayats are constitutionally mandated for preparation of Gram Panchayat Development Plans (GPDP) for economic development and social justice.

- The GDPD is based on a participatory process in convergence with schemes of all related Central Ministries/Line Departments related to 29 subjects listed in the Eleventh Schedule of the Constitution.
- Present Coverage Area: The program is currently being implemented in six states - Haryana, Karnataka, Madhya Pradesh, Maharashtra, Uttar Pradesh and Uttarakhand.

#### **6. State Disaster Response Fund:**

- Recently, the Centre has released the first instalment of the State Disaster Response Fund (SDRF) to States, in the wake of the second wave of Covid-19 that has claimed thousands of lives since April 2021.
- Normally, the first instalment is released in June as per the recommendations of the Finance Commission.

#### **Key Points:**

- SDRF has been constituted under Section 48 (1) (a) of the Disaster Management Act, 2005.
- It was constituted based on the recommendations of the 13th Finance Commission.
- It is the primary fund available with the State governments for responses to notified disasters to meet expenditure for providing immediate relief.
- It is audited by the Comptroller and Auditor General of India (CAG) every year.

#### **Contribution:**

- The Centre contributes 75% of the SDRF allocation for general category States and Union Territories and 90% for special category States and Union Territories (northeastern States, Sikkim, Uttarakhand, Himachal Pradesh, Jammu and Kashmir).
- The annual Central contribution is released in two equal installments as per the recommendation of the Finance Commission.

#### **Disaster (s) Covered under SDRF:**

- Cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloudburst, pest attack, frost and cold waves.

#### **Local Disasters:**

- A State Government may use up to 10% of the funds available under the SDRF for providing immediate relief to the victims of natural disasters that they consider to be 'disasters' within the local context in the State and which are not included in the notified list of disasters of the Ministry of Home Affairs.

#### **7. Operation Samudra Setu-II:**

- Indian Navy has launched Operation Samudra Setu-II for shipment of Oxygen-filled containers to India.
- Operation Samudra Setu was launched in May 2020 as part of the national effort to repatriate Indian citizens from overseas during the Covid-19 pandemic.

#### **Operation Samudra Setu-II:**

- Seven Indian Naval ships viz. Kolkata, Kochi, Talwar, Tabar, Trikand, Jalashwa and Airavat have been deployed for shipment of liquid medical oxygen-filled cryogenic containers and associated medical equipment from various countries.
- Two ships, the INS Kolkata and INS Talwar, have entered the Port of Manama, Bahrain, to carry back 40 tonnes of liquid oxygen to Mumbai.
- The INS Jalashwa is enroute to Bangkok while the INS Airavat is on its way to Singapore on similar missions.

#### **Operation Samudra Setu:**

- It was launched along with Vande Bharat Mission (VBM).



- VBM is the biggest civilian evacuation exercise to bring back Indian citizens stranded abroad amidst the coronavirus-induced travel restrictions.
- It has surpassed the large-scale airlift of 1,77,000 people in 1990 at the onset of the Gulf War.
- Indian Naval Ships Jalashwa and Airavat, Shardul and Magar participated in this operation.
- Around 4000 Indian citizens stranded in neighbouring countries, amidst Covid-19 outbreak, were successfully repatriated back to India.
- Indian Navy has previously undertaken similar evacuation operations as part of Operation Sukoon in 2006 (Beirut) and Operation Rahat in 2015 (Yemen).

#### **8. Vande Bharat Mission: One of Top Civilian Evacuations:**

- The Vande Bharat Mission (VBM), which started repatriating Indians stranded abroad due to Covid-19 and the resultant lockdowns since May 2020, has become one of the largest evacuations of civilians by a country.

#### **Vande Bharat Mission (VBM):**

- It is the biggest civilian evacuation exercise to bring back Indian citizens stranded abroad amidst the coronavirus-induced travel restrictions.
- It has surpassed the large-scale airlift of 1,77,000 people in 1990 at the onset of the Gulf War.
- The mission is undergoing its 10th phase and has carried 32 lakh passengers approximately both inbound and outbound.
- National carrier Air India, along with its budget carrier Air India Express (AIE) carried out the bulk of air transfers under the mission.
- AIE used its fleet to lift agricultural products, mainly fruits and vegetables (the most sought-after items among the NRI Indians), to West Asian countries, Singapore and Kuala Lumpur.
- Besides, helping distressed rural farmers and the NRIs, the aim of the mission is to keep the supply chain intact.
- While overseas Indians from as many as 93 countries have availed repatriation through the VBM, the government has entered into special travel arrangements called 'air travel bubbles' with 18 different countries so far.
- Transport bubbles or air travel arrangements are temporary arrangements between two countries aimed at restarting commercial passenger services when regular international flights are suspended as a result of the pandemic.
- It allows carriers of both the countries to fly passengers either way without any restrictions.
- Reciprocal in nature, the bilateral pact aims to benefit airlines from both countries with faster repatriations.
- Due to a recent spurt in Covid-19 cases in the country and many countries of late, patronage has come down in the VBM flights.

#### **Other Civilian Rescue Missions:**

#### **Evacuation from the Gulf (1990-91):**

- Until VBM, India's evacuation of civilians from Kuwait during the 1990-91 Gulf war had been the world's largest evacuation exercise of civilians by air.
- Around 1,77,000 Indians were caught in the war which left millions homeless and many dead. Air India, at that time, operated around 500 flights over two months.

#### **Operation Raahat:**

- It was launched by the Indian Armed Forces, to evacuate 4,640 Indian citizens and 960 foreign nationals of 41 countries from Yemen during the 2015 Yemen Crisis.
- The evacuation took place both by sea and the air.

#### **Operation Maitri:**

- The rescue and relief operation was carried out by the government of India and Indian armed forces in the aftermath of the April 2015 Nepal earthquake.
- The Indian Armed Forces evacuated around 5,188 persons, while nearly 785 foreign tourists were provided transit visas.

#### **Operation Safe Homecoming:**

- It was launched by the Indian government on 26th February, 2011 to evacuate its citizens, fleeing from the Libyan Civil War.
- The air-sea operation was conducted by the Indian Navy and Air India. Around 15,000 civilians were rescued in the operation.

#### **Operation Sukoon:**

- It was an operation carried out by the Indian Navy to evacuate Indian, Sri Lankan and Nepalese nationals, from the conflict zone during the 2006 Lebanon War.
- It was one of the largest evacuations conducted by the Indian Navy in which a total of 2,280 people were evacuated.

### **9. World Press Freedom Day 2021:**

- The World Press Freedom Day (WPF) is an annual celebration of press freedom, observed on 3rd May every year.
- The main celebration is organized by the UN Educational, Scientific and Cultural Organization (UNESCO).
- The theme for WPF 2021 is "Information as a Public Good".

#### **Background:**

- The day was proclaimed by the UN General Assembly in 1993, following the recommendation of UNESCO's General Conference in 1991.
- The day also marks the 1991 Windhoek Declaration (adopted by UNESCO).
- It aimed towards the 'development of a free, independent and pluralistic press'.

#### **Three Key Highlights of WPF 2021:**

- Steps to ensure the economic viability of news media.
- Mechanisms for ensuring transparency of Internet companies.
- Enhanced Media and Information Literacy (MIL) capacities that enable people to recognize and value, as well as defend and demand, journalism as a vital part of information as a public good.

#### **World Press Conference 2021:**

- The 2021 Global Conference was hosted by UNESCO and the Government of Namibia.
- It called for urgent attention to the threat of extinction faced by local news media around the world, a crisis worsened by the Covid-19 pandemic.
- It put forward ideas to tackle the challenges of our online media environment, push for more transparency of internet companies, strengthen safety of journalists, and improve their working conditions.

#### **Freedom of Press in India:**

- Freedom of press is not expressly protected by Indian legal system but it is impliedly protected under article 19(1) (a) of the constitution, which states - "All citizens shall have the right to freedom of speech and expression".
- In 1950, the Supreme Court in Romesh Thappar v. State of Madras observed that freedom of the press lay at the foundation of all democratic organisations.
- However, Freedom of press is also not absolute. It faces certain restrictions under Article 19(2), which are as follows-

- Matters related to interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.

#### **Related Rankings/Findings:**

- India has been ranked 142nd out of 180 nations in the World Press Freedom Index, 2021, published by Reporters Sans Frontieres (RSF) or Reporters Without Borders.
- Reports such as 'Freedom in the World 2021 (Freedom House, US)', '2020 Human Rights Report (US State Department)', 'Autocratisation Goes Viral (V-Dem Institute, Sweden)' have all highlighted intimidation of journalists in India.

#### **10. Spread of Covid Infection in Vulnerable Tribal Groups:**

- Many members of eight different Particularly Vulnerable Tribal Groups (PVTGs) got infected in the second wave of Covid-19 in Odisha.
- The infected PVTGs include the Bonda tribe of Malkangiri hills and Dongaria Kondh tribe of Niyamgiri hills.

#### **Tribal Groups in Odisha:**

- According to the 2011 Census, Odisha's share of the country's total tribal population was 9%.
- The Tribals constitute 22.85% of the State's population.
- In terms of numbers of its tribal population, Odisha occupies the third position in India.
- Of the 62 tribal groups residing in Odisha, 13 are recognised as PVTGs.
- The 13 PVTGs in Odisha are: Bonda, Birhor, Chuktia Bhunjia, Didayi, Dungaria Kandha, Hill Kharia, Juang, Kutia Kondh, Lanjia Saora, Lodha, Mankirdia, Paudi Bhuyan and Saora.
- Tribal populations are found in the entire seven districts of Kandhamal, Mayurbhanj, Sundargarh, Nabarangpur, Koraput, Malkangiri and Rayagada, and in parts of 6 other districts.

#### **Particularly Vulnerable Tribal Groups (PVTGs):**

- Creation of Primitive Tribal Groups (PTGs): In 1973, the Dhebar Commission created Primitive Tribal Groups (PTGs) as a separate category, which are less developed among the tribal groups.
- In 2006, the Government of India renamed the PTGs as PVTGs.
- In 1975, the Government of India initiated to identify the most vulnerable tribal groups as a separate category called PVTGs and declared 52 such groups. In 1993 an additional 23 groups were added to the category, making it a total of 75 PVTGs out of 705 Scheduled Tribes.
- Among the 75 listed PVTG's the highest number are found in Odisha.

#### **Characteristics of PVTGs: The Government classifies PVTGs on their:**

1. Relative physical isolation,
2. Stagnant or declining population,
3. Low levels of literacy,
4. Absence of written language,
5. Pre-agricultural stage of economy, such as hunting, food gathering, shifting cultivation and terrace cultivation.

#### **Schemes for PVTGs:**

- PVTGs are more vulnerable among the tribal groups. Due to this factor, more developed and assertive tribal groups take a major chunk of the tribal development funds because of which PVTGs need more funds directed for their development.
- The Ministry of Tribal Affairs has implemented the scheme of "Development of PVTGs" which covers 75 Particularly Vulnerable Tribal Groups (PVTGs) for their comprehensive socio-economic development.
- Under the scheme, State Governments submit Conservation-cum-Development (CCD) plans on the basis of their requirement.

- 100% grants-in-aid are made available to States as per the provisions of the scheme.

### **11. Waiving Intellectual Property Protection for Covid-19 Vaccines:**

- The United States has announced the support for waiving Intellectual Property (IP) protection for Covid-19 vaccines.
- The decision is a breakthrough in India and South Africa's attempts to get World Trade Organisation (WTO) member countries to agree to such a waiver to fight the pandemic equitably.

#### **Key Points:**

- The 1995 agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) requires ratifying countries to adopt a minimum standard of intellectual property rights to protect creators and promote innovation.
- India and South Africa have proposed a waiver from the implementation and application of certain provisions of the TRIPS Agreement (waiving IP rights like patents, copyright, and trademarks) for prevention, containment or treatment of Covid-19.
- If the waiver is granted, WTO member countries will not be under an obligation, for a temporary period, to either grant or enforce patents and other IP-related rights to Covid-19 drugs, vaccines, and other treatments.
- This will immunise the measures adopted by countries to vaccinate their populations from claims of illegality under WTO law.

#### **Need to Waive Patents on Covid Vaccines:**

- **Monopoly of Drug Companies:** At present, only drug companies which own patents are authorised to manufacture Covid vaccines.
- A lifting of patents will allow the formula to be shared with other companies.
- **Vaccine Cost:** Once the formula is shared, any company which possesses the required technology and infrastructure can produce vaccines.
- This will lead to cheaper and more generic versions of Covid vaccines and will be a big step in overcoming vaccine shortage.
- **Inequitable Distribution of Vaccines:** This has opened up a glaring gap between developing and wealthier countries now.
- The countries having surplus doses of vaccines have already vaccinated a considerable percentage of their population and are returning to normalcy.
- Whereas, the poorer nations continue to face shortages, have overburdened healthcare systems and hundreds dying daily.
- **Against the Interests of the World:** The longer Covid circulates in developing nations, there is a greater chance of more vaccine-resistant, deadly mutations of the virus emerging.

#### **Significance for India:**

- **Help in Increasing Production:** The bulk of the vaccine doses produced in India are taken up by foreign countries which could pay more for the doses.
- This move can help scale up production to meet demand besides making the vaccines more affordable for everyone.
- **Preparation for the Third Wave:** Indian authorities have stated that the third wave of the pandemic is inevitable.
- Once the number of cases and deaths plateau, addressing shortages and making more affordable vaccines readily accessible could be the best way to prepare for the surge once again.

#### **Counter Arguments:**

- Vaccine Quality and Safety may get Compromised: Lifting of patents would be a compromise on control of safety and quality standards for vaccine manufacturing.
- Disincentive Pharmaceutical Companies: Lifting of patents would be a huge deterrent to investing heavily on vaccine development during pandemics in the future.
- Can Lead to Confusion: Eliminating those protections would undermine the global response to the pandemic, including ongoing effort to tackle new variants.
- It will create confusion that could potentially undermine public confidence in vaccine safety, and create a barrier to information sharing.
- Waiving IP protections alone isn't enough to make vaccines available around the world. The countries must work with each other to expand manufacturing capabilities and support international vaccines.
- It's important for both Indian manufacturers and the government to address concerns of patent holders to make sure that India's vaccination drive is not compromised in any way.

### 12. Media has Right to Report Court Proceeding: SC:

- Recently, the Supreme Court (SC) dismissed a plea by the Election Commission of India (ECI) to restrain media from reporting oral observations of the judges.
- The SC ruled that the media has rights to report observations made during the course of hearings (Court Proceedings).

#### Freedom of Speech:

- Real-time reportage of court proceedings, including the oral exchanges in courtrooms between judges and lawyers, is part of the right to freedom of speech.
- Under Article 19, Indian Constitution guarantees Freedom of Speech and Expression.
- With the advent of technology, reporting has proliferated through social media forums, which provides real-time updates to a much wider audience. This is an extension of the freedom of speech and expression that the media possesses.
- This constitutes a virtual extension of the open court.
- Except in cases of child sexual abuse and marital issues, the phenomenon of free press should extend to court proceedings.

#### Judicial Integrity:

- Right of the media to report and disseminate issues and events, including court proceedings that were a part of the public domain, augmented the integrity of the judiciary.

#### Functionality of Open Court Proceeding:

- Ensures that the judicial process is subject to public scrutiny which in turn is crucial to maintaining transparency and accountability and transparency in the functioning of democratic institutions is crucial to establish the public's faith in them.
- Ensures that judges act in accordance with law and with probity.
- Court proceedings are vital sources of public information about the activities of the legislature and the executive. An open court serves an educational purpose as well becoming a platform for citizens to know how the practical application of the law impacts upon their rights.

#### Language:

- There is a need for judges to exercise caution in off-the-cuff remarks in open court, which may be susceptible to misinterpretation. Language, both on the Bench and in judgments, must comport with judicial propriety.
- Language is an important instrument of a judicial process which is sensitive to constitutional values.

#### Election Commission of India:

- It 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.
- The body administers elections to the Lok Sabha, Rajya Sabha, and State Legislative Assemblies in India, and the offices of the President and Vice President in the country.
- 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.

