

**APRIL 2022**

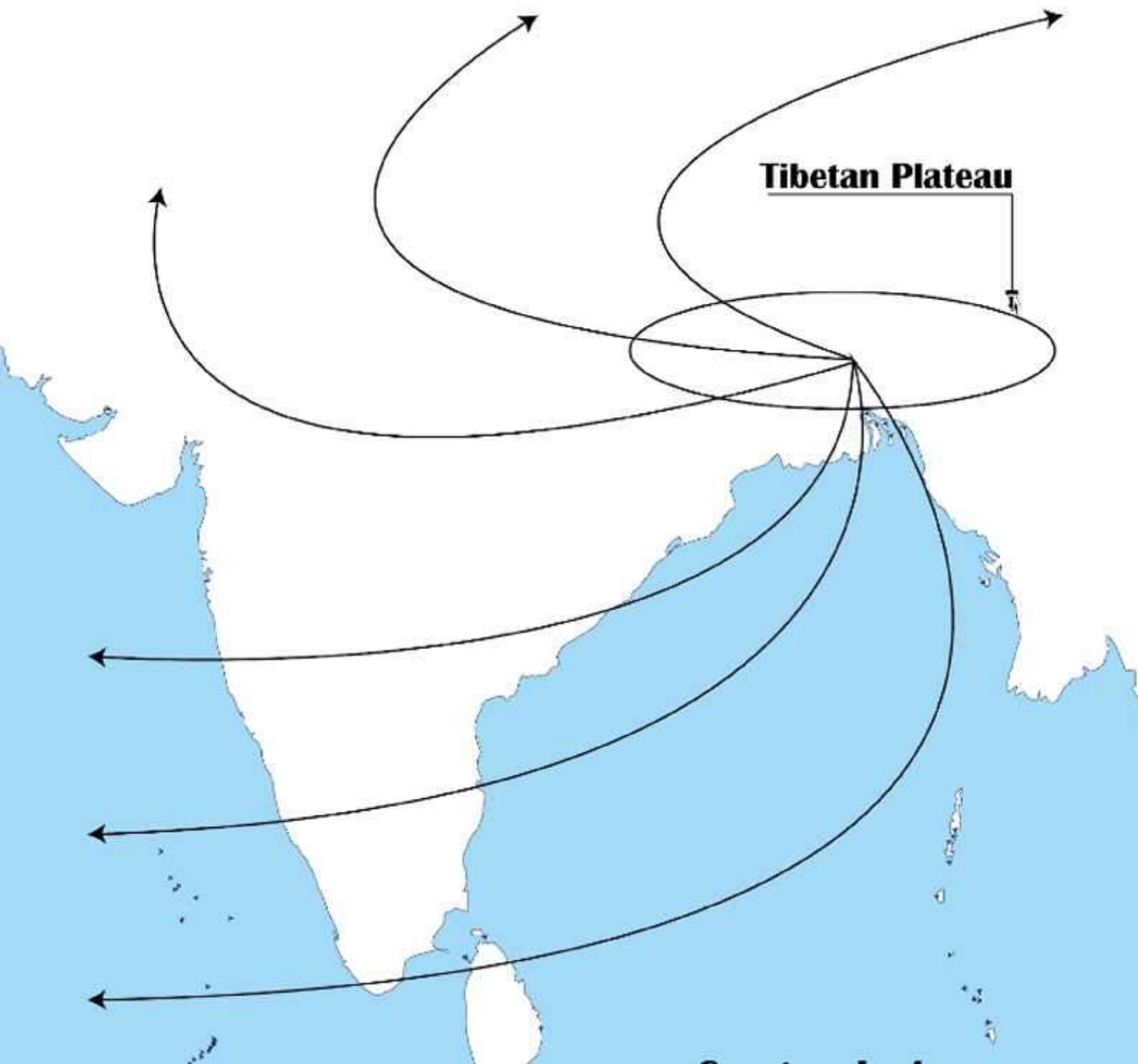


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APRIL 2022

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With best wishes

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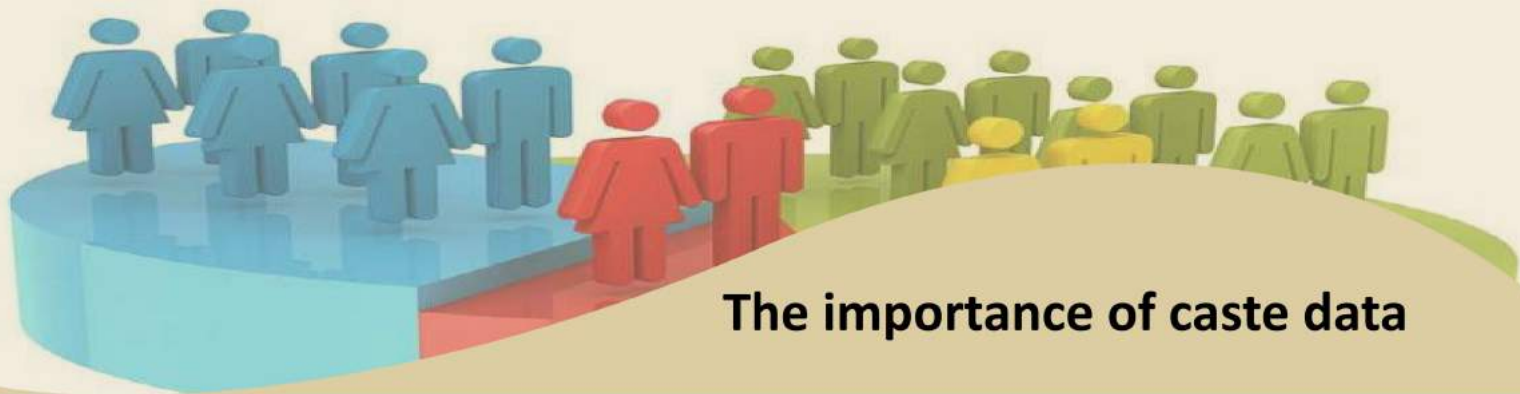
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## VOLUME 2

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## The importance of caste data

- **Why in News**
- **Supreme Court Observations**
- **Promises without Justifiable Data**
- **About Caste Census**
- **Importance of Caste Census**
- **Need for a Credible Exercise**

- **Conclusion**

### Why in News ?

- Recently, the Supreme Court upheld the 27% quota for Other Backward Classes (OBC) in the All-India Quota seats for the National Eligibility-cum-Entrance Test (NEET).
- SC reiterated that reservations for backward classes were not an exception but an extension of the principle of equality under Article 15(1) of the Constitution.

### Supreme Court Observations

- The judgment highlighted how open competitive exams give the illusion of providing equal opportunity in ignorance of the widespread inequalities in educational facilities, the freedom to pursue such education, and societal prejudices.
- The Court pointed out how such disparities are not limited to the issue of access to good education or financial constraints alone, but also to the psychological and social effects of inherited cultural capital (communication skills, books, accent, academic accomplishments, social networks, etc.).
- It ensures the unconscious training of upper-caste children for high-grade performance.
- The Constituent Assembly held a similar philosophy while introducing constitutional provisions which

enable the government to make special provisions for the uplift of the “lower castes”.

- Many oppose affirmative actions like reservation. They believe that such provisions only perpetuate caste differences and they call for a “casteless society”.
- As Justice D.Y. Chandrachud pointed out, “castelessness” is a privilege that only the upper caste can afford because their caste privilege has already translated into social, political and economic capital.
- On the other hand, individuals who belong to the lower castes must retain their caste identity in order to claim the benefits of measures such as reservation, which recognise historic harm.

### Promises without Justifiable Data

- There is a trust deficit for the state’s motivations because of the caste and class politics ruling the country today.
- Political parties often promise reservation for communities on being brought to power without any credible data collection exercises to justify the decision.
- Not long ago, the Supreme Court struck down the reservation for the Maratha community in Maharashtra in excess of 50%, which was the limit

set in the Indra Sawhney case.

- It observed that “when more people aspire for backwardness instead of forwardness, the country itself stagnates which situation is not in accord with constitutional objectives”.