#### **Constitutional Provisions:**

- Part XV (Article 324-329) of the Indian Constitution deals with elections, and establishes a commission for these matters.

#### **13. Pradhan Mantri Garib Kalyan Ann Yojana:**

- Recently, thirteen states have started distributing foodgrains under the Pradhan Mantri Garib Kalyan Ann Yojana (PMGKAY).
- The scheme has been rolled out again for two months (May and June 2021) as the country's healthcare infrastructure has reached its capacity and several states have taken steps like complete lockdown, night curfew to contain the spread of the disease.

#### **About:**

- PMGKAY is a part of Pradhan Mantri Garib Kalyan Package (PMGKP) to help the poor fight the battle against Covid-19.
- Its nodal Ministry is the Ministry of Finance.
- It was initially announced for a three month period (April, May and June 2020), covering 80 crore ration cardholders. Later it was extended till November 2020.
- However in April 2021, the government had announced its decision to restart the PMGKAY.
- The scheme aimed at providing each person who is covered under the National Food Security Act 2013 with an additional 5 kg grains (wheat or rice) for free, in addition to the 5 kg of subsidised foodgrain already provided through the Public Distribution System (PDS).
- The new version of the PMGKAY lacks one of its important components which was there in 2020 PMGKAY i.e free-of-cost 1 kg pulses per month to each household covered under the NFSA.

#### **Expenditure:**

- Government of India will bear all expenditure of over Rs. 26,000 crore on account of food subsidy and Central assistance to states/UTs on account of intra-state transportation etc.

#### **Allocation till Now:**

- Out of a total monthly allocation of 39.69 lakh Metric Tonnes (MT) under the PMGKAY, 15.55 lakh MT have been lifted by states.
- lakh MT have been distributed to 2.03 crore beneficiaries till May 2021.

#### **Challenge:**

- A key issue is that the beneficiaries of the National Food Security Act are based on the last census (2011). The number of food-insecure people has increased since then and they remain uncovered.

#### **14. Mission for Integrated Development of Horticulture:**

- The Ministry of Agriculture and Farmers Welfare has provided an enhanced allocation of Rs. 2250 Crore for the year 2021-22 for 'Mission for Integrated Development of Horticulture' (MIDH).



- Horticulture is the branch of plant agriculture dealing with garden crops, generally fruits, vegetables, and ornamental plants. M.H. Marigowda is considered the Father of Indian Horticulture.

#### **Mission for Integrated Development of Horticulture (MIDH):**

- About: MIDH is a Centrally Sponsored Scheme for the holistic growth of the horticulture sector covering fruits, vegetables, root & tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa and bamboo.
- Nodal Ministry: The Ministry of Agriculture and Farmers Welfare is implementing MIDH with effect from 2014-15.
- MIDH is implemented under Green Revolution - Krishonnati Yojana.
- Funding Pattern: Under MIDH, Government of India (GoI) contributes 60% of total outlay for developmental programmes in all the states except states in North East and Himalayas, 40% share is contributed by State Governments.
- In the case of North Eastern States and Himalayan States, GoI contributes 90%.

#### **MIDH Sub-Schemes:**

##### **1. National Horticulture Mission (NHM):**

- It is being implemented by State Horticulture Missions (SHM) in selected districts of 18 States and 6 Union Territories.
- Horticulture Mission for North East & Himalayan States (HMNEH):
- HMNEH is being implemented for overall development of Horticulture in North East and Himalayan states.

##### **2. National Horticulture Board (NHB):**

- NHB is implementing various schemes under MIDH in all States and UTs.
- Coconut Development Board (CDB):
- CDB is implementing various schemes under MIDH in all Coconut growing states in the country.
- Central Institute for Horticulture (CIH)
- CIH was established at Medi Zip Hima, Nagaland in 2006-07 for providing technical backstopping through capacity building and training of farmers and Field functionaries in the North Eastern Region.

#### **Achievements of MIDH:**

- During the year 2019-20, the country recorded its highest ever horticulture production of 320.77 million tonnes.
- MIDH has played a significant role in increasing the area under horticulture crops.
- Area and production during the years 2014-15 to 2019-20 has increased by 9% and 14% respectively.
- It has contributed significantly towards improving the quality of produce and productivity of farmland.
- The initiative of MIDH has not only resulted in India's self-sufficiency in the horticulture sector but also contributed towards achieving sustainable development goals of zero hunger, good health and wellbeing, no poverty, gender equality etc.

#### **Challenges:**

- The Horticulture sector is still facing a lot of challenges in terms of high post-harvest loss and gaps in post-harvest management and supply chain infrastructure.
- There is tremendous scope for enhancing the productivity of Indian horticulture which is imperative to cater to the country's estimated demand of 650 Million MT of fruits and vegetables by the year 2050.

- Some of the new initiatives like focus on planting material production, cluster development programme, credit push through Agri Infra Fund, formation and promotion of FPOs (Farmers Producer Organisations) are the right steps in this direction.

#### **15. Article 311 of the Constitution:**

- Recently, a police officer was dismissed from the service by Mumbai Police Commissioner under Article 311(2)(b) of the Constitution without a departmental enquiry.

#### **Article 311:**

- Article 311 (1) says that no government employee either of an all India service or a state government shall be dismissed or removed by an authority subordinate to the own that appointed him/her.
- Article 311 (2) says that no civil servant shall be dismissed or removed or reduced in rank except after an inquiry in which s/he has been informed of the charges and given a reasonable opportunity of being heard in respect of those charges.
- People Protected under Article 311: The members of
  - Civil service of the Union,
  - All India Service, and
  - Civil service of any State,
- People who hold a civil post under the Union or any State.
- The protective safeguards given under Article 311 are applicable only to civil servants, i.e. public officers. They are not available to defence personnel.

#### **Exceptions to Article 311 (2):**

- 2 (a) - Where a person is dismissed or removed or reduced in rank on the ground of conduct which has led to his conviction on a criminal charge; or
- 2 (b) - Where the authority empowered to dismiss or remove a person or to reduce him in rank is satisfied that for some reason, to be recorded by that authority in writing, it is not reasonably practicable to hold such inquiry; or
- 2 (c) - Where the President or the Governor, as the case may be, is satisfied that in the interest of the security of the State, it is not expedient to hold such inquiry.

#### **Other Recent Case Related to Use of Article 311(2) Subsections:**

- Recently, the Jammu & Kashmir administration set up a Special Task Force (STF) to scrutinise cases of employees suspected of activities requiring action under Article 311(2)(c).
- Three government employees, including two teachers, were fired using the Article.

#### **Options to Dismissed Employee:**

- The government employee dismissed under these provisions can approach either tribunals like the state administrative tribunal or Central Administrative Tribunal (CAT) or the courts.

#### **Other Related Constitutional Provisions:**

- Part XIV of the Constitution of India deals with Services under The Union and The State.
- Article 309 empowers the Parliament and the State legislature to regulate the recruitment, and conditions of service of persons appointed, to public services and posts in connection with the affairs of the Union or of any State respectively.
- According to Article 310, except for the provisions provided by the Constitution, a civil servant of the Union works at the pleasure of the President and a civil servant under a State works at the pleasure of the Governor of that State (English doctrine of Pleasure).
- But this power of the Government is not absolute.
- Article 311 puts certain restrictions on the absolute power of the President or Governor for dismissal, removal or reduction in rank of an officer.

### 16. Sovereign Gold Bond Scheme 2021-22 Series:

- The Government of India, in consultation with the Reserve Bank of India (RBI), has decided to issue Sovereign Gold Bonds in six tranches from May 2021 to September 2021.
- Launch: The Sovereign Gold Bond (SGB) scheme was launched in November 2015 with an objective to reduce the demand for physical gold and shift a part of the domestic savings - used for the purchase of gold - into financial savings.
- Issuance: The Gold Bonds are issued as Government of India Stock under the Government Securities (GS) Act, 2006.
- These are issued by the RBI on behalf of the Government of India.
- Bonds are sold through Commercial banks, Stock Holding Corporation of India Limited (SHCIL), designated post offices and recognised stock exchanges viz., National Stock Exchange of India Limited and Bombay Stock Exchange, either directly or through agents.
- Eligibility: The bonds are restricted for sale to resident individuals, Hindu Undivided Families (HUFs), trusts, universities and charitable institutions.

#### Features:

- Issue Price: Gold bond prices are linked to the price of gold of 999 purity (24 carats) published by India Bullion and Jewellers Association (IBJA), Mumbai.
- Investment Limit: Gold bonds can be purchased in the multiples of one unit, up to certain thresholds for different investors.
- The upper limit for retail (individual) investors and HUFs is 4 kilograms (4,000 units) each per financial year. For trusts and similar entities, an upper limit of 20 kilograms per financial year is applicable.
- Minimum permissible investment is 1 gram of gold.
- Term: The gold bonds come with a maturity period of eight years, with an option to exit the investment after the first five years.
- Interest Rate: A fixed rate of 2.5% per annum is applicable on the scheme, payable semi-annually.
- The interest on Gold Bonds shall be taxable as per the provision of Income Tax Act, 1961.

#### Benefit:

- Bonds can be used as collateral for loans.
- The capital gains tax arising on redemption of SGB to an individual has been exempted.
- Redemption is the act of an issuer repurchasing a bond at or before maturity.
- Capital gain is the profit earned on the sale of an asset like stocks, bonds or real estate. It results in when the selling price of an asset exceeds its purchase price.
- Disadvantages of Investing in SGB:
  - This is a long term investment unlike physical gold which can be sold immediately.
  - Sovereign gold bonds are listed on exchange but the trading volumes are not high, therefore it will be difficult to exit before maturity.

### 17. India's Sovereign Rating:

- According to the S&P Global Ratings, India's sovereign rating will remain unchanged at the current level of BBB- for the next two years despite the potential adverse impact of surging pandemic on its economy.
- S&P is one of the largest credit rating agencies, assigning letter grades to companies and countries and the debt they issue on a scale of AAA to D, indicating their degree of investment risk.

#### Sovereign Credit Rating:

- A sovereign credit rating is an independent assessment of the creditworthiness of a country or sovereign entity.
- It can give investors insights into the level of risk associated with investing in the debt of a particular country, including any political risk.
- In addition to issuing bonds in external debt markets, another common motivation for countries to obtain a sovereign credit rating is to attract foreign direct investment (FDI).
- At the request of the country, a credit rating agency will evaluate its economic and political environment to assign it a rating.
- S&P gives a BBB- or higher rating to countries it considers investment grade, and grades of BB+ or lower are deemed to be speculative or "junk" grade.
- Moody's considers a Baa3 or higher rating to be of investment grade, and a rating of Ba1 and below is speculative.

#### **Sovereign Credit Ratings and India:**

- The Economic Survey 2020-21 has called for sovereign credit ratings methodology to be made more transparent, less subjective and better attuned to reflect an economy's fundamentals.
- Within its sovereign credit ratings cohort – countries rated between A+/A1 and BBB-/Baa3 – India is a clear outlier on several parameters i.e. a sovereign whose rating is significantly lower than mandated by the effect on the sovereign rating of the parameter.
- These include GDP growth rate, inflation, general government debt (as % of GDP), cyclically adjusted primary balance (as % of potential GDP), current account balance (as % of GDP), political stability, rule of law, control of corruption, investor protection, ease of doing business, short-term external debt (as % of reserves), reserve adequacy ratio and sovereign default history.
- The outlier status remains true not only now but also during the last two decades.
- The Survey observes that India's willingness to pay is unquestionably demonstrated through its zero sovereign default history.
- India's ability to pay can be gauged not only by the extremely low foreign currency-denominated debt of the sovereign but also by the comfortable size of its foreign exchange reserves that can pay for the short term debt of the private sector as well as the entire stock of India's sovereign and non-sovereign external debt.

#### **Credit Rating:**

- A credit rating is a quantified assessment of the creditworthiness of a borrower in general terms or with respect to a particular debt or financial obligation.
- A credit rating can be assigned to any entity that seeks to borrow money—an individual, corporation, state or provincial authority, or sovereign government.
- A rating agency is a company that assesses the financial strength of companies and government entities, especially their ability to meet principal and interest payments on their debts.
- Fitch Ratings, Moody's Investors Service and Standard & Poor's (S&P) are the big three international credit rating agencies controlling approximately 95% of global ratings business.
- In India, there are six credit rating agencies registered under Securities and Exchange Board of India (SEBI) namely, CRISIL, ICRA, CARE, SMERA, Fitch India and Brickwork Ratings.

#### **18. Report On Global Remittances: World Bank:**

- According to the latest edition of the World Bank's Migration and Development Brief, despite Covid-19, remittance flows remained resilient in 2020, registering a smaller decline than previously projected.

#### **Remittance Inflow of India:**

- India being at top, received over USD 83 billion in remittances in 2020, a drop of just 0.2 per cent from the previous year, despite a pandemic that devastated the world economy.
- India's remittances fell by just 0.2% in 2020, with much of the decline due to a 17% drop in remittances from the United Arab Emirates, which offset resilient flows from the United States and other host countries.
- In 2019, India had received USD 83.3 billion in remittances.

#### **Global Remittances:**

- China is second in terms of global remittances in 2020.
- China received USD 59.5 billion in remittances in 2020.
- India and China are followed by Mexico, the Philippines, Egypt, Pakistan, France and Bangladesh.

#### **Remittance outflow:**

- Remittance outflow was the maximum from the United States (USD 68 billion), followed by UAE, Saudi Arabia, Switzerland, Germany, and China.
- Reason for the Steady Flow of Remittances:
  - Fiscal stimulus that resulted in better-than-expected economic conditions in host countries.
  - Shift in flows from cash to digital and from informal to formal channels.
  - Cyclical movements in oil prices and currency exchange rates.
- Remittance
  - A remittance is money sent to another party, usually one in another country.
  - The sender is typically an immigrant and the recipient a relative back home.
  - Remittances represent one of the largest sources of income for people in low-income and developing nations. It often exceeds the amount of direct investment and official development assistance.
  - Remittances help families afford food, healthcare, and basic needs.
  - India is the world's biggest recipient of remittances. Remittances bolsters India's foreign exchange reserves and helps fund its current account deficit.

#### **World Bank:**

- The Bretton Woods Conference held in 1944, created the International Bank for Reconstruction and Development (IBRD) along with the International Monetary Fund (IMF).
- The IBRD later became the World Bank.
- The World Bank Group is a unique global partnership of five institutions working for sustainable solutions that reduce poverty and build shared prosperity in developing countries.

#### **Members:**

- It has 189 member countries.
- India is also a member country.
- Major reports:
  - Ease of Doing Business.
  - Human Capital Index.
  - World Development Report.

#### **Its five development institutions:**

- 1 International Bank for Reconstruction and Development (IBRD): provides loans, credits, and grants.
- 2 International Development Association (IDA): provides low- or no-interest loans to low-income countries.
- 3 International Finance Corporation (IFC): provides investment, advice, and asset management to companies and governments.
- 4 Multilateral Guarantee Agency (MIGA): insures lenders and investors against political risk such as war.

- 5 International Centre for the Settlement of Investment Disputes (ICSID): settles investment-disputes between investors and countries.

World Bank's Migration and Development Brief:

- 1 This is prepared by the Migration and Remittances Unit, Development Economics (DEC)- the premier research and data arm of the World Bank.
- 2 The brief aims to provide an update on key developments in the area of migration and remittance flows and related policies over the past six months.
- 3 It also provides medium-term projections of remittance flows to developing countries..
- 4 The brief is produced twice a year.

**19. Regulations Review Authority 2.0:**

- Recently, the Reserve Bank of India (RBI) has constituted an Advisory Group to assist the second Regulations Review Authority (RRA 2.0).
- The RBI has set up the RRA 2.0, initially for a period of one year from 1st May, 2021, with a view to streamline regulations and reduce the compliance burden of regulated entities.

**Key Points:**

- In 1999, the RBI had set up a Regulations Review Authority (RRA) for reviewing the regulations, circulars, reporting systems, based on the feedback from the public, banks, and financial institutions.
- RRA 2.0:
- It will focus on streamlining regulatory instructions, reducing compliance burden of the regulated entities by simplifying procedures and reducing reporting requirements, wherever possible.
- It will also obtain feedback from regulated entities.
- Regulated entities include commercial banks, urban co-operative banks, Non-Banking Financial Companies.

**Reserve Bank of India:**

- RBI was established on 1st April, 1935 in accordance with the provisions of the Reserve Bank of India Act, 1934.
- Though originally privately owned, since nationalization in 1949, the Reserve Bank is fully owned by the Government of India.

**Major Functions:**

- Monetary Authority: Formulates, implements and monitors the monetary policy.
- Recent Initiative: Government Securities Acquisition Programme (G-SAP).
- Regulator and supervisor of the financial system: Prescribes broad parameters of banking operations within which the country's banking and financial system functions.
- Manager of Foreign Exchange: Manages the Foreign Exchange Management Act, 1999.
- Issuer of currency: Issues and exchanges or destroys currency and coins not fit for circulation.
- Developmental role: Performs a wide range of promotional functions to support national objectives.
- Regulator and Supervisor of Payment and Settlement Systems: Introduces and upgrades safe and efficient modes of payment systems in the country to meet the requirements of the public at large.
- Recent Initiatives: Digital Payments Index, Payments Infrastructure Development Fund
- National Payments Corporation of India (NPCI), an umbrella organisation for all retail payments systems in India, was set up with the guidance and support of the RBI and Indian Banks' Association (IBA).

**Related Functions:**



- 1 Banker to the Government: performs merchant banking function for the central and the state governments; also acts as their banker.
- 2 Banker to banks: maintains banking accounts of all scheduled banks.
- 3 The Ways and Means Advances (WMA) are short-term loan facilities which allow the Centre and states to borrow funds from the RBI to bridge their temporary mismatch between expenditure and receipts.

#### **RBI's Publications:**

- 1 Consumer Confidence Survey (CCS - Quarterly)
- 2 Inflation Expectations Survey of Households (IESH - Quarterly)
- 3 Financial Stability Report (Half-Yearly)
- 4 Monetary Policy Report (Half-Yearly)
- 5 Report on Foreign Exchange Reserves (Half-Yearly)

#### **20. Report on Social Stock Exchanges:**

- A technical group on Social Stock Exchanges (SSEs), constituted by the Securities and Exchange Board of India (SEBI), has submitted its report.
- SEBI set up the technical group in September, 2020 under the chairmanship of Harsh Bhanwala, former chairman of NABARD.
- Earlier, a Working Group (WG) on the SSE, chaired by Ishaat Hussain, submitted its report in June 2020.

#### **About Social Stock Exchanges (SSEs):**

- The idea of the Social Stock Exchange (SSE) as a platform for listing social enterprise, voluntary and welfare organisations so that they can raise capital was mooted in the Union Budget 2019-20.
- Social enterprise can be defined as a non-loss; non-dividend paying company created and designed to address a social problem.
- It was proposed to be set up under the market regulator SEBI.
- The aim of the initiative is to help social and voluntary organisations which work for social causes to raise capital as equity or debt or a unit of mutual fund.
- SSE already exists in countries such as Singapore, UK, Canada among others. These countries allow firms operating in sectors such as health, environment and transportation to raise capital.

#### **Recommendations of the Group:**

- Type of the Organisation: Political and religious organisations, trade organisations as well as corporate foundations should not be allowed to raise funds through SSEs.
- Eligibility: For Profit Enterprise (FPE) and Not for Profit Organisation (NPO) will be eligible to tap the SSE if they are able to show their primary goals are social intent and impact.
- Entities listed on SSE will have to disclose their social impact report on an annual basis covering aspects such as "strategic intent and planning, approach, impact score card".
- NPOs are usually structured as non-governmental organisations, Section 8 companies, trusts or societies. FPEs can be private limited companies, partnerships or sole proprietorships.

#### **Different Modes of Fund Raising:**

- For NPOs, fundraising through equity, zero coupon zero principal bond, development impact bonds, social impact fund with 100% grants-in grants out provision, and donations by investors through mutual funds.
- For FPEs, fundraising through equity, debt, development impact bonds, and social venture funds.
- Eligible Activities: Social enterprises can engage in activities in such as:

- Eradicating hunger, poverty, malnutrition and inequality; promoting health care (including mental health) and sanitation; and making available safe drinking water.
- Promoting education, employability and livelihoods.
- Promoting gender equality, empowerment of women and LGBTQIA+ communities.
- Ensuring environmental sustainability, addressing climate change (mitigation and adaptation), forest and wildlife conservation.
- Promoting livelihoods for rural and urban poor, including enhancing income of small and marginal farmers and workers in the non-farm sector.
- Slum area development, affordable housing and other interventions to build sustainable and resilient cities.

#### **Way Forward:**

- As the Covid-19 effects on the world economy show, it is critical for public and private sources of capital to come together and develop ingenious methods to ensure that capital flow to the social sector is unhindered and capital is utilised effectively to generate a lasting impact for the community.
- Institutional support through SSEs ensures that more investors are encouraged to integrate environmental aspects (such as resource conservation, environmentally sustainable working practices), social aspects (including privacy, data protection, employee welfare) and governance aspects (like board diversity, conflicts of interest resolution mechanism, independent oversight of management) into the evaluation of enterprises, moving beyond financial statements.
- To this end, all efforts need to be directed to make sure that an enabling regulatory environment is created for the planned SSE with a minimal compliance burden imposed on the enterprises, social entrepreneurs and investors.

#### **21. Export of Organic Millets:**

- In a major boost to exports of organic products from the country, the first consignment of millets grown in the Himalayas would be exported to Denmark.
- APEDA (Agricultural and Processed Food Products Export Development Authority) has sourced ragi (finger millet), and jhingora (barnyard millet) from farmers in Uttarakhand for exports.
- At present, organic products are exported provided they are produced, processed, packed and labelled as per the requirements of the National Programme for Organic Production (NPOP).

#### **National Programme for Organic Production (NPOP):**

- The NPOP has been implemented by APEDA since its inception in 2001 as notified under the Foreign Trade (Development and Regulations) Act, 1992.
- NPOP covers standards for crops and their products, live stocks and poultry products, aquaculture, apiculture etc. The exports from the country are as per the provisions in NPOP.
- The NPOP certification has been recognized by the European Union and Switzerland which enables India to export unprocessed plant products to these countries without the requirement of additional certification.
- It also facilitates export of Indian organic products to the United Kingdom even in the post Brexit phase.
- NPOP has also been recognized by the Food Safety Standard Authority of India (FSSAI) for trade of organic products in the domestic market.
- Organic products covered under the bilateral agreement with NPOP need not to be recertified for import in India.

#### **Organic Farming:**

- According to FSSAI, 'organic farming' is a system of farm design and management to create an ecosystem of agriculture production without the use of synthetic external inputs such as chemical fertilisers, pesticides and synthetic hormones or genetically modified organisms.
- Related Initiatives:
  - Mission Organic Value Chain Development for North East Region (MOVCDNER).
  - Paramparagat Krishi Vikas Yojana (PKVY), etc.
  - The Indian state of Sikkim achieved the feat of being the world's first organic state and was awarded the UN Future Policy Gold Award 2018, also known as the Oscar for best policies.

#### **Status of India's Export of Organic Food:**

- India's export of organic food products rose by more than 51% to Rs. 7078 crore during April-February (2020-21) compared to the same period in the previous fiscal (2019-20). In terms of quantity, the exports of organic food products grew by 39%.
- Oil cake meal is a major commodity of the organic product exports from the country followed by oil seeds, fruit pulps and purees, cereals & millets, spices, tea, medicinal plant products, dry fruits, sugar, pulses, coffee, essential oil etc.
- India's organic products have been exported to 58 countries including USA, European Union, Canada, Great Britain, Australia, Switzerland, Israel and South Korea.
- Agricultural and Processed Food Products Export Development Authority
- APEDA was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act, 1985.
- It functions under the Ministry of Commerce and Industry. The Authority has its headquarters in New Delhi.
- It has been mandated with the responsibility of export promotion and development of the scheduled products viz. fruits, vegetables, meat products, dairy products, alcoholic and non-alcoholic beverages etc.
- It has also been entrusted with the responsibility to monitor import of sugar.

#### **22. Pradhan Mantri Mudra Yojana:**

- More than 28.68 crore loans for an amount of Rs. 14.96 lakh crore have been sanctioned by banks, NBFCs and MFIs since the launch of Pradhan Mantri Mudra Yojana (PMMY).

#### **About Pradhan Mantri Mudra Yojana (PMMY):**

- It was launched by the government in 2015 for providing loans up to Rs. 10 lakh to the non-corporate, non-farm small/micro-enterprises.
- MUDRA or Micro Units Development & Refinance Agency Ltd., is a financial institution set up by the Government
- It provides funding to the non-corporate small business sector through various last-mile financial institutions like Banks, Non-Banking Financial Companies (NBFCs) and Micro Finance Institutions (MFIs).
- MUDRA does not lend directly to micro-entrepreneurs/individuals.

#### **Three Products:**

- MUDRA has created three products i.e. 'Shishu', 'Kishore' and 'Tarun' as per the stage of growth and funding needs of the beneficiary micro unit.
1. Shishu: Covering loans up to Rs. 50,000.
  2. Kishore: Covering loans above Rs. 50,000 and up to Rs. 5 lakh.
  3. Tarun: Covering loans above Rs. 5 lakh and up to Rs. 10 lakh.
- Loans under this scheme are collateral-free loans.

#### **Achievements:**

- Loans have been given to disadvantaged sections of society such as women entrepreneurs, SC/ST/OBC borrowers, Minority community borrowers, etc. The focus has also been on new entrepreneurs.
- As per a survey conducted by Ministry of Labour and Employment, PMMY helped in generation of 1.12 crore net additional employment from 2015 to 2018.
- Out of the 1.12 crore of estimated increase in employment, women accounted for 69 lakh (62%).

### 23. Purchasing Managers' Index:

- The manufacturing Purchasing Manager's Index (PMI) was recorded at a 2-year low in October 2019. The score has decreased from 51.4 in September 2019 to 50.6 in October 2019.
- PMI is an indicator of business activity- in the manufacturing and services sectors.

#### Calculation of PMI:

- It is a survey-based measure that asks the respondents about changes in their perception about key business variables as compared with the previous month.
- It is calculated separately for the **manufacturing** and **services** sectors and then a composite index is constructed.
- The latest composite PMI decreased to 49.8 in September 2019 from 52.6 in August 2019.
- The PMI is a number from 0 to 100.
- PMI above 50 represents an expansion when compared to the previous month;
- PMI under 50 represents a contraction, and
- A reading at 50 indicates no change.
- If PMI of the previous month is higher than the PMI of the current month (as is the case mentioned above), it represents that the economy is contracting.
- The PMI is usually released at the start of **every month**. It is, therefore, considered a good leading indicator of economic activity.
- Purpose: To provide information about current and future business conditions to company decision-makers, analysts, and investors. As the official data on industrial output, manufacturing and GDP growth comes much later, PMI helps to make informed decisions at an earlier stage.

### 24. Asian Development Outlook 2021: ADB:

- According to the report Asian Development Outlook (ADO) 2021, the second wave of Covid-19 can put India's economic recovery at "risk".
- ADO is a series of annual economic reports on the Developing Member Countries (DMCs) of the Asian Development Bank (ADB).

#### GDP Projections:

##### For India

- Gross Domestic Product (GDP) will rebound strongly by 11% in Fiscal Year (FY) 2021-22 due to continued economic recovery boosted by increased public investment, vaccine rollout, and a surge in domestic demand.
- India's economic growth to moderate to 7% in FY 2022-23.
- The economy is expected to have contracted by 8% in FY 2020-21 in line with the government's second advance estimate.

##### For Developing Asia:

- The economic growth is set to rebound to 7.3% in 2021-22. This follows a 0.2% contraction last year.
- Developing Asia comprises 46 members of ADB list on the basis of geographic group.

- These include new industrialized economies, countries in Central Asia, East Asia, South Asia, Southeast Asia and the Pacific.
- India is also part of Developing Asia.

#### **Challenges:**

- Pandemic remains the biggest risk for the region (Developing Asia) as potential delays in vaccine rollouts or significant new outbreaks could undermine growth.
- Increasing geopolitical tensions, production bottlenecks, financial turmoil from tightening financial conditions, and long-term scarring like learning losses due to school closures are among other risk factors.
- Costs of Pandemic-induced School Closures:
  - Countries are using distance learning, but this is only partially effective as many students lack access to computers and the internet.
  - These disruptions will affect the skills students acquire and, eventually, their productivity and earnings as future workers.
  - Learning losses range from 8% of a year of learning in the Pacific, where schools have mostly stayed open, to 55% in South Asia, where school closures have been longest.
  - The present value of students' future earning reductions is estimated at USD 1.25 trillion for developing Asia, equivalent to 5.4% of the region's GDP in 2020.

#### **Analysis for India:**

- Increased government expenditure on health care, water, and sanitation will strengthen the country's resilience against future pandemics.
- Private investment is expected to pick up on improving sentiment and risk appetite, as well as accommodative credit conditions (i.e. making money less expensive to borrow and encouraging more spending).
- Domestic demand is expected to remain the main driver of growth.
- A faster vaccine rollout will boost urban demand for services, while the rural demand will be boosted by robust agriculture growth and continued government support to farmers by expanding irrigation, improving value chains, and increasing farm loan limits.
- The government's push to the manufacturing sector through the production-linked incentive scheme will expand domestic production and help integrate domestic manufacturing with global supply chains.

#### **Gross Domestic Product:**

- GDP is a measure of economic activity in a country. It is the total value of a country's annual output of goods and services. It gives the economic output from the consumers' side.
- $GDP = \text{Private consumption} + \text{Gross investment} + \text{Government investment} + \text{Government spending} + (\text{exports} - \text{imports})$

#### **Asian Development Bank:**

- ADB is a regional development bank established in 1966.
- It has 68 members. India is a founding member.
- 49 are from within Asia and the Pacific and 19 outside.
- It aims to promote social and economic development in Asia and the Pacific.
- As of 31st December 2019, ADB's five largest shareholders are Japan and the United States (each with 15.6% of total shares), the People's Republic of China (6.4%), India (6.3%), and Australia (5.8%).
- It is headquartered in Manila, Philippines.

#### **25. Core Sector Output:**

- The **eight core** sectors grew by 6.8% in March 2021 (the highest in 32 months), after a 3.8% dip in February, but the spike was largely due to the base effects from March 2020.
- During 2020-21 (April-March), output of the eight sectors contracted by 7% as against a positive growth of 0.4% in 2019-20.

#### **About Eight Core Sectors:**

- These comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP).
- The eight core sector industries in decreasing order of their weightage: **Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.**

#### **Base Effect:**

- The base effect refers to the effect that the choice of a basis of comparison or reference can have on the result of the comparison between data points.
- For example, the base effect can lead to an apparent under- or overstatement of figures such as inflation rates or economic growth rates if the point chosen for comparison has an unusually high or low value relative to the current period or the overall data.
- Production of natural gas, steel, cement and electricity jumped 12.3%, 23%, 32.5% and 21.6% in March 2021, as against (-) 15.1%, (-) 21.9%, (-) 25.1% and (-) 8.2% in March 2020, respectively (low base effect).

#### **Index of Industrial Production:**

- IIP is an indicator that measures the changes in the volume of production of industrial products during a given period.
- It is compiled and published monthly by the National Statistical Office (NSO), Ministry of Statistics and Programme Implementation.
- It is a composite indicator that measures the growth rate of industry groups classified under:
  - Broad sectors, namely, Mining, Manufacturing, and Electricity.
  - Use-based sectors, namely Basic Goods, Capital Goods, and Intermediate Goods.
- Base Year for IIP is 2011-2012.

#### **Significance of IIP:**

- It is used by government agencies including the Ministry of Finance, the Reserve Bank of India, etc, for policy-making purposes.
- IIP remains extremely relevant for the calculation of the quarterly and advance GDP (Gross Domestic Product) estimates.

#### **26. Small Savings Instruments:**

- Recently, the central government withdrew its orders of reducing the rates on all small savings instruments/schemes.