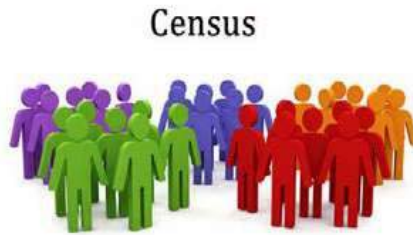
### About Caste Census

- Caste census means inclusion of caste-wise tabulation of India’s population in the Census exercise, which is a decennial count of the Indian population.
- The last caste census data gathered and published correspond to Census 1931.
- The last census conducted by the British colonial government in 1941 collected caste data but did not publish the figures.
- After Independence, Census 1951, the government collected and published caste data of only SCs and STs.
- From 1951 to 2011, every census in India has published the population of Scheduled Castes and Scheduled Tribes, comprising the Dalits and the Adivasis, along with the gamut of data including religions, languages, socio-economic status, etc.
- It, however, has never counted OBC’s, the lower and intermediate castes, which according to the Mandal commission make up around 52

per cent of the country's population.

- All castes other than Scheduled Castes and Scheduled Tribes are counted under the general category.
- Since the Census could not be undertaken in 2021 due to the pandemic, it is set to take place in 2022.

**Difference between SECC and Census:-**



Census	SECC
The Census provides a picture of the Indian population	SECC is a tool to identify beneficiaries of state support
Census falls under the Census Act of 1948 and all data are considered confidential	All the personal information given in the SECC is open for use by Government departments to grant and/or restrict benefits to households

**Importance of Caste Census**

- The absence of fresh caste census data means that the caste estimates of 1931 are being projected for formulating welfare policies in 2022.
- A caste census is likely to table a fresh and updated data set for policy making.
- The NSSO (National Sample Survey Organization) surveys have provided different estimates between 1999 and 2007, varying from about 36 per cent to 45 per cent for OBCs.
- Recently, the figures of the United District Information System for Education Plus (UDISE+) showed schooling data for each caste group.
  - The UDISE+ data show OBC children comprise 45 per cent students in primary schools, SCs 19 per cent SCs and STs 11 per cent.
  - Rest 25 per cent were from the upper caste group.
- Different data sets based on sample surveys might not be a true reflection of the current caste headcount in India.
- These data sets also differ from the Mandal Commission estimates that form the basis of caste-based reservations and policy formulation

**Need for a Credible Exercise**

- **Restoring citizen's faith**
  - Faith of citizens cannot be restored until credible exercises of data collection are undertaken regarding caste.
- **No data on OBCs**
  - Even though data concerning the Scheduled Castes and Scheduled Tribes have been included in the Census, there is no similar data on OBCs.
- **Faulty SECC Data**
  - The Socio-Economic and Caste Census (SECC) conducted in 2011 has been called "faulty" and "unreliable" an "unusable"
- **Unsound Mandal Commission's Recommendations**
  - Mandal Commission's recommendations were criticized as being based merely on the "personal knowledge" of the members of the commission and sample surveys.
- **Requirement of Objective Evaluation of Castes**
  - In the Indra Sawhney case, the

Supreme Court held that the States must conclude the "backwardness" of a particular class of people only after proper assessment and objective evaluation.

- It held that such a conclusion must be subject to periodic review by a permanent body of experts.

● **Periodic Revisions of Caste List**

- The National Commission for Backward Classes Act, 1993, provides under Section 11 that the Central government may every 10 years revise lists with a view to exclude those classes which have ceased to be backward and include new backward classes.
- This exercise has not been done to date. Last year, many calls were made for the inclusion of caste data (including that of the OBCs) in the 2021 Census, and the matter reached the Supreme Court.
- Caste data will enable independent research not only into the question of who does and does not need affirmative action but also into the effectiveness of this measure.
- As long as reservation results from violent agitations and political pressures, attempts at any affirmative action will always be under the shadow of caste and class politics.

**Conclusion**

- A caste census without data integrity would be much worse. The data of caste censuses have always been disputed, probably due to the contest of several vested interests in accepting the data.
- Impartial data and subsequent research might save the bona fide attempts of the uplift of the most backward classes from the shadow of caste and class politics and be informative to people on both sides of the spectrum – for and against reservation.