#### **Key Points:**

- Small savings instruments help individuals achieve their financial goals over a particular period.
- They are the major source of household savings in India.
- The small savings instrument basket comprises 12 instruments.
- Collections from all small savings instruments are credited to the National Small Savings Fund (NSSF).
- Classification: Small savings instruments can be classified under three heads:
  - Postal Deposits: (comprising savings account, recurring deposits, time deposits of varying maturities and monthly income scheme).
  - Savings Certificates: National Small Savings Certificate (NSC) and Kisan Vikas Patra (KVP).
  - Social Security Schemes: Sukanya Samridhi Scheme, Public Provident Fund (PPF) and Senior Citizens' Savings Scheme (SCSS).



**Rates of Small Saving Instruments:**

- The rates for small saving instruments are announced quarterly.
- Theoretically, the rate changes is based on yields of government securities of corresponding maturity. However, political factors also influence the rate change.
- The Shyamala Gopinath panel (2010) constituted on the Small Saving Scheme had suggested a market-linked interest rate system for small savings schemes.

**National Small Savings Fund:**

- National Small Savings Fund (NSSF) in the Public Account of India was established in 1999.
- The Fund is administered by the Government of India, Ministry of Finance (Department of Economic Affairs) under National Small Savings Fund (Custody and Investment) Rules, 2001, framed by the President under Article 283 (1) of the Constitution.
- It aims to de-link small savings transactions from the Consolidated Fund of India and ensure their operation in a transparent and self-sustaining manner.
- Since NSSF operates in the public account, its transactions do not impact the fiscal deficit of the Centre directly.

**27. Model Insurance Villages:**

- The Insurance Regulatory and Development Authority of India (IRDAI) has mooted the concept of 'Model Insurance Village (MIV)' to boost insurance penetration in rural areas.
- According to the Economic Survey for 2020-21, India's insurance penetration, which was at 2.71% in 2001, has steadily increased to 3.76% in 2019, but stayed much below the global average of 7.23%.
- Recently, the Parliament has passed the Insurance Amendment Bill 2021 to increase the foreign direct investment (FDI) limit in the insurance sector to 74% from 49%.

**Concept of Model Insurance Village (MIV):**

- The idea is to offer comprehensive insurance protection to all the major insurable risks that villagers are exposed to and make available covers at affordable or subsidised cost.
- In order to make the premium affordable, financial support needs to be explored through NABARD, other institutions, CSR (Corporate Social Responsibility) funds, government support and support from reinsurance companies.
- It may be implemented in a minimum of 500 villages in different districts of the country in the first year and increased to 1,000 villages in the subsequent two years.
- Every general insurance company and reinsurance company accepting general insurance business and having offices in India needs to be involved for piloting the concept.

**Possible Offerings under MIV:**

- Weather Index product or hybrid product combining weather index and indemnity-based insurance protection for various crops that remains uncovered under **Pradhan Mantri Fasal Bima Yojna (PMFBY)**.
- Flexible Farm Insurance Package Policies targeting comprehensive needs of crops, livestock, farmer, farm implements.
- Separate products for high value agriculture, contract farming and corporate farming community as their needs are different.
- States can be offered macro insurance covers based on predefined parametric weather indexes covering large complex risks arising out of natural catastrophes affecting the agriculture ecosystem and rural economy.

**Challenges in Spreading Insurance to Rural Areas:**

- Lack of awareness, limited choice of insurance products, absence of people-friendly and transparent claim settlement mechanisms, and weak network of insurance firms, are some of the issues and challenges in advancing growth of rural insurance business.

#### Insurance Regulatory and Development Authority of India:

- Following the recommendations of the Malhotra Committee report, in 1999, the Insurance Regulatory and Development Authority (IRDA) was constituted as an autonomous body to regulate and develop the insurance industry.
- The IRDA was incorporated as a statutory body in April 2000.
- The key objectives of the IRDA include the promotion of competition so as to enhance customer satisfaction through increased consumer choice and lower premiums while ensuring the financial security of the insurance market.
- It is headquartered in Hyderabad.

#### **Reinsurance:**

- It is a process whereby one entity (the reinsurer) takes on all or part of the risk covered under a policy issued by an insurance company in consideration of a premium payment. In other words, it is a form of an insurance cover for insurance companies.

#### **28. RBI's Measures to Fight Covid-Second Wave:**

- Recently, the Reserve Bank of India (RBI) announced a series of measures to support the nation's fight against the second wave of Covid-19 infections.
- The measures form the first part of a calibrated and comprehensive strategy against the pandemic.
- Earlier in 2020 also the RBI took measures to help deal with the economic fall out of the pandemic.

#### **Term Liquidity Facility for Supporting Healthcare Infrastructure:**

- Term Liquidity Facility of Rs. 50,000 crore with tenure of up to 3 years, at repo rate, to ease access to credit for providers of emergency health services.
- Under the scheme, banks will provide fresh lending support to a wide range of entities, including vaccine manufacturers, importers/suppliers of vaccines and priority medical devices, hospitals/dispensaries, pathology labs, manufacturers and suppliers of oxygen and ventilators, and logistics firms.
- These loans will continue to be classified under priority sector till repayment or maturity, whichever is earlier.
- This lending facility will be available up to 31st, March 2022.

#### **Special Long Term Repo Operations for Small Finance Banks:**

- RBI would conduct special three-year long-term repo operations (SLTRO) of Rs. 10,000 crore at repo rate for small finance banks (SFBs).
- Long Term Repo Operation is a tool under which the central bank provides one-year to three-year money to banks at the prevailing repo rate, accepting government securities with matching or higher tenure as the collateral.
- The SFBs would be able to deploy these funds for fresh lending of up to Rs. 10 lakh per borrower.
- This is to provide further support to small business units, micro and small industries, and other unorganised sector entities adversely affected during the current wave of the pandemic.

#### **Priority Sector Lending:**

- Small Finance Banks (SFBs) are now permitted to regard fresh on-lending to Microfinance institutions (MFIs) with asset size up to Rs. 500 crore, as priority sector lending.
- This facility will be available up to 31st, March 2022.

**Credit flow to MSME Entrepreneurs:**

- To further incentivize inclusion of unbanked Micro, Small and Medium Enterprises (MSMEs) into banking system, exemption provided in February, 2021 wherein scheduled banks were allowed to deduct credit given to new MSME borrowers from Net Time & Demand Liabilities for calculation of Cash Reserve Ratio (CRR), is now extended to 31st December, 2021.

**Stress Resolution Framework 2.0:**

- This Framework is to relieve stress faced by most vulnerable categories of borrowers – namely individuals, borrowers and MSMEs.
- Individuals, borrowers and MSMEs who have not availed any restructuring will be eligible to be considered under Resolution Framework 2.0.
- For individuals and small businesses who have availed restructuring of loans under Resolution Framework 1.0, lending institutions can now extend residual tenure up to a total period of 2 years.
- Lending institutions are now permitted to review working capital sanction limits, as a one-time measure.

**Floating Provisions and Countercyclical Provisioning Buffer:**

- In order to mitigate the pandemic related stress on banks and as a measure to enable capital conservation, banks are being allowed to utilise 100% of floating provisions held by them as 31st December, 2020, for making specific provisions for Non-Performing Assets (NPAs).
- Countercyclical provisioning buffers and floating provisions broadly refer to the specific amount that banks need to set aside in good times above the mandatory provisioning requirement as prescribed by RBI, these are used only in contingencies or extraordinary times of economic or system-wide downturns. Banks have started building such reserves since 2010.
- Relaxation of Overdraft Facility for States:
  - To enable the State governments to better manage their fiscal situation in terms of their cash flows and market borrowings, the maximum number of days of overdraft (OD) in a quarter is being increased from 36 to 50 days and the number of consecutive days of OD from 14 to 21 days.
  - This facility is available up to 30th September, 2021.
  - Earlier, the Ways and Means Advance (WMA) limits of states were enhanced.

**Rationalization of Knowing Your Customer (KYC) Norms:**

- The RBI has also decided to extend the scope of video KYC (know-your-customer) or V-CIP (video-based customer identification process) for new categories of customers such as proprietorship firms, authorised signatories and beneficial owners of legal entities.

**Way Forward:**

- In order to match the devastating speed of the virus, swift, wide-ranging, sequenced and well-timed actions which reach out to various sections, including the most vulnerable, have to be taken.
- India has mounted a valiant defence to ramp up vaccines and medical support while fighting rise in infections and mortalities in the second wave, after having flattened infections. Shoring up livelihoods and restoring normalcy in access to workplaces, education and incomes becomes an imperative in such a situation.

**29. Falling Bond Yield:**

- Recently, the Reserve Bank of India's (RBI) decision to step up purchase of Government Securities (G-Sec) under the Government Securities Acquisition Programme (G-SAP) led to the yield on the benchmark 10-year bond falling below 6%.

- In India, the yield of 10-year G-Sec is considered the benchmark and shows the overall interest rate scenario.

#### **Bond Yield:**

- Bond yield is the return an investor realizes on a bond. The mathematical formula for calculating yield is the annual coupon rate divided by the current market price of the bond
- Bond: Is an instrument to borrow money. A bond could be issued by a country's government or by a company to raise funds.
- Coupon Rate: It is the rate of interest paid by bond issuers on the bond's face value.
- Effect of General Movement of Bond Yields:
- Movements in yields depend on trends in interest rates, it can result in capital gains or losses for investors.
- A rise in bond yields in the market will bring the price of the bond down.
- A drop in bond yield would benefit the investor as the price of the bond will rise, generating capital gains.

#### **Reason for Decreasing Bond Yields:**

- Due to economic uncertainty caused by Covid-19.
- In April 2021, the RBI launched G-SAP which has caused a decrease in G-sec yields which has continued since then.

#### **Impact:**

##### **Better Equity Markets:**

- A decline in yield is also better for the equity markets because money starts flowing out of debt investments to equity investments.
- Equity market: It is a market in which shares of companies are issued and traded, either through exchanges or over-the-counter markets. Also known as the stock market.
- That means as bond yields go down, the equity markets tend to outperform by a bigger margin and as bond yields go up equity markets tend to falter.

##### **Reduced Cost of Capital:**

- When bond yields go up, the cost of capital goes up. That means that future cash flows get discounted at a higher rate.
- Discounting is the process of determining the present value of a payment or a stream of payments that is to be received in the future.
- This compresses the valuations of these stocks. That is one of the reasons that whenever the interest rates are cut by the RBI, it is positive for stocks.

##### **Reduces Risk of Bankruptcy:**

- When bond yields go up, it is a signal that corporates will have to pay a higher interest cost on debt.
- As debt servicing costs go higher, the risk of bankruptcy and default also increases and this typically makes mid-cap and highly leveraged companies vulnerable.

##### **RBI's Stand:**

- The RBI has been aiming to keep yields lower as that reduces borrowing costs for the government while preventing any upward movement in lending rates in the market.
- A rise in bond yields will put pressure on interest rates in the banking system which will lead to a hike in lending rates. The RBI wants to keep interest rates steady to kick-start investments.

##### **Government Securities Acquisition Programme:**

- The RBI, for the year 2021-22, has decided to put in place a secondary market G-SAP 1.0.
- It is part of RBI's Open Market Operations (OMOs).
- Under the programme, the RBI will commit upfront to a specific amount of Open Market Purchases of G-Secs.

**Objective:**

- To avoid volatility in the G-sec market in view of its central role in the pricing of other financial market instruments across the term structure and issuers, both in the public and private sectors.

**Significance:**

- It will provide certainty to the bond market participants with regard to RBI's commitment of support to the bond market in Financial Year (FY) 2021-2022.
- It will help reduce the difference between the repo rate and the 10-year government bond yield.
- That, in turn, will help to reduce the aggregate cost of borrowing for the Centre and states in FY 2021-22.
- Repo rate is the rate at which RBI lends money to commercial banks.
- It will enable a stable and orderly evolution of the yield curve amidst comfortable liquidity conditions.
- Yield curve: It is a line that plots yields (interest rates) of bonds having equal credit quality but differing maturity dates.
- The slope of the yield curve gives an idea of future interest rate changes and economic activity.

**30. Super Cycle of Commodities:**

- Recently, there has been an across-the-board rise in global commodity prices that is being billed as a new commodity super cycle.
- A commodity is a basic good used in commerce that is interchangeable with other goods of the same type. Commodities are most often used as inputs in the production of other goods or services.
- A commodity super cycle is a sustained period of abnormally strong demand growth that producers struggle to match, sparking an increase in prices that can last years or in some cases a decade or more.

**Current Situation:****Metals:**

- Steel, the most commonly used input in the construction sector and industries, is at all-time highs, as most metals including base and precious metals prices have increased a lot in the last one year.

**Agricultural Products:**

- Sugar, corn, coffee, soybean oil, palm oil — have risen sharply in the US commodities market, the effect of which is being seen in the domestic market, too.
- Reason: The new commodity super cycle is resulting from:
  - Recovery in global demand (led by recovery in China and the US).
  - Supply-side constraints.
  - Loose monetary policy of global central banks.
- Investment in Asset Creation: It is also a result of money starting to hide in assets that are stores of value as there is an expectation that inflation may rise.
- Therefore it is fear of inflation that is leading to jump in prices and it is not demand driven.

**Concerns:**

- It is leading to input cost pressures and is a growing concern, as it is not only expected to have a bearing on cost of infrastructure development in India but also have an impact on the overall inflation, economic recovery and policy making.
- Higher metal prices will lead to higher Wholesale Price Index (WPI) inflation and so the core inflation may not come down.

**Loose and Tight Monetary Policies:**

- A monetary policy that lowers interest rates and stimulates borrowing is an expansionary monetary policy or loose monetary policy.
- Conversely, a monetary policy that raises interest rates and reduces borrowing in the economy is a contractionary monetary policy or tight monetary policy.

#### **Inflation:**

- Inflation refers to the rise in the prices of most goods and services of daily or common use, such as food, clothing, housing, recreation, transport, consumer staples, etc.
- Inflation measures the average price change in a basket of commodities and services over time.
- Inflation is indicative of the decrease in the purchasing power of a unit of a country's currency. This could ultimately lead to a deceleration in economic growth.
- However, a moderate level of inflation is required in the economy to ensure that production is promoted.
- In India, inflation is primarily measured by two main indices — WPI (Wholesale Price Index) and CPI (Consumer Price Index) which measure wholesale and retail-level price changes, respectively.

#### **Core Inflation:**

- It is the change in the costs of goods and services but does not include those from the food and energy sectors. This measure of inflation excludes these items because their prices are much more volatile.
- It is important because it's used to determine the impact of rising prices on consumer income.
- Way Forward
- The decision makers need to look at the mismatch in supply and demand and they need to find out where to invest, where to incentivise through the Production-Linked Incentive (PLI) Scheme to prepare themselves to deal with the situation.

### **31. NITI Aayog's Report for a Digitally Inclusive Bharat:**

- The NITI Aayog and Mastercard have released a report titled 'Connected Commerce: Creating a Roadmap for a Digitally Inclusive Bharat'.
- The report identifies challenges in accelerating Digital Financial Inclusion (DFI) in India and provides recommendations for making digital services accessible to its 1.3 billion citizens.

#### **Digital Financial Inclusion:**

- "Digital financial inclusion (DFI)" can be defined broadly as digital access to and use of formal financial services by excluded and underserved populations. Such services should be suited to customers' needs, and delivered responsibly, at a cost both affordable to customers and sustainable for providers.

#### **Challenges:**

##### Demand Side Gap:

- Lot of effort has been put to attain DFI and much success on the supply side of DFI has been seen (e-governance, the JAM trinity, Goods and Services Tax, Direct Benefit Transfer (DBT) schemes).
- However, the break in the digital financial flow comes at the last mile, where account holders mostly withdraw cash for their end-use.

#### **Unsuccessful Agri-Techs:**

- Agriculture, with its allied sectors, provides livelihood to a large section of the Indian population. Over the years, agriculture's contribution to national GDP has declined from 34% in 1983-84 to just 16% in 2018-19.
- Most agri-techs have not succeeded in digitizing financial transactions for farmers or enabling formal credit at lower rates of interest by leveraging transaction data.