## Tapping Technology for Multilingual Learning

- **Vanishing language a cause of concern**
- **Why languages die**
- **Why we need to build an effective multilingual education system**
- **Some recent developments**
- **Way Forward**

For centuries, India has been home to hundreds of languages and thousands of dialects, making its linguistic and cultural diversity the most unique in the world. In fact, our linguistic diversity is one of the cornerstones of our ancient civilisation. It is our mother tongue that lends expression to our vision and aspirations, our values and ideals, as also our creative and literary endeavours. In a speech some years ago, the former UNESCO Director-General, Koïchiro Matsuura, underscored the importance of mother tongue when he remarked that “the language we learn from our mothers (mother tongue) is the homeland of our innermost thoughts.” He aptly described each language to be “as valuable and distinct as every irreplaceable human life”.

### **Vanishing language a cause of concern**

- While languages are among the key bridges that ensure cultural and civilisational continuity, globalisation and westernisation have impacted not just the growth but also the survival of many of our dialects in this rich cultural and linguistic tapestry.
- In November 1999, the UNESCO General Conference approved the declaration of February 21 as Inter-

national Mother Language Day, in response to the declining state of many languages.

- According to the UN agency, at least 43% of the estimated 6,000 languages spoken in the world are endangered — an alarming figure indeed.

### **Why languages die?**

#### **Economic success**

- Speakers of a minority language may, decide that it is better for their children’s future to teach them a language that is tied to economic success.
- For example, the vast majority of second-generation immigrants to the United States do not speak their parents’ languages fluently. It is economically and culturally more beneficial to speak English.

#### **Migration**

- Migration also plays a large role in language change and language death. When speakers of Proto-Indo-European migrated to most of Europe and large parts of Asia between 6,000 and 8,000 years ago, they probably brought about massive language change and language death.

#### **Lack of script**

- Schools and colleges were established only in the official languages.

Languages without scripts had no place in the education system. As a result many languages like Gondi, Bhili and Santhali have become now a minority language.

### **This year’s subject**

The theme of International Mother Language Day in 2022 — “Using Technology for Multilingual Learning: Challenges and Opportunities” - is one of special relevance to us.

- The central idea is to leverage technology to support and enrich the teaching-learning experience on a multi-lingual level.
- It also aims at achieving a qualitative, equitable and inclusive educational experience. Inevitably, the widespread use of technology would fast-track development.
- When applied to Indian classrooms, a multi-lingual approach would also create new pathways of learning by addressing the emerging challenges on a regional and global scale. Seen in its entirety, this is in line with Prime Minister vision of “sabka saath, sabka vikas, sabka vishwas”.
- Multilingual education predicated on the increasing use of one’s mother tongue is a key component of inclusion in education.

## Mother Tongue and NEP

- It would be pertinent to note that the National Education Policy (NEP) 2020 is a visionary document which encourages the use of mother tongue as the medium of instruction till at least Class 5 but preferably till Class 8 and beyond.
- In drawing up a road map for the future, the NEP seeks to tailor the teaching and learning process and modify it by making it holistic, value-based and inclusive. The use of mother tongue in teaching is bound to create a positive impact on learning outcomes, as also the development of the cognitive faculties of students.
- There is a pressing need to create and improve scientific and technical terminology in Indian languages. This would help transform the educational experience by making existing knowledge systems in a range of disciplines accessible to learners.
- It would be relevant to recall the words of the renowned physicist, Sir C.V. Raman, who observed with great clarity and vision that “we must teach science in our mother tongue. Otherwise, science will become a highbrow activity. It will not be an activity in which all people can participate.”

## Why we need to build an effective multilingual education system?

- Sir C.V. Raman’s observation has a prophetic ring of truth when we see it in the light of the fact that we have been able to create a large English-based education system which includes colleges that offer courses in medicine and multiple disciplines of engineering. This impressive system paradoxically excludes a vast majority of learners in our country from accessing higher education.
- It is important to bear in mind that in a survey conducted by the All India Council for Technical



Education (AICTE) in 2020 involving over 83,000 students, nearly 44% of students voted in favour of studying engineering in their mother tongue, highlighting a critical need in technical education.