**Inability of MSMEs to Access Formal Finance:**

- Micro, Small and Medium Enterprises (MSMEs) have been a key growth driver for the Indian economy. According to a 2020 Report, the category employed some 110 million people, or over 40% of India's non-farm workforce.
- The lack of proper documentation, bankable collateral, credit history and non-standard financials force them to access informal credit at interest rates that are double of those from formal lenders.

**Trust and Security in Digital Commerce:**

- The surge in digital transactions has increased the risk for possible security breaches, both for consumers and businesses.
- A Medici report of June 2020 says 40,000 cyber-attacks targeted the IT infrastructure of the banking sector in India.

**Digitally Accessible Transit Systems:**

- With the onset of the pandemic, there is an increasing need for transit systems to be further integrated with contactless payments in India.
- Globally, the trend is toward open-loop transit systems, with interoperable payment solutions allowing travelers to switch between different modes of transport with a connected payments network.

**Recommendations:**

- For market players, it is critical to address the gap on the demand side by creating user-friendly digital products and services that encourage the behavioral transition from cash to digital.
- A significantly successful example is that of FASTag.
- Strengthening the payment infrastructure to promote a level playing field for Non-Banking Financial Companies (NBFCs) and banks.
- Digitizing registration and compliance processes and diversifying credit sources to enable growth opportunities for MSMEs.
- Building information sharing systems, including a 'fraud repository', and ensuring that online digital commerce platforms carry warnings to alert consumers to the risk of frauds.
- Enabling agricultural NBFCs to access low-cost capital and deploy a 'phygital' (physical + digital) model for achieving better long-term digital outcomes. Digitizing land records will also provide a major boost to the sector.
- To make city transit seamlessly accessible to all with minimal crowding and queues, leveraging existing smartphones and contactless cards, and aim for an inclusive, interoperable, and fully open system.
- Digital Financial Inclusion Initiatives Taken in India

**Jan Dhan-Aadhar-Mobile (JAM) Trinity:**

- The combination of Aadhaar, Pradhan Mantri Jan-Dhan Yojana (PMJDY), and a surge in mobile communication has reshaped the way citizens access government services.
- As per the estimates in March 2020, the total number of beneficiaries under Jan Dhan scheme have been more than 380 million.

**Expansion of Financial Services in Rural and Semi-Urban Areas:**

- Reserve Bank of India (RBI) and National Bank for Agriculture and Rural Development (NABARD) have taken initiatives to promote financial inclusion in rural areas. These include:
  1. Opening of bank branches in remote areas,
  2. Issuing Kisan Credit Cards (KCC),
  3. Linkage of self-help groups (SHGs) with banks,
  4. Increasing the number of Automated Teller Machines (ATMs),
  5. Business correspondents model of Banking

6. Payment Infrastructure Development Fund (PIDF) scheme, etc.

#### **Promotion of Secure Digital Payments:**

- With the strengthening of the Unified Payment Interface (UPI) by National Payments Corporation of India (NPCI), digital payments have been made secure, compared to the past.
- The Aadhar-enabled Payment System (AEPS) enables an Aadhar Enabled Bank Account (AEBA) to be used at any place and at any time, using micro ATMs.
- The payment system has been made more accessible due to offline transaction-enabling platforms, like Unstructured Supplementary Service Data (USSD), which makes it possible to use mobile banking services without internet, even on a basic mobile handset.

#### **Enhancing Financial Literacy:**

- The Reserve Bank of India has undertaken a project titled "Project Financial Literacy".
- The Objective of the project is to disseminate information regarding the central bank and general banking concepts to various target groups, including, school and college going children, women, rural and urban poor, defence personnel and senior citizens.
- Pocket Money is a flagship programme of Securities and Exchange Board of India (SEBI) and National Institute of Securities Market (NISM) aimed at increasing financial literacy among school students.

#### **32. G7 Foreign Ministers' Meet:**

- Recently, Foreign Ministers from the Group of Seven (G7) countries (USA, UK, Canada, France, Germany, Italy and Japan) held a meeting in London, UK.
- The 47th G7 Summit will be held in June 2021. The UK is the host country.

#### **Invited Guests:**

- Australia, India, South Korea, South Africa and the Chair (Brunei Darussalam) of the Association of Southeast Asian Nations (ASEAN).
- Australia, India, South Korea and South Africa will also join the G7 Summit in June.

#### **Discussions:**

- Russia's Irresponsible and Destabilising Behaviour: This includes the large build-up of Russian military forces on Ukraine's borders and in illegally-annexed Crimea.
- Related to China: Human rights violations and abuses in Xinjiang and in Tibet, especially the targeting of Uyghurs, members of other ethnic and religious minority groups.
- Called on China to respect Hong Kong's high degree of autonomy and rights and freedoms (Basic Law).
- Condemned the military coup in Myanmar.

#### **Indo-Pacific:**

- Support for the centrality of ASEAN on the Indo-Pacific.
- Reiterated the importance of maintaining a free and open Indo-Pacific which is inclusive and based on the rule of law, democratic values, territorial integrity, transparency, the protection of human rights and fundamental freedoms, and the peaceful resolution of disputes.

#### **International Rules-based Order:**

- This can be described as a shared commitment by all countries to conduct their activities in accordance with agreed rules that evolve over time, such as international law, regional security arrangements, trade agreements, immigration protocols, and cultural arrangements.

#### **About:**

- It is an intergovernmental organisation that was formed in 1975.
- The bloc meets annually to discuss issues of common interest like global economic governance, international security and energy policy.

- The G7 does not have a formal constitution or a fixed headquarters. The decisions taken by leaders during annual summits are non-binding.
- The groundwork for the summit, including matters to be discussed and follow-up meetings, is done by the “sherpas”, who are generally personal representatives or members of diplomatic staff such as ambassadors.
- The leaders of important international organizations like European Union, IMF, World Bank and the United Nations are also invited.

#### Issues:

- Not all of the G7 countries are among the most advanced now. India is both a military and economic giant but isn't part of the G7. So, its expansion, just like that of the United Nations Security Council, is called for.

#### India and G7:

##### Previous Participation:

- The participation of India at the 45th summit in Biarritz, France, in August 2019 is a reflection of deepening strategic partnership and recognition of India as a major economic power.
- India was also invited for the 2020 summit hosted by the USA which could not take place due to the pandemic.
- Previously India had attended the G8 summit (it became G7 from G8 with the expulsion of Russia in 2014) five times between 2005 and 2009.

##### **Significance of India's Engagement with G7:**

- It provides an opportunity for India to develop cordial relations with developed countries.
- It will boost security cooperation with member countries in Indo-Pacific, particularly the Indian Ocean.
- As current president of Brazil-Russia-India-China-South Africa (BRICS) and G20 president in 2023, India will play a key role driving in multilateral cooperation helping to build back better around the world.

### **33. Participation of Women & Youth in State Assemblies:**

- Recent data from the three new state assemblies, which are West Bengal, Kerala and Tamil Nadu, show less numbers of women and youth Member of Legislative Assemblies (MLAs).
- The data of the 2019 lok sabha elections also show that the participation of women is low. According to a list compiled by the Inter-Parliamentary Union in 2019, India ranks 153 out of 190 nations in the percentage of women in the lower house of world parliaments.
- India is young. Its leaders are not. The country's median age is 29. The average parliamentarian is 55.

#### **Reasons for Less Number of Women MLAs:**

- Illiteracy - It is one of the main hurdles in making women politically empowered.
- Work and Family - Uneven distribution of household work between men and women is also one of the important factors in this regard.
- Lack of Political Networks - The lack of openness in political decision-making and undemocratic internal processes pose a challenge for all newcomers, but particularly for women as they tend to lack insider knowledge or political networks.
- Lack of Resources - Because of their low proportion in the inner political party structure of India, women fail to gather resources and support for nurturing their political constituencies.
- Lack of Financial Support - Women do not get adequate financial support from the political parties to contest the elections.
- Societal and Cultural Norms - These norms imposed on women bar them from entering politics.

- Unfriendly Environment - Overall political parties' environment too is not women-friendly, they have to struggle hard and face multi-dimensional issues to create space for them in the party.

#### **Reasons for Less Number of Youth MLAs:**

- False Believe - Political parties believe that the youth, having not seen enough of life, are unprepared for the demands of top-flight politics.
- Youth will not be taken seriously - Political parties fear that Indian electors who respect older politicians will not take young candidates seriously.
- Veterans not leaving - Key party decision makers, typically veterans, do not want to yield space.
- Muscle power politics - Politicians use muscle and money power to prevent entry of good people to enter politics.
- Less chance of success - The chances of failure are high and very few people become successful.
- Good people avoid politics - General perception of a common man about a politician is someone who is deceptive and corrupt. So people from well to do fields tend to avoid themselves being listed in categories of politicians.
- Unethical practices - Many fail to enter due to dirty politics and due to fear of harm to good image. Unethical practices have become the norm in politics.
- Nepotism - It plays a major role and many youth who become successful politicians belong to influential political families.
- Other reasons - Rising campaign spending and rotational reservation in municipal, panchayat and mayoral elections have created barriers to upward movement for aspiring young politicians.

#### **Related Initiatives:**

##### **The Women's Reservation Bill 2008:**

- It proposes to amend the Constitution of India to reserve 1/3rd of all seats in the Lower house of Parliament of India, the Lok Sabha, and in all state legislative assemblies for women.

##### Reservation for Women in Panchayati Raj Institutions:

- Clause (3) of Article 243D of the Constitution ensures participation of women in Panchayati Raj Institutions by mandating not less than one- third reservation for women out of total number of seats to be filled by direct election and number of offices of chairpersons of Panchayats.

##### National Youth Parliament Festival:

- It is organised by National Service Scheme (NSS) and Nehru Yuva Kendra Sangathan (NYKS) under the aegis of Ministry of Youth Affairs and Sports to:
- Hear the voice of youth in this age bracket of 18-25 who are allowed to vote but cannot contest in elections.
- Encourage the youth to engage with public issues, understand the common man's point of view, form their opinion and express these in an articulate manner.

##### **National Youth Parliament Scheme:**

- The Ministry of Parliamentary Affairs has been implementing the Youth Parliament programme since 1966.
- To strengthen the roots of democracy, inculcate healthy habits of discipline, tolerance of the view of others and to enable the student community to know about practices and procedures of the Parliament.

##### **Way Forward:**

- It is the need of the hour in a country like India to have equal participation of all the sections of society in mainstream political activity therefore necessary steps should be taken to promote it.
- Considering legally-backed youth and women quotas which could be in the form of either seats exclusively (and rotationally) reserved for youth and women or a specified proportion of young candidates all registered parties contesting an election must field.

- Municipal and panchayat polls should give rise to leaders who have experience at the ground level. Such leaders, after some experience, should be able to run for state and eventually the central legislative seats.
- Promoting Inner party democracy, where in a democratic political party the various positions like president, vice-president, secretary, treasurer etc are filled by the election process.

### 34. Kyrgyzstan-Tajikistan Border Tension:

- Recently, a ceasefire on the border between Kyrgyzstan and Tajikistan appeared to be holding after a day of intense fighting between the two countries that has killed about 40 people and wounded about 175.



- Kyrgyzstan and Tajikistan belong to the central asia region. Other countries of the region are Kazakhstan, Turkmenistan, and Uzbekistan.

#### Background:

- Both nations have claimed the area around the water supply facility in Kok-Tash, a dispute dating back decades to when they were both part of the Soviet Union.
- The current configuration of the Kyrgyz-Tajik border is the product of Soviet mapmakers drawing the dividing lines for Soviet republics, after the Union of Soviet Socialist Republics (USSR) collapsed in late 1991.
- The meandering boundary between Tajikistan and Kyrgyzstan is particularly tense as over a third of its 1,000-km length is disputed. Restrictions on access to land and water that communities regard as theirs have often led to deadly clashes in the past.

#### International Response:

- Russia and European Union (EU) welcomed the ceasefire deal and emphasised the need for a lasting and peaceful solution.

#### Importance of Central Asia for India:

##### Political:

- India has a very wide array of interests in Central Asia covering security, energy, economic opportunities etc.
- Security, stability and prosperity of Central Asia is imperative for peace and economic development of India.
- Central Asia serves as a land bridge between Asia and Europe, making it geopolitically axial for India.

- Both India and Central Asian Republics (CARs) share many commonalities and perceptions on various regional and world issues and can play a crucial role in providing regional stability.

**Economic:**

- The region is rich in natural resources such as petroleum, natural gas, antimony, aluminum, gold, silver, coal and uranium which can be best utilized by Indian energy requirements.
- Central Asia has huge cultivable areas lying barren and without being put to any productive use, offering enormous opportunity for cultivation of pulses.
- CARs are fast getting linked to the global market for production, supplies of raw materials and services. They are also increasingly getting integrated into the East-West Trans-Eurasian transit economic corridors.

**Indian Initiatives:**

- India intends expansion of International North South Transport Corridor (INSTC) to Afghanistan and Uzbekistan.
- It will act as a vital gateway to access Eurasian markets and optimally operationalize its use, requiring a Central Asian state joining the project as a direct stakeholder.

**India-Central Asia Dialogue:**

- India has proposed setting up of 'India-Central Asia Development Group' to take forward development partnership between India & Central Asian countries.
- This group will help India to expand its footprints in the resource-rich region amid China's massive inroads and to fight terror effectively, including in Afghanistan.

**India-Kyrgyzstan:**

**Political:**

- India has enjoyed strong bilateral ties with Kyrgyzstan since 1991.
- India was one of the first countries to establish diplomatic ties with Kyrgyzstan in 1992.

**Culture & Economic:**

- Since 1992, the two countries have many agreements, including on Culture, Trade and Economic Cooperation, Civil Aviation, Investment Promotion and Protection, Avoidance of Double Taxation, Consular Convention etc.

**Military:**

- In 2011, the joint 'Khanjar' series of exercises was started.

**Indian Diaspora:**

- In Kyrgyzstan, about 9,000 Indian students are studying medicine in various medical institutions in the country. Also, there are many businessmen living in Kyrgyzstan who are involved in trade and several other services there.

**Strategic:**

- The Kyrgyz leaderships have been largely supportive of India's stand on Kashmir.
- They also support India's bid for a permanent seat at the United Nations Security Council (UNSC).
- India-Tajikistan

**Political:**

- India and Tajikistan elevated bilateral relations to the level of a Strategic Partnership in 2012.
- Tajikistan supported India's membership to the Shanghai Cooperation Organization (SCO) and also permanent membership of an expanded UNSC.
- India supported Tajikistan's accession to the World Trade Organization in 2013.

**Culture & Economic:**

- Trade between two sides is not to expectations despite efforts from both countries, due to more transit time and lack of readily accessible trade routes.



- Despite limitations, trade in food processing, mining, pharmaceuticals, textiles, skill development, science & technology, Information Technology, culture and tourism are continued between two countries.

#### **India's Assistance:**

- India delivered major food assistance in 2001-02. To overcome a crisis caused by an unprecedented harsh winter in January-February 2008, India gave a grant of USD 2 million (USD 1 million as cash assistance and USD 1 million in kind, such as power cables, generators and pump sets).
- India provided 2 million doses of oral polio vaccine through the United Nations Children's Fund (UNICEF) in November 2010.
- In March 2018, India gifted 10 Russian-made ambulances to various regions of Tajikistan drawing substantial media coverage and appreciation from high offices.

#### **Indian Diaspora:**

- The total number of Indians is estimated at about 1550, out of which more than 1250 are students.
- Way Forward
- Geography has placed central asia at the nexus of crucial political and economic transformations for centuries. With the actualization of the Belt and Road Initiative, India's Connect Central Asia policy, and the EU's new Central Asia strategy, the 21st century could possibly be the most decisive period for the region.
- Stemming from its historic cultural and economic bonds, India is now well placed to take a more active role in the development of the region. India's growing global visibility and key contributions to multilateral forums like the SCO have catapulted India from an observer into a critical stakeholder in the region.
- As India looks beyond its borders, Central Asia provides India with the right platform to leverage its political, economic and cultural connections to play a leading role in Eurasia.

#### **35. India-UK Virtual Summit:**

- Recently, the Prime Ministers of India and the United Kingdom (UK) held a bilateral virtual summit.
- India thanked the UK for the prompt medical assistance provided by it in the wake of the severe second wave of Covid-19 in India.

#### **Adopted 'Roadmap 2030':**

- It will elevate bilateral ties to a "Comprehensive Strategic Partnership".
- It will provide a framework for UK-India relations across health, climate, trade, education, science and technology, and defence.
- This will expand the UK-India health partnership to enhance global health security and pandemic resilience.
- This includes firming up international supply chains to ensure critical medicines, vaccines and other medical products reach those who need them most.
- Agreed to expand the existing UK-India vaccines partnership.

#### **Launched Enhanced Trade Partnership:**

- It envisages facilitating market access in specific sectors. It will see Britain open up its fisheries sector to more Indian players, facilitate more opportunities for nurses, recognise Indian seafarers' certificates and enter into a joint dialogue on a social security agreement.
- In return, India lifted restrictions to enable British fruit producers to export their produce to the country and improved access for medical devices.
- They will also work towards reciprocal opening up of legal services.

- Announced their intent to negotiate a comprehensive Free Trade Agreement (FTA), including consideration of an interim trade agreement to deliver early gains.
- Set an ambitious target of more than doubling bilateral trade by 2030.

**Announcement of a new India-UK 'Global Innovation Partnership':**

- The UK is India's second largest partner in research and innovation collaborations.
- The new partnership aims to support the transfer of inclusive Indian innovations to select developing countries, starting with Africa.

**Security & Defence:**

**Cooperation on Maritime Domain Awareness:**

- This includes new agreements on maritime information sharing, an invitation to the UK to join India's Information Fusion Centre in Gurgaon and an ambitious exercise programme which includes joint trilateral exercises.

**UK's Carrier Strike Group:**

- The UK's Carrier Strike Group will visit India later this year to boost ties with Indian navies and air forces, undertaking joint training exercises to enable future cooperation on operations in the Western Indian Ocean (UK's Indo-Pacific Tilt).

**Light Combat Aircraft Mark 2:**

- To support India's indigenous development of the Light Combat Aircraft Mark 2.

**Potential Collaborations:**

- Discussed the potential for further industrial collaboration in areas such as maritime propulsion, space and cyber, marking the start of a promising new era of UK-India research, capability and industrial collaboration on Indian combat air and beyond.

**Migration:**

- Enhance their migration relationship, to make it easier for British and Indian nationals to live and work in each other's countries.
- Welcomed the signing of the India-UK Migration and Mobility Partnership (MMP) that is aimed at reducing illegal immigration into the UK.
- The issue of illegal immigration had been a sticking point between both sides for years. However it is understood that MMP will help genuine immigrants and students and will reduce immigration-related crimes.

**Climate Change:**

- Agreed to work together to ensure an ambitious outcome at Conference of the Parties (COP) 26 and expand the UK-India partnership on tackling climate change, including by accelerating the development of clean energy and transport and new technology, protecting nature and biodiversity and helping developing countries adapt to the impact of climate change.

**Bilateral Military Exercises:**

1. Air Force Exercise 'Indradhanush'.
2. Navy Exercise Konkan.
3. Army Exercise 'Ajeya Warrior'

**Way Forward:**

- India will elevate to a 21st century superpower. It will soon be 'one of the biggest influences on the world'. It is looking for new partners in the global race. This represents a great opportunity for the UK. The UK has much to offer India in education, research, civil society and the creative sector.
- Further, India's skilled labour, technological assistance and the vibrant market will open a lot of avenues for Britain which has recently parted ways with the European Union.

**36. Al-Aqsa Mosque & Sheikh Jarrah: Israel-Palestine:**

- Recently, Israeli armed forces attacked Al-Aqsa Mosque in the Haram esh-Sharif in Jerusalem, ahead of a march by Zionist nationalists commemorating Israel's capture of the eastern half of the city in 1967.
- The threatened eviction of dozens of Palestinian families in the East Jerusalem neighborhood of Sheikh Jarrah escalated the crisis further.
- Zionism is a worldwide Jewish movement that resulted in the establishment and development of the state of Israel and that now supports the state of Israel as a Jewish homeland.

#### **Al-Aqsa Mosque:**

- It is one of the holiest structures in the Islamic faith. It sits inside a 35-acre site known by Muslims as Haram al-Sharif, or the Noble Sanctuary, and by Jews as the Temple Mount.
- The site is part of the Old City of Jerusalem, sacred to Christians, Jews and Muslims.
- It is believed to have been completed early in the eighth century and faces the Dome of the Rock, the golden-domed Islamic shrine that is a widely recognized symbol of Jerusalem.
- The United Nations Educational, Scientific and Cultural Organization, UNESCO, has classified the Old City of Jerusalem and its walls as a World Heritage Site.

#### **Conflict over Jerusalem:**

- Jerusalem has been at the centre of the Israeli-Palestinian conflict. According to the original 1947 United Nations (UN) partition plan, Jerusalem was proposed to be an international city.
- But in the first Arab Israel war of 1948, the Israelis captured the western half of the city, and Jordan took the eastern part, including the Old City that houses Haram al-Sharif.
- Israel captured East Jerusalem from Jordan in the Six-Day War 1967 and annexed it later.
- Since its annexation, Israel has expanded settlements in East Jerusalem.
- Israel sees the whole city as its "unified, eternal capital", whereas the Palestinian leadership across the political spectrum have maintained that they would not accept any compromise formula for the future Palestinian state unless East Jerusalem is its capital.

#### **Sheikh Jarrah Issue:**

- Hundreds of thousands of Palestinians were forced out of their homes when the State of Israel was created in historical Palestine in 1948.
- Twenty-eight of those Palestinian families moved to Sheikh Jarrah in East Jerusalem to settle there.
- In 1956, when East Jerusalem was ruled by Jordan, the Jordanian Ministry of Construction and Development and the UN Relief and Works Agency facilitated the construction of houses for these families in Sheikh Jarrah. But Israel would capture East Jerusalem from Jordan in 1967.
- By the early 1970s, Jewish agencies started demanding the families leave the land.
- Earlier this year (2021), the Central Court in East Jerusalem upheld a decision to evict four Palestinian families from their homes in Sheikh Jarrah in favor of Jewish settlers.
- The issue remains unresolved and potentially inflammable.

#### **India's Stand on Israel-Palestine Issue:**

- India recognised Israel in 1950 but it is also the first non-Arab country to recognise Palestine Liberation Organisation (PLO) as the sole representative of the Palestinian.
- India is also one of the first countries to recognise the statehood of Palestine in 1988.
- In 2014, India favored UNHRC's resolution to probe Israel's human rights violations in Gaza. Despite supporting the probe, India abstained from voting against Israel in UNHRC in 2015.
- As a part of Link West Policy, India has de-hyphenated its relationship with Israel and Palestine in 2018 to treat both the countries mutually independent and exclusive.
- In June 2019, India voted in favor of a decision introduced by Israel in the UN Economic and Social Council (ECOSOC) that objected to granting consultative status to a Palestinian non-governmental organization.

- So far India has tried to maintain the image of its historical moral supporter for Palestinian self-determination, and at the same time to engage in the military, economic, and other strategic relations with Israel.

#### Related Developments:

- In March 2021, International Criminal Court (ICC) launched investigations into the war crimes in Palestinian territories occupied by Israel (West Bank and the Gaza Strip).
- In April 2021, the US restored at least USD 235 million in financial assistance to the Palestinians.

#### Way Forward:

- The world at large needs to come together for a peaceful solution but the reluctance of the Israeli government and other involved parties have aggravated the issue more. Thus a balanced approach would help to maintain favorable relations with Arab countries as well as Israel.
- The recent normalization agreements between Israel and the UAE, Bahrain, Sudan, and Morocco, known as the Abraham Accords, are the steps in the right direction. All regional powers should envisage peace between the two countries on line of Abraham Accords.

#### 37. India Receives Taiwan's Assistance:

- Recently, India received Covid-19 assistance from Taiwan including oxygen concentrators and cylinders.
- The aid reflects the growing engagement between India and Taiwan, especially against the backdrop of the standoff with China on the Line of Actual Control (LAC) and China's aggressive actions across the region, including repeated violations of Taiwan's airspace.
- India, meanwhile, has not yet accepted China's offers of aid and assistance and has preferred to source medical supplies from China on a commercial basis.

#### Taiwan:



- **Taiwan** - the Republic of China (ROC), home to twenty-three million people, is an island off the southern coast of China that has been governed independently from mainland China since 1949.
- Its neighbours include China (officially the People's Republic of China, PRC) to the west, Japan to the northeast, and the Philippines to the south.
- Taiwan is the most populous state that is not a member of the United Nations (UN) and the largest economy outside the UN.
- Taiwan is Asia's 5th largest economy.
- It is a global leader in chip manufacture and the second-largest manufacturer of IT hardware, etc.

**Relationship between China and Taiwan:**

- The People's Republic of China (PRC) views the island as a province, while in Taiwan-a territory with its own democratically elected government-leading political voices have differing views on the island's status and relations with the mainland.
- China and Taiwan maintain a fragile relationship, which has improved during the past seven years but is periodically tested.
- 'One China Policy' is the diplomatic acknowledgement of China's position that there is only one Chinese government.
- This means that countries seeking diplomatic relations with the People's Republic of China (PRC, Mainland China) must break official relations with the Republic of China (ROC, Taiwan) and vice versa.

**India-Taiwan Relations:**Diplomatic Relations:

- India and Taiwan do not have formal diplomatic relations but since 1995, both sides have maintained representative offices in each other's capitals that function as de facto embassies. India has backed the "one-China policy".

**Economic Relations:**

- Trade ties amounted to USD 7.5 billion in 2019, up from USD 1 billion in 2000.
- India and Taiwan in 2018 signed a bilateral investment agreement.
- There are around 200 Taiwanese companies in the field of electronics, construction, petrochemicals, machine, Information and Communications Technology and auto parts operating in India.
- In the field of science and technology, there are more than thirty ongoing government-funded joint research projects.

**Cultural Relations:**

- Both sides have also expanded educational exchanges after a mutual degree recognition agreement in higher education was signed in 2010.

**Challenge in the Relations:**

- One China policy: India finds it difficult to realise the full potential of its bilateral relationship with Taiwan. At present, about 15 countries worldwide continue to recognise Taiwan as an independent state. India is not among the sixteen countries.
- Hurdles in Economic Cooperation: Taiwan's increased investments have occurred in the face of cultural challenges, bureaucratic hurdles, and pressure on India from domestic producers.

**Scope of Increasing Ties with Taiwan:**

- Taiwan is an important geographical entity in the Indo-Pacific region. India's vision of the Indo-Pacific is inclusive and it must encourage the participation of Taiwan and other like-minded countries.
- India is already a major focus country in Taiwan's New Southbound Policy, launched in 2016. Under this, Taiwan aims to increase its international profile by expanding political, economic, and people-to-people linkages.
- Taiwan's reputation as the world leader in semiconductor and electronics complements India's leadership in ITES (Information Technology-Enabled Services).
- This can contribute much to the "Make in India", "Digital India" and "Smart Cities" campaigns.
- Taiwan's agro-technology and food processing technology can also be very beneficial for India's agriculture sector.
- Taiwan is an integral part of the regional supply chain mechanism, and a trade agreement with Taiwan will help India remain connected to the regional economic dynamism, amidst its attempts to de-couple from China.

**Way Forward:**

- The two countries are vibrant democracies, and parliamentary interactions and visits can strengthen their commitment towards the rule of law and good governance.
- The objective of this deepening engagement is not to field ties with Taiwan as a countermeasure to growing animosity with China, but to de-hyphenate India-Taiwan ties from India-China relations. Taiwan is reaching out to India; India too should reciprocate.

**38. India-EU Leaders' Meeting:**

- Recently, Indian Prime Minister participated in the India-European Union (EU) Leaders' Meeting.
- The meeting was held in a hybrid format with the participation of leaders of all the 27 EU Member States as well as the President of the European Council and the European Commission.
- This is the first time that the EU hosted a meeting with India in the EU+27 format.
- The meeting was the initiative of the Portuguese Presidency of the Council of the EU.

**Free Trade Negotiations:**

- Agreed to re-launch free trade negotiations by resuming talks that were suspended for the Bilateral Trade and Investment Agreement (BTIA).
- India and EU had launched talks for having a wide-ranging Free Trade Agreement (FTA), officially called broad-based BTIA, long ago in 2007.
- The BTIA was proposed to encompass trade in goods, services and investments.
- However, the talks stalled in 2013 over differences on market access and movement of professionals.
- The EU was India's largest trading partner in goods 2019-20, ahead of China and the US, with total trade close to USD 90 billion.

**Connectivity Partnership:**

- Launched an ambitious and comprehensive 'Connectivity Partnership' which is focused on enhancing digital, energy, and transport and people-to-people connectivity.
- It is based on the shared principles of social, economic, fiscal, climate and environmental sustainability, and respect for international law and commitments.
- It will catalyse private and public financing for connectivity projects. It will also foster new synergies for supporting connectivity initiatives in third countries, including in the Indo-Pacific.
- Also signed the contract for the second tranche of USD 150 million from the EU for the Pune Metro rail project.

**Climate Change:**

- Reiterated their commitment to achieving the goals of the Paris Agreement and agreed to strengthen joint efforts for mitigation, adaptation and resilience to the impacts of climate change, as well as providing means of implementation including finance in the context of Conference of the Parties (COP 26).
- India welcomed the EU's decision to join the Coalition for Disaster Resilient Infrastructure (CDRI).

**Technology:**

- Agreed to enhance bilateral cooperation on digital and emerging technologies such as 5G, Artificial Intelligence (AI), Quantum and High-Performance Computing including through the early operationalization of the Joint Task Force on AI and the Digital Investment Forum.
- Strengthening Partnership:
- Desired to further strengthen the India-EU Strategic Partnership based on a shared commitment to democracy, fundamental freedoms, rule of law and multilateralism.
- India appreciated the prompt assistance provided by the EU and its member states to combat its second Covid wave.



- India also requested the EU's support for its joint proposal with South Africa for a Trade Related Aspects of Intellectual Property (TRIPS) waiver on vaccine production-related patents in the World Trade Organisation (WTO).
- Recently, the US has supported the proposal. However, India failed to secure the support of the European leaders.

#### **Way Forward:**

- India-EU Leaders' Meeting has set a significant milestone by providing a new direction to the Strategic Partnership and giving a fresh impetus for implementing the ambitious India-EU Roadmap 2025 adopted at the 15th India-EU Summit held in July 2020.
- There is a need for comprehensive trade agreement that brings in strong rules, removes barriers to trade in goods and services and investments and opens up free markets. Addressing the mutual trust deficit, facilitating people's mobility and connectivity can improve mutual understanding and create opportunities for innovation and growth.
- Enhanced business cooperation between EU and India can diversify their strategic value chains and reduce economic dependency-notably on China.

#### **39. 4th India-Swiss Financial Dialogue:**

- The 4th India-Swiss Financial Dialogue was held virtually through video conferencing.

#### **Highlights from the Dialogue:**

- Talks for collaboration on various aspects including investments, International Financial Services Centre Authority (IFSCA), National Investment and Infrastructure Fund (NIIIF), FinTech, sustainable finance and cross border financial services.
- The matters relating to G20, International Monetary Fund (IMF) and tax challenges arising from the digitalisation of the economy were discussed along with infrastructure financing.
- Emphasised the importance of coordinated bilateral action on a clean and resilient post-Covid world.

#### India-Switzerland Relations:

##### **Political Relations:**

- A Treaty of Friendship between India and Switzerland was signed at New Delhi in 1948.
- India's policy of non-alignment and Switzerland's traditional policy of neutrality has led to a close understanding between the two countries.

##### **Economic Relations:**

- India-Switzerland Bilateral Investment Treaty (BIT) is under negotiation.
- Negotiations are also taking place on India-EFTA Trade & Economic Partnership Agreement (TEPA).
- The European Free Trade Association (EFTA) is the intergovernmental organisation of Iceland, Liechtenstein, Norway and Switzerland.
- These countries are not part of the European Union (EU) with which India is negotiating a separate trade agreement called the India-EU Broad-based Trade and Investment Agreement.