- Learning in (your) mother tongue is at the core of building a sense of self-esteem and identity. While I feel that one must accord equal respect to all languages, there is a tendency, which must be noted with regret, among some educators and parents to take a condescending view of education in Indian languages in preference to English language learning.
- As a result, children’s access to their mother tongue becomes restricted, leading to a sort of socio-cultural rootlessness, especially if corrective steps are not taken. We have to teach our children not to mistake competence in English to be a yardstick of intellectual superiority or as a prerequisite for achieving success in life.


## Some recent developments

- In this context, the collaboration between the AICTE and IIT Madras to translate some courses on the central government’s e-learning platform, Study Webs of Active Learning for Young Aspiring Minds (SWAYAM) into eight regional languages such as Tamil, Hindi, Telugu, Kannada, Bengali, Marathi, Malayalam and Gujarati, is commendable.
- Such tech-led initiatives will serve to democratise higher education. At

the same time, the decision of the AICTE to permit B. Tech programmes in 11 native languages, in tune with the NEP, is a historic move which would open the door for students to a wide range of opportunities; the languages are Hindi, Marathi, Tamil, Telugu, Kannada, Gujarati, Malayalam, Bengali, Assamese, Punjabi and Odia.

## Way Forward

- Our policy-planners, educators, parents and opinion leaders must bear in mind that when it comes to education in mother tongue and local languages, we can take the example of European countries as well as Asian powers such as Japan, China and Korea, among others.
- According to the Language Census, whose findings were widely reported in 2018, India is home to 19,500 languages or dialects, of which 121 languages are spoken by 10,000 or more people in our country.
- It is our collective responsibility to revive and revitalise the 196 Indian languages which fall under the “endangered” category.
- Let us not forget that every single language constitutes a cultural crucible which stores the distilled knowledge and the wisdom of our collective consciousness — our values, traditions, stories, behaviour and norms, proverbs, sayings and idioms. Co-existing over centuries, borrowing from and nurturing each other, our languages are interwoven with our individual, local and national identity.



## Bilateral trade treaties as an instrument of India's economic progress

- **Context**
- **Introduction**
- **Some Bilateral agreements signed by India in recent times**
- **Different types of bilateral trade agreements**
- **Conclusion**

### **Context**

India has been continuously increasing bilateral trade treaties in the recent past. These treaties will be extremely effective as an instrument of India's economic progress in the post-coronavirus world.

### **Introduction**

For some time the whole world including India was affected by the Corona. During this time economic activities were decreasing and expenditure was increasing due to which a situation of economic crisis had arisen. Now after Corona, all the countries are moving ahead on the path of economic progress. India is also making significant progress in this direction. Recently, many bilateral treaties have been signed by India, which are becoming an indicator of India's economic progress in the post-coronavirus world.

### **Some Bilateral agreements signed by India in recent times:**

**India-UK Early Harvest Agreement:** Negotiations for a formal free trade agreement have been initiated in India and the United Kingdom. This talk aims to conclude early harvest agreements (limited trade agreements) in a few months. The goal of this interim agreement is to have a free trade agreement for 65% of

goods and 40% of services. There is a possibility of free trade of 90% of the goods upon completion of the agreement. Early Harvest Agreements are used to initiate bilateral trade between two countries on the restricted list of goods and services. It is considered the initial phase of a comprehensive free trade agreement.

### **India-Australia CECA Agreement**

It was recently stated by Canberra's Minister of Trade, Tourism, and Investment that Australia is committed to an "interim" Free Trade Agreement (FTA) with India. In this context, India and Australia will sign the CECA agreement which aims to provide an institutional mechanism to promote and improve trade between the two countries. Bilateral trade in goods and services between the two countries will increase from US\$ 10.12 billion in 2007 to US\$ 10.12 billion in 2020. US\$ 18.08 billion in India. Therefore, this situation is a good position to move forward on a free trade agreement between the two countries.

### **India-UAE CEPA Agreement:-**

India and the United Arab Emirates signed a Comprehensive Economic Partnership Agreement (CEPA). This is the first agreement to be signed by

India in this area. The agreement is expected to increase bilateral trade from \$60 billion to \$100 billion in five years. Intellectual property rights, also refers to the regulatory dimensions of business.

Apart from talks with the United Arab Emirates, India has long-standing talks with Canada. India's CEPA agreements with South Korea and Japan are under implementation. India is also considering a bilateral agreement with Bangladesh.