##### **Cooperation in Other Areas:**

- An Indo-Swiss Joint Research Programme (ISJRP) was launched in 2005.
- Skill Training: Several Institutes from both the countries have collaborated to impart the highest standards of skill training in India. E.g.:
- Bharatiya Skill Development Campus and University, Jaipur.
- Indo-Swiss Centre of Excellence, Pune.
- Vocational Training Center, Andhra Pradesh.
- Capacity Building for Low Carbon and Climate Resilient City Development (CapaCITIES):

- The Swiss Agency for Development and Cooperation (SDC) is supporting the implementation of the CapaCITIES project in Indian cities.
- The CapaCITIES project aims to strengthen the capacities of Indian cities, to identify, plan and implement measures for reducing greenhouse gas emissions and for enhancing resilience to climate change in an integrated manner.

#### **40. Dengue: Prevention and Identification:**

- With multiple cities recording a high number of dengue-related cases every year, it is important to know about the disease.

##### **Dengue:**

- Dengue is a mosquito-borne tropical disease caused by the dengue virus (Genus Flavivirus), transmitted by several species of mosquito within the genus Aedes, principally Aedes aegypti.
- This mosquito also transmits chikungunya, yellow fever and Zika infection.
- There are 4 distinct, but closely related, serotypes (separate groups within a species of microorganisms that all share a similar characteristic) of the virus that cause dengue (DEN-1, DEN-2, DEN-3 and DEN-4).

##### **Symptoms:**

- Sudden high fever, severe headaches, pain behind the eyes, severe bone, joint, and muscle pain, etc.

##### **Diagnosis and Treatment:**

- Diagnosis of dengue infection is done with a blood test.
- There is no specific medicine to treat dengue infection.

##### **Status of Dengue:**

- Incidence of dengue has grown dramatically around the world in recent decades, with a vast majority of cases under-reported, according to the World Health Organization (WHO).
- WHO estimates 39 crore dengue virus infections per year, of which 9.6 crore show symptoms.
- India registered over 1 lakh dengue cases in 2018 and over 1.5 lakh cases in 2019, according to the National Vector-Borne Disease Control Programme (NVBDCP).
- NVBDCP is the central nodal agency for prevention and control of six vector borne diseases i.e. Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis and Chikungunya in India. It works under the Ministry of Health and Family Welfare.

##### **Controlling Dengue Using Bacteria:**

- Recently researchers from the World Mosquito Program have used mosquitoes infected with Wolbachia bacteria to successfully control dengue in Indonesia.

##### **Method:**

- The scientists infected some mosquitoes with Wolbachia and then released them in the city where they bred with local mosquitoes, until nearly all mosquitoes in the area were carrying Wolbachia bacteria. This is called the Population Replacement Strategy.
- At the end of 27 months, the researchers found that the incidence of dengue was 77% lower in areas where Wolbachia-infected mosquitoes had been released, as compared to areas without such deployments.

##### **Dengue Vaccine:**

- The dengue vaccine CYD-TDV or Dengvaxia was approved by the US Food & Drug Administration in 2019, the first dengue vaccine to get the regulatory nod in the US.
- Dengvaxia is basically a live, attenuated dengue virus which has to be administered in people of ages 9 to 16 who have laboratory-confirmed previous dengue infection and who live in endemic areas.

**41. Mucormycosis:**

- A number of Covid-19 patients are developing a serious fungal infection known as Mucormycosis also called black fungus.
- Mucormycosis is a serious but rare fungal infection caused by a group of molds called mucormycetes, which is abundant in the environment.
- It mainly affects people who have health problems or take medicines that lower the body's ability to fight germs and sickness.
- The types of Mucormycosis are: Rhinocerebral (Sinus and Brain), Pulmonary (Lung), Gastrointestinal, Cutaneous (Skin), and disseminated Mucormycosis.

**Transmission:**

- It occurs through inhalation, inoculation, or ingestion of spores from the environment.
- Mucormycosis does not spread between people or between people and animals.

**Symptoms:**

- These include pain and redness around eyes and/or nose, fever, headache, coughing, shortness of breath, bloody vomits, and altered mental status.
- Warning signs can include toothache, loosening of teeth, blurred or double vision with pain.
- Prevention:
- Avoiding areas with a lot of dust like construction or excavation sites, avoiding direct contact with water-damaged buildings and flood water after hurricanes and natural disasters and avoiding activities that involve close contact to soil.

**Treatment:**

- Mucormycosis needs to be treated with prescription antifungal medicine.
- In some cases, it can require surgery.

**42. Nomenclature & Classification of Corona Variants:**

- Recently, India's Health Ministry said that a new double mutant variant of the coronavirus had been detected in addition to many other strains or Variants of Concern (VOCs) found in 18 states in the country.
- Variants of a virus have one or more mutations that differentiate it from the other variants that are in circulation. While most mutations are deleterious for the virus, some make it easier for the virus to survive.
- The SARS-CoV-2 (Corona) virus is evolving fast because of the scale at which it has infected people around the world. High levels of circulation mean it is easier for the virus to change as it is able to replicate faster.
- The original pandemic virus (founder variant) was Wu.Hu.1 (Wuhan virus). In a few months, variant D614G emerged and became globally dominant.

**Classification:**

- The US Centers for Disease Control and Prevention (CDC) classifies variants into three categories:
- Variant of Interest (VOI):
- A variant with specific genetic markers that have been associated with changes to receptor binding, reduced neutralization by antibodies generated against previous infection or vaccination, reduced efficacy of treatments, potential diagnostic impact, or predicted increase in transmissibility or disease severity.
- An example of VOI is the B.1.617 variant of the virus which has two mutations, referred to as E484Q and L452R.
- This variant is classified as a VOI by the World Health Organization (WHO) as well.

- Both are separately found in many other coronavirus variants, but they have been reported together for the first time in India.

#### **Variant of Concern (VOC):**

- A variant for which there is evidence of an increase in transmissibility, more severe disease (e.g., increased hospitalizations or deaths), significant reduction in neutralization by antibodies generated during previous infection or vaccination, reduced effectiveness of treatments or vaccines, or diagnostic detection failures.
- The B.1.1.7 (UK variant), B.1.351 (South Africa Variant), P.1 (Brazil Variant), B.1.427, and B.1.429 variants circulating in the US are classified as VOCs.

#### **Variant of High Consequence:**

- A variant of high consequence has clear evidence that prevention measures or medical countermeasures have significantly reduced effectiveness relative to previously circulating variants.
- So far, the CDC has not found variants of high consequence in circulation in the US.

#### **Variants Under Investigation (VUI):**

- Public Health England (PHE) says that if the variants of SARS-CoV-2 are considered to have epidemiological, immunological or pathogenic properties, they are raised for formal investigation.
- At this point, the variants emerging from the B.1.617 lineage are designated as VUI.

#### **Nomenclature:**

- Phylogenetic Assignment of Global Outbreak Lineages (PANGOLIN):
- It was developed to implement the dynamic nomenclature of SARS-CoV-2 lineages, known as the Pango nomenclature.
- It uses a hierarchical system based on genetic relatedness – an invaluable tool for genomic surveillance.
- It uses alphabets (A, B, C, P) and numerals starting with 1. Variant lineages are at the emerging edge of the pandemic in different geographies. Lineage B is the most prolific.

#### **Concerns Related to Different Variants:**

##### **Increased Transmission:**

- In many countries, including India, variants, by virtue of increased transmissibility, have kicked off new wave(s) of epidemic transmission.

##### **Increased Severity:**

- Regarding virulence (propensity to cause severe/life-threatening disease), the UK variant is worse. The South Africa and Brazil variants do not seem to have higher virulence.

##### **Lowered Immunity:**

- The third concern is regarding the immunity cover offered by vaccination using antigens made from D614G variant - which applies to most vaccines in current use.
- Lowered efficacy of vaccines was found more with the South African and less with the Brazil variant. Hence, reinfection can occur in spite of immunity by earlier D614G infection or vaccination.
- Vaccine efficacy may be lower now than what was determined in phase-3 trials as VOC were not then widely prevalent.
- Fortunately, mRNA vaccines have broader immunity for different reasons, and they protect better against these two variants.

##### **Possible Solution:**

- Karolinska Institute in Sweden has created an antigen using new variant RBD (Receptor Binding Domain) peptide with adjuvant, and inoculated monkeys already primed with an older vaccine.

- A RBD is a short immunogenic fragment from a virus that binds to a specific endogenous receptor sequence to gain entry into host cells.
- An adjuvant is a substance that enhances the immune system's response to the presence of an antigen.
- The resultant booster response was not only high but also broad, covering new variants. This approach, called 'hetero boosting' by a different vaccine, offers a way to manage the 'vaccine-escape' variants until newer vaccines become available.

#### Way Forward:

- The pandemic has shown the critical importance of biomedical research and capacity building – for saving lives and economic growth.
- We need a foundation of broad-based research, in universities, medical colleges and biotechnology companies, all of which must be funded, encouraged, appreciated, and talent rewarded.
- While some endeavours have been initiated, they must take off in a big way, and India must invest heavily in biosciences. After a decade, its products and profit will make us healthier and wealthier.

#### 43. Covid-19 and Neanderthal Genomes:

- Evolutionary biologists from different countries have shown that the regions of host genomes that increase the risk of getting severely ill and protect against the SARS-CoV-2 virus were inherited from Neanderthals.
- Neanderthals are an extinct species of hominids that were the closest relatives to modern human
- A region on host chromosome 3 acts as a significant genetic risk factor towards getting seriously ill and, at the same time, a group of genes on chromosomes 6,12,19, and 21 protect us against the virus.
- Modern day humans share a stretch of 50,000 nucleotides (nucleotides are the basic building blocks of DNA) in chromosome 3 with Neanderthals.
- About 50% of South Asians carry the region in chromosome 3 from Neanderthal genomes, the same region that makes us more prone to getting severely sick with the virus.
- A part of host chromosome 12, previously shown to protect against the virus, also was inherited from Neanderthal genomes.
- Nearly 30% of South Asians bear the chromosome 12 region.

#### Importance:

- Viruses can only survive and multiply in host cells. Therefore, understanding the host genome is paramount to studying both susceptibility and protection against the virus in a given population.
- While specific genes from Neanderthals are working against the virus and protecting us from getting a severe disease, others are associated with an increased risk of getting critically ill. This push and pull effect may be one of the intriguing facts about how the selection of genes happens during evolution.
- Human Evolution
- Human evolution is the evolutionary process that led to the emergence of anatomically modern humans, beginning with the evolutionary history of primates-in particular genus Homo-and leading to the emergence of Homo sapiens as a distinct species of the hominid family, the great apes.

#### Stages of Evolution of Human:

1. Dryopithecus
2. Ramapithecus

3. Australopithecus
4. Homo
5. Homo habilis
6. Homo erectus
7. Homo sapiens
8. Homo sapiens neanderthalensis
9. Homo sapiens sapiens

#### Neanderthals:

- Neanderthal (*Homo neanderthalensis*, *Homo sapiens neanderthalensis*) is member of a group of archaic humans who emerged at least 2,00,000 years ago during the Pleistocene Epoch (about 2.6 million to 11,700 years ago) and were replaced or assimilated by early modern human populations (*Homo sapiens*) between 35,000 and perhaps 24,000 years ago.

#### Genome:

- A genome is all the genetic matter in an organism. It is defined as an organism's complete set of Deoxyribose Nucleic Acid (DNA), including all of its genes.
- In humans, a copy of the entire genome contains more than 3 billion DNA base pairs.
- Chromosomes
- In the nucleus of each cell, the DNA molecule is packaged into thread-like structures called chromosomes.
- Each chromosome is made up of DNA tightly coiled many times around proteins called histones that support its structure.
- In humans, each cell normally contains 23 pairs of chromosomes, for a total of 46.
- Twenty-two of these pairs, called autosomes, look the same in both males and females.
- The 23rd pair, the sex chromosomes, differ between males and females. Females have two copies of the X chromosome, while males have one X and one Y chromosome.

#### 44. Positron: The Antimatter Counterpart of the Electrons:

- Researchers from the Raman Research Institute (RRI), Bengaluru, have resolved the mystery of the antimatter counterpart of the electrons called Positron and Positron Excess Phenomenon.
- RRI is an autonomous institution of the Department of Science and Technology.

#### Positron:

- Positron is a subatomic particle whose mass is the same as that of an electron and numerically equal but positively charged particle. The positron was discovered in 1932.

#### Anti-Matter:

- Antimatter is the opposite of normal matter. More specifically, the sub-atomic particles of antimatter have properties opposite those of normal matter.
- Matter is made up of atoms, which are the basic units of chemical elements such as hydrogen, helium or oxygen.
- Atoms are the basic units of matter and the defining structure of elements. atoms are made up of three particles:
- **Protons, Neutrons and Electrons:**

#### Positron Excess:

- The excess number of high energy particles of the antimatter counterpart of the electrons, called positrons have intrigued scientists for long.
- Over the years astronomers have observed positrons having an energy of more than 10 giga-electron volts, or 10 GeV.



- For an estimate, this is the energy of a positively charged electron accelerated across a 10,000,000,000 volt battery. Positrons with energy more than 300 GeV, however, are lower in comparison to what astronomers expect.
- This behaviour of positrons between 10 and 300 GeV is what astronomers call the 'positron excess'.

#### RRIs Study:

- The Milky Way consists of giant clouds of molecular hydrogen. They are the seats of the formation of new stars and can be as massive as 10 million times the Sun's mass.
- They can extend up to 600 light-years.
- Cosmic rays, produced in supernovae explosions propagate through these clouds before they reach the Earth. Cosmic rays interact with molecular hydrogen and can give rise to other cosmic rays.
- As they propagate through these clouds, they decay from their original forms and intermix, lose their energy by energising the clouds, and may also get re-energised.
- RRI studied all these astrophysical processes via a code it set up on the computer, using a publicly available code.

#### RRIs Code:

- The code considers 1638 molecular hydrogen clouds in the Milky Way that other astronomers have observed across different wavelengths of the electromagnetic spectrum.
- RRI followed a comprehensive catalogue which consists of ten molecular clouds in the immediate neighbourhood of our Sun.
- These galactic clouds provide the astronomers a crucial input that is the number of giga-electron volt cosmic rays.
- These help them determine the excess number of positrons that reach the Earth.
- The computer code was successfully able to reproduce the observed number of positrons at giga-electron volt energies.
- Not only the positron excess, the computer code accurately reproduces the spectra of protons, antiprotons, boron, carbon, and all other components of cosmic rays.

#### RRIs Proposal:

- Cosmic rays while propagating through the Milky Way galaxy interact with matter producing other cosmic rays, primarily electrons and positrons.
- All mechanisms via which cosmic rays interact with the molecular clouds to show that nearby molecular clouds can be a viable contributor to the positron excess phenomenon.
- Cosmic Rays
- Cosmic rays are atom fragments that rain down on the Earth from outside of the solar system. They blaze at the speed of light and have been blamed for electronics problems in satellites and other machinery. They were discovered in 1912.

#### Light-Year:

- The light-year is a unit of length used to express astronomical distances and is equivalent to about 9.46 trillion kilometres.
- As defined by the International Astronomical Union, a light-year is the distance that light travels in vacuum in one Julian year.

#### 45. SUTRA Model:

- Many scientists are blaming the government-backed model, called SUTRA (Susceptible, Undetected, Tested (positive), and Removed Approach), for having a larger role in creating the perception that a second wave of Covid was unlikely in India.

- The second wave of Covid-19 has claimed thousands of lives since April 2021.

#### **Key Points:**

- Scientists from the IITs of Kanpur and Hyderabad have applied the SUTRA Model to predict the Covid graph in India.
- It first came into public attention when one of its expert members announced in October 2020 that India was “past its peak”.
- The model uses three main parameters to predict the course of the pandemic which are :
- Beta: Also called contact rate, which measures how many people an infected person infects per day. It is related to the R0 value, which is the number of people an infected person spreads the virus to over the course of their infection.
- Reach: It is a measure of the exposure level of the population to the pandemic.
- Epsilon: It is the ratio of detected and undetected cases.