### **Different types of bilateral trade agreements:**

• **Free Trade Agreement:** A free trade agreement is an agreement in which two or more countries agree to provide preferential trade terms, tariff concessions, etc. to the partner country. Here a negative list of products and services is maintained by partner countries to which the terms of the FTA do not apply, so it is more comprehensive than in a preferential trade agreement. India has negotiated FTAs with several countries for example Sri Lanka and ASEAN. However, India has also pulled out of the RCEP, a regional free trade agreement proposed by ASEAN.

• **Preferred Trade Agreement:** In this type of agreement, two or more partners give a preferential right of entry into certain products. This is





done by reducing the tariff on an agreed number of tariff lines. Here an affirmative list, i.e. the list of products to which both the partners have agreed to provide preferential access, is prescribed. Tariffs can be reduced to zero for some products in PTA also. India signed a PTA with Afghanistan.

- **Comprehensive Economic Partnership Agreement:** These are more comprehensive than the FTA. CECA/CEPA also refers to the regulatory aspects of the business. CEPA covers negotiations on trade in services and investment and other areas of economic partnership. It also refers to agreements in areas such as trade facilitation and customs cooperation, competition, and IPR. India has signed CEPA with South Korea and Japan.

- **Early Harvest Scheme:** Early Harvest Scheme (EHS) is the precursor to FTA/CECA/CEPA between two trading partners. For example, the Early Harvest Scheme has been introduced for RCEP. At this stage, the negotiating countries identify certain products for tariff liberalization until the conclusion of the actual FTA negotiations. Thus an early harvest plan is the first step towards enhanced engagement and trust-building. Recently, India has held talks with Britain on the Early Harvest Scheme.

#### Relevance of bilateral trade agreements

In the recent past, protectionist ten-

dencies have been increasing all over the world. This protectionism trend will negatively affect globalization. Bilateral agreements become important to avoid the economic impact of this protectionist trend.

- Recently India has withdrawn its name from RCEP (Free Trade Agreement proposed by ASEAN). Due to this India has been deprived of a big market now. Therefore, India will be able to compensate for this loss through bilateral trade agreements.

- The economic progress of all countries was affected during the Corona period. Many countries have turned to protectionism. During this, India also planned an ambitious self-reliant India. Along with the self-reliant India scheme, Make in India is an export-oriented campaign, to fulfill its objectives, bilateral agreements become necessary.

- These bilateral agreements will help in achieving the ambitious target of exporting \$1 trillion of merchandise and \$1 trillion of services by 2030. Along with this, these bilateral agreements will be helpful for India to reach a 5 trillion economy in the event of de-globalization.

- At present, international organizations are dominated by western countries. India continues to have disputes with these countries over agricultural subsidies, export subsidies, etc. Bilateral agreements give India the freedom of choice so that India can take both economic progress and the welfare of the underprivileged together.

- At present multilateral trade agreements are in jeopardy. Since 10 December 2019, the functioning of the Appellate Body of the WTO i.e. AB has come to a standstill due to non-completion of the quorum. The US President is not giving his assent to the names of the new members of this institution. It is affecting multilateral trade.

- Decision making in multilateral agreements is very delaying. Bilateral agreements lead to quick decisions which give more impetus to economic growth.

#### Which areas need to be improved to take advantage of bilateral trade agreements?

- Although India continues to make bilateral agreements, India will have to improve in some areas to take real advantage of these agreements.

- India has not yet developed into a manufacturing hub. The Industries Department of India is not export-oriented. India continues to face a trade deficit. In this situation, free trade agreements can harm the local industries of India.

- To become a manufacturing hub, it is necessary that India ensure energy security. The route looks more difficult after India's claims of environmental protection are made in Glasgow.

- India has to promote manufacturing at the local level. Along with this, India will have to make such agriculture and industrial policy which will support each other.

- It will be a big challenge for India to take environmental protection along with industrial policy and economic prosperity.

#### Conclusion

In this year's budget, the possibility of suitable provisions to increase exports was being expressed, but the budget remained silent regarding increasing exports. But opportunities are being opened up by the government by reaching economic progress and trade through bilateral agreements, which in time will help promote Indian trade, industry, manufacturing, and exports. Through bilateral agreements, the trade domination of western countries will end, but India and other countries will also get the freedom of wide choice in the era of de-globalization.



# India's Digital Currency: Challenges and Prospects

- Introduction
- What is Digital Currency
- Global Scenario of CBDC
- Challenges faced in launching digital currency in India
- Why should India move towards digital currency

## Introduction

In the budget of this year, Union Finance Minister Nirmala Sitharaman has proposed to launch a digital currency. With the advent of bitcoin and blockchain technology, the whole world was moving towards digital currency. In such a situation, India thought of launching a digital currency to keep pace with technology. Before launching it, it will be mandatory for the Reserve Bank of India to evaluate its design, functionality, and utility.

## What is Digital Currency (CBDC):-

The cryptocurrency (virtual currency) was first introduced globally in 2009 by a person named Satoshi Nakamoto. This currency was based on blockchain technology and was part of a decentralized process. After this, the concept of digital currency was strengthened all over the world. After this, digital currencies were issued by the governments of many countries. Recently, India is also considering launching a digital currency. This digital currency is different from cryptocurrencies. Digital currencies issued electronically by the government are protected by encryption, and specific information is not available about their issuers.

The currency issued by the central

bank of a country is called CBDC (Central Bank Digital Currency). A CBDC is a virtual currency backed by a central bank. The popularity of cryptocurrencies demonstrated the importance of digital currency to the world's central banks.

## Global Scenario of CBDC

- Currently 87 countries (which contribute more than 90% to global GDP) are considering CBDC. Whereas in 2020 only 35 countries were making efforts in this direction.
- Fully digital currency has been launched in 9 countries. Nigeria is the latest country to launch a CBDC, e-Naira.
- Recently a pilot project called Project Dunbar is being tested between South Africa, Singapore, Malaysia, and Australia. This will enable cross-border payments.
- Among the countries with the 4 largest central banks (USA, Euro area, Japan, and the UK), the United States lags in the launch of digital currency.
- 14 countries including China and South Korea are now in the pilot phase with their CBDC and are looking to launch it as soon as possible.
- Recently, the Finance Minister of India has announced that India will launch its digital currency by the

next financial year.

## Key Features of CBDC

- A central bank digital currency is a digital form of a country's fiat currency.
- CBDCs are issued and regulated by the monetary authority or central bank of a country.
- CBDCs promote financial inclusion and facilitate the implementation of monetary and fiscal policy.
- Being a centralized form of currency, the principle of anonymity does not apply to them, whereas the principle of anonymity applies to cryptocurrencies.

## Digital currency in India

In the budget passed this year, Union Finance Minister Nirmala Sitharaman has proposed to launch a digital currency. Central bank digital currencies are digital tokens similar to cryptocurrencies issued by a central bank. These are measured by the value of the fiat currency of that country. However, for the launch of digital currency right now, the designing, social and economic aspects will need to be taken care of.

## Challenges faced in launching digital currency in India:

- Majority of the population in

India lacks digital literacy. Simultaneously, the usefulness of digital currency is in doubt in the context of lack of internet network, non-availability of digital devices, etc.

- Being based on the decentralized system of Blockchain technology, cybercrime (hacking) in cryptocurrencies is almost impossible. Whereas CBDC will be issued by the central bank as it will be based on a centralized system.

- Still the percentage of circulation of cash in the Indian economy is high. Cash operations as a percentage of GDP are currently higher than before demonetization, despite the rise in digital transactions. India's unorganized sector and agriculture are mainly dependent on cash flow. This problem is also a challenge for digital currency.

- Presently the Indian economy is suffering from the effects of Demonetisation, GST and Corona, etc. In this situation, it is necessary to stabilize the economy before any new application.

- The privacy issue with digital currency will remain. It is noteworthy that the right to privacy is mentioned under Article 21 of the Constitution of India.

### Why should India move towards digital currency?

- India is currently the youngest country. Digital infrastructure is growing rapidly in the country after the Digital India campaign. Currently, India is moving towards 5G. It is clearly showing that India's digital infrastructure is progressing and now India should move towards digital currency at par with global standards.