#### **Problems with SUTRA:**

##### Variability:

- There have been many instances of the SUTRA forecasts being far out of bounds of the actual caseload and the predictions of the SUTRA model are too variable to guide government policy.

##### Too Many Parameters:

- The SUTRA model was problematic as it relied on too many parameters, and recalibrated those parameters whenever its predictions “broke down”.
- The more parameters you have, the more you are in danger of ‘overfitting’. You can fit any curve over a short time window with 3 or 4 parameters.

##### Ignores Behaviour of the Virus:

- The SUTRA model’s omission of the importance of the behaviour of the virus; the fact that some people were bigger transmitters of the virus than others (say a barber or a receptionist more than someone who worked from home); a lack of accounting for social or geographic heterogeneity and not stratifying the population by age as it didn’t account for contacts between different age groups also undermined its validity.

##### **Ignores the Reason For Change:**

- New variants showed up in the SUTRA model as an increase in value of parameters called ‘beta’ (that estimated contact rate).
- As far as the model is concerned, it is observing changes in parameter values. It does not care about what is the reason behind the change.

#### **46. Recent Findings about Venus:**

- Recently, scientists have obtained new data about Venus by bouncing radio waves off the planet.
- The scientists transmitted radio waves toward Venus 21 times from 2006 to 2020 from NASA's Goldstone Antenna in the Mojave Desert of California and studied the radio echo, which provided information on certain planetary traits.

##### **Latest Findings:**

- A single Venusian rotation takes 243.0226 Earth days. This means a day lasts longer than a year on Venus, which makes a complete orbit around the sun in 225 Earth days.
- The Venusian planetary core has a diameter of about 7,000 km, comparable to Earth’s core which is 6,970 km.
- The Venusian tilt is at about 2.64 degrees. Earth’s is about 23.5 degrees.
- **Previous Findings:**

- Presence of phosphine was detected in the atmosphere of Venus. This indicates the possibility of the presence of lifeforms on Venus.
- According to a study published in Nature Geoscience, Venus is still geologically active.
- The study identified 37 active volcanoes, in the form of ring-like structures known as coronae, on the surface of Venus.

#### About Venus:

- Venus, the second planet from the sun, is similar in structure but slightly smaller than Earth (Earth's Twin).
- It has a thick and toxic atmosphere that consists primarily of carbon dioxide, with clouds of sulfuric acid droplets.
- With a runaway greenhouse effect, its surface temperatures reach 471 degrees Celsius, hot enough to melt lead.
- The phenomenon, called the 'runaway greenhouse' effect, occurs when a planet absorbs more energy from the sun than it can radiate back to space. Under these circumstances, the hotter the surface temperature gets, the faster it warms up.
- Venus is one of just two planets that rotate from east to west. Only Venus and Uranus have this "backwards" rotation.
- Venus has no moons and no rings.
- On Venus, one day-night cycle takes 117 Earth days because Venus rotates in the direction opposite of its orbital revolution around the Sun.

#### Missions Related to Venus:

- ISRO Shukrayaan: The Indian Space Research Organisation (ISRO) is also planning a mission to Venus, tentatively called Shukrayaan
- Akatsuki (Japanese 2015)
- Venus Express (European Space Agency 2005)
- NASA's Magellan (1989)

#### 47. NASA's OSIRIS-REx Mission:

- Recently, NASA's OSIRIS-REx spacecraft briefly touched down on the surface of asteroid Bennu to collect rock and dust samples.

#### About OSIRIS-REx Mission:

- It is the United States' first asteroid sample return mission, aiming to collect and carry a pristine, unaltered sample from an asteroid back to earth for scientific study.
- The OSIRIS-REx (Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer) spacecraft was launched in 2016 for the journey to Bennu.
- The mission is essentially a seven-year-long voyage and will conclude when at least 60 grams of samples are delivered back to the Earth (in 2023).
- As per the National Aeronautics and Space Administration (NASA), the mission promises to bring the largest amount of extraterrestrial material back to the Earth since the Apollo era.
- Apollo was the NASA program that resulted in American astronauts' making a total of 11 space flights and walking on the moon (1968-72).
- The spacecraft contains five instruments meant to explore Bennu including cameras, a spectrometer and a laser altimeter.
- Recently, the spacecraft's robotic arm called the Touch-And-Go Sample Acquisition Mechanism (TAGSAM), made an attempt to "TAG" the asteroid at a sample site and collected a sample.
- The departure window for the mission will open up in 2021, after which it will take over two years to reach back to Earth.

**Asteroid Benu:**

- Benu is an ancient asteroid, currently more than 200 million miles from Earth.
- Benu offers scientists a window into the early solar system as it was first taking shape billions of years ago and tossing ingredients that could have helped seed life on Earth.
- Significantly, Benu hasn't undergone drastic changes since its formation over billions of years ago and therefore it contains chemicals and rocks dating back to the birth of the solar system. It is also relatively close to the Earth.
- So far, it is known that this asteroid is a B-type asteroid, implying that it contains significant amounts of carbon and various other minerals.
- Because of its high carbon content, it reflects about 4% of the light that hits it, which is very low when compared with a planet like Venus, which reflects about 65% of the light that hits it. Earth reflects about 30%.
- Around 20-40% of Benu's interior is empty space and scientists believe that it was formed in the first 10 million years of the solar system's formation, implying that it is roughly 4.5 billion years old.
- As per high-resolution photographs taken by the spacecraft, the surface of the asteroid is covered in massive boulders, making it more difficult to collect samples from its surface.
- There is a slight possibility that Benu, which is classified as a Near Earth Object (NEO), might strike the Earth in the next century, between the years 2175 and 2199.
- NEOs are comets and asteroids nudged by the gravitational attraction of nearby planets into orbits which allows them to enter the Earth's neighbourhood.
- The asteroid was discovered by a team from the NASA-funded Lincoln Near-Earth Asteroid Research team in 1999.

**48. Beema Bamboo:**

- The Tamil Nadu Agricultural University (TNAU) has designed an 'oxygen park' within its premises at Coimbatore with Beema Bamboo.
- Beema or Bheema Bamboo is a superior clone, selected from Bambusa balcooa, a higher biomass yielding bamboo species. This bamboo clone has been developed by the conventional breeding method.
- This species is considered to be one of the fastest-growing plants. It grows one-and-a-half feet per day under tropical conditions.
- It is said to be the best 'carbon sink' to mitigate carbon dioxide emissions.

**Bambusa Balcooa:**

- Bambusa balcooa is a very large, thick-walled, clumping bamboo, growing up to a height of 25 metres, and a thickness of 150 millimetres.
- The length and strength of Bambusa balcooa make it a useful material for the construction industry.
- It is a drought-resistant species with low rainfall requirements and can reach yields upwards of 100 metric tons per hectare.

**Importance:**

1. **Permanent Green Cover:** As it is sterile, this bamboo does not produce any seed and does not die also for several hundred years and keeps growing without death. As a result, this particular bamboo species is able to establish permanent green cover.
2. **Does Not Require Replanting for Decades:** Since the plants are produced through tissue culture, the culms grow almost solid and adapt to different soil and climatic conditions. After every harvest cycle, it re-grows and does not require replanting for decades. A culm is the hollow stem of a grass or cereal plant, especially that bearing the flower.

3. **Can Mitigate Global Warming and Climate Change:** As its rhizome and root formation provide a strong foundation, the plant becomes robust against natural forces and plays a major role in mitigating global warming and climate change.

**Diverse Uses:**

- The bamboo's calorific value is equal to that of coal. Cement industries are buying this bamboo species for their boilers. Bamboo fibre is used by the textile industry for making fabric and garments.
- Experts from the Visvesvaraya National Institute of Technology (VNIT), Nagpur, are working on the design of crash barriers made of beema bamboo and coir.
- Government Initiatives Related to Bamboo

**Bamboo Clusters:**

- Recently, the Union Minister for Agriculture and Farmers' Welfare has virtually inaugurated 22 bamboo clusters in 9 states viz. Gujarat, Madhya Pradesh, Maharashtra, Odisha, Assam, Nagaland, Tripura, Uttarakhand and Karnataka.

**National Bamboo Mission (NBM):**

- The restructured NBM was launched in 2018-19 for the holistic development of the complete value chain of the bamboo sector and is being implemented in a hub (industry) and spoke model.
- It aims at connecting farmers to markets so as to enable farmer producers to get a ready market for the bamboo grown and to increase the supply of appropriate raw material to the domestic industry.
- Removal of Bamboo from 'Tree' Category:
- The Indian Forest Act 1927 was amended in 2017 to remove bamboo for the category of trees.
- As a result, anyone can undertake cultivation and business in bamboo and its products without the need of a felling and transit permission.

**Way Forward:**

- There are about 3 trillion trees on earth and there is enough space on the planet for planting an additional 1.2 trillion trees that would have huge benefits in terms of absorbing atmospheric carbon dioxide.
- The Beema Bamboo can be an excellent choice for making the earth greener and mitigating climate change.

**49. Xylophis Deepaki:**

- A tiny snake "Xylophis deepaki" has been named in honour of Indian herpetologist Deepak Veerappan for his contribution in erecting a new subfamily Xylophiinae to accommodate wood snakes.
- The common name suggested for the species is 'Deepak's wood snake'.

**About Xylophis deepaki:**

- It is a tiny snake of just 20 cm length with iridescent scales.
- It was first found on a coconut plantation in Kanyakumari.
- It is now reported to be an endemic species of Tamil Nadu and also been sighted in some parts of the southern Western Ghats.
- It is found in the drier regions and in lower altitudes around Agasthyamalai hills.

**About Xylophis:**

- It is a small genus of snakes in the family Pareidae.
- It has five species, all of which are endemic to the Western Ghats in southern India.



- Five Species: *Xylophis Captaini*, *Xylophis deepaki*, *Xylophis Mosaicus*, *Xylophis Perroteri* and *Xylophis Stenorhynchus*.
- These five species constitute the monotypic subfamily *Xylophiinae*.
- They are the only *pareidae* snakes found in India and the only snakes in the family found outside Southeast Asia.

#### About Wood Snakes:

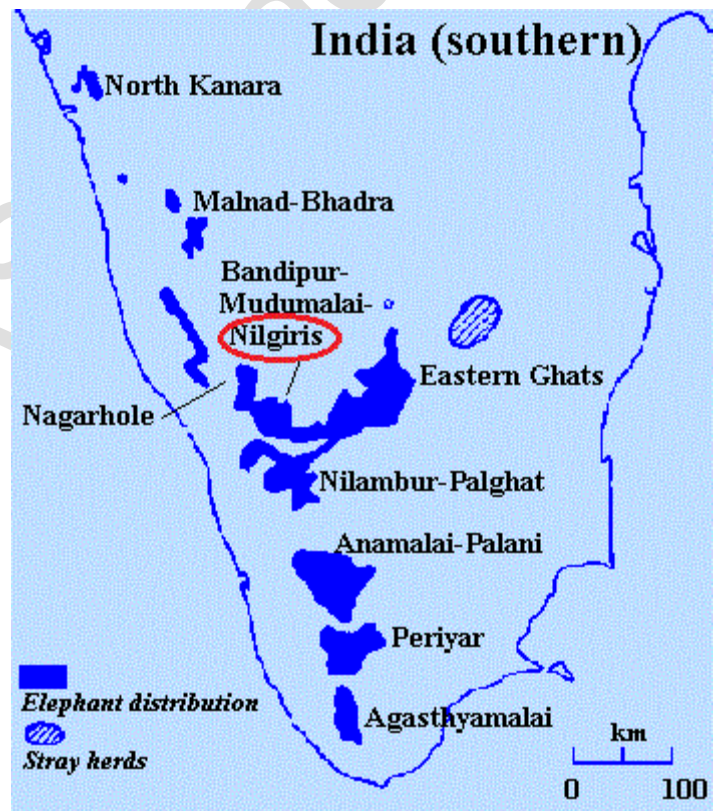
- These are harmless (non-venomous), sub-fossorial and often found while digging soil in farms and under the logs in the Western Ghat forests.
- They feed on earthworms and possibly other invertebrates.
- Their close relatives are found in Northeast India and Southeast Asia and are known to be arboreal (living in trees).

#### Related Information:

- According to the IUCN Red List of Threatened Species, 12% of assessed snake species are listed as threatened and their populations are in decline.
- Each year, 2.7 million people around the world suffer a serious snakebite envenomation. The World Health Organization (WHO) classified snakebite as a neglected tropical disease to reduce snakebite in developing countries.
- Save The Snakes is a dedicated initiative exclusively for snake conservation and human-snake conflict mitigation.

#### Agasthya Hills:

- **Agasthya** hill is a 1,868-metre tall peak within Neyyar Wildlife Sanctuary, in the Western Ghats of Kerala. The peak lies on the border of Kerala and Tamil Nadu. This peak is a part of the **Agasthyamala Biosphere Reserve**.
- The peak is named after Hindu sage Agastya, who is considered to be one of the seven rishis (Saptarishi) of Hindu Puranas. It is a pilgrimage centre for devotees.
- The **Thamirabarani** River is a perennial river which originates from the eastern side of the range and flows into the Tirunelveli district of Tamil Nadu.
- Agasthyamala Biosphere Reserve is listed on UNESCO World Network of Biosphere Reserves (2016).



#### 50. Pulayar Community and Anamalai Tiger Reserve:

- Two Tribal settlements (Kattupatti and Kuzhipatti) of Pulayar community within the limits of Anamalai Tiger Reserve in Tamil Nadu are gearing up for their annual festival of local deity Vairapattan.



**About Pulayar Community:**

- The Pulayar, also Pulaya, or Holeya or Cheramar, are one of the main social groups found in Kerala, Karnataka and in historical Tamil Nadu or Tamilakam.
- They are a Scheduled Caste in Kerala and Tamil Nadu.
- Pulayas are noted for their music, craftsmanship, and for certain dances which include, Kōlam-thullal, a mask dance which is part of their exorcism rituals, and Mudi-āttam or hair-dance which has its origins in a fertility ritual.
- Mahatma Ayyankali was called as Pulaya King.
- Ayyankali in 1893 rode an ox-cart challenging the 'ban' on untouchables from accessing public roads by caste-Hindus.
- Ayyankali became a stated protestor for Pulayar rights. Because of the protests led through Ayyankali, in 1907 a decree was issued to confess students from the untouchable network to government schools.

**Anamalai Tiger Reserve:**

- It is one of the four Tiger Reserves in Tamil Nadu. It forms part of the Southern Western Ghats.
- It forms part of the Anamalai Parambikulam Elephant Reserve declared in 2003.
- It is surrounded by Parambikulam Tiger Reserve on the East, Chinnar Wildlife Sanctuary and Eravikulam National Park on the South Western side (all belong to Kerala).
- The reserve is also surrounded by Nenmara, Vazhachal, Malayattur and Marayur reserved forests of Kerala.
- The ranges found in this reserve include Amaravathi, Udumalpet, Pollachi, Ulandy, Valparai and Manamboli.

**Anthropological Diversity:**

- The area has significant anthropological diversity with more than 4600 Adivasi people from six tribes of indigenous people living in 34 settlements.
- The tribes are the Kadars, Malasars, Malaimalasar, Pulaiyars, Muduvars and the Eravallan (Eravalar).
- Flora:
- It includes wet evergreen forest and semi-evergreen forest, montane shola-grassland, moist deciduous, dry deciduous, thorn forests and marshes.

**Fauna:**

- The important mammals include: Asiatic elephant, Sambar, Spotted deer, Barking deer, Mouse deer, Gaur, Nilgiri tahr, Tiger, etc.

**Other Protected Areas in Tamil Nadu:**

1. Mudumalai Tiger Reserve
2. Kalakkad - Mundanthurai TR
3. Sathyamangalam TR
4. Nilgiri Biosphere Reserve
5. Mukurthi National Park
6. Gulf of Mannar Marine National Park
7. Guindy National Park

Classic IAS Academy

**Copyright © by Classic IAS Academy**

All rights are reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of Classic IAS Academy.