- India already has a robust payment infrastructure. Low transaction costs and quick turnaround in the domestic payment ecosystem have become the hallmark of the economy. The Minister of State for Electronics



and IT informed the Lok Sabha that the last few years have witnessed a manifold growth in digital payment transactions. Digital Payment Finance in India It has increased from 1,004 crores in the year 2016-17 to 5,554 crores in the financial year 2020-21.

- The number of IT professionals is increasing in India. The launch of digital currency can also generate employment for these IT professionals.

- For some time now, the government is constantly trying to organize the economy. Digital currency can play an important role in organizing the economy.

### What are the facts that RBI has to keep in mind before launching digital currency:-

#### Selection of underlying technology:

- It will be important for RBI to choose the technology underlying the digital currency first. If a CBDC were placed on a decentralized ledger technology such as bitcoin, all users would have democratic control and financial sovereignty but at the same time, the decision-making system would be extremely slow (ie - it takes an average of 10 minutes to settle a bitcoin transaction) which could affect economic activity. will lead to delay. If this is placed on a centralized system then the problem of cybercrime can arise.

#### Ownership of the digital currency

- At the same time, a fundamental

problem is that if the ownership of digital currency is launched on an account-based basis, the potential risk for banks will increase. The problem will come.

#### Supply assurance

- If CBDCs are issued over physical currency that RBI prints and injects into the economy every year, this process will significantly expand the balance sheet. Thereafter RBI will have to take an additional amount equivalent to a government loan or any other security. This will raise concerns about how the RBI will allocate its investment portfolio. can solve.

- Along with this, it has to be ensured whether the rules of interest will apply to digital currency or not.

#### Public welfare

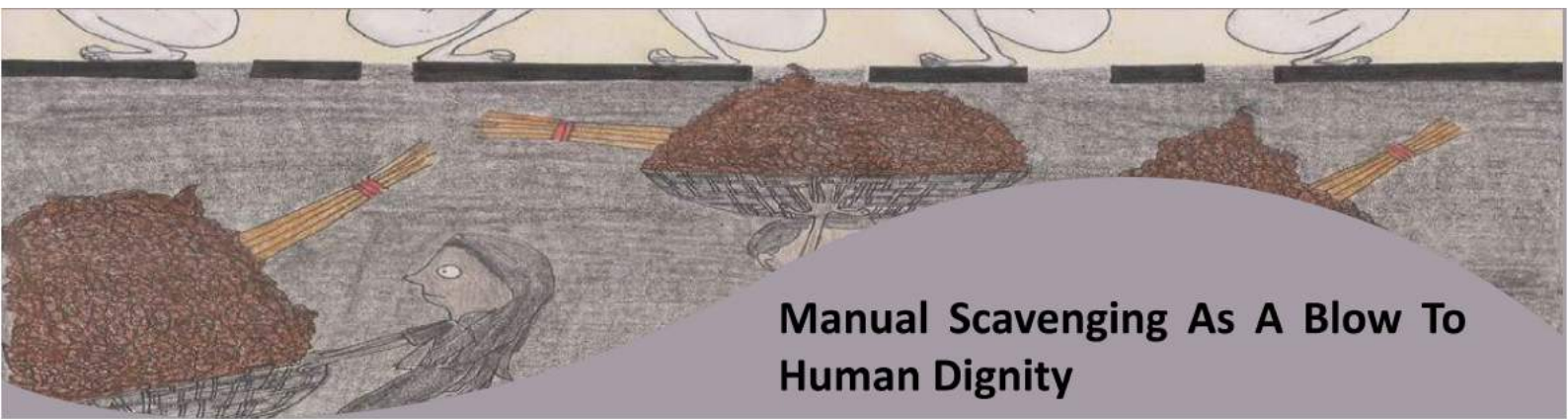
- India is a welfare state. Before implementing digital currency, India must see the economic condition of the most disadvantaged people and their impact on digital currency.

- Along with launching digital currency, the general public will have to be acquainted with cyberattacks, technical knowledge of digital currency, etc.

#### Conclusion

- RBI will have to look at the economic and social impact of digital currency as well as its impact on Indian society. RBI will have to do a lot of work on its design, design, usability, etc. before starting it as a pilot project first.

- Before adopting a CBDC, RBI needs to consider several aspects such as the underlying technology and the impact on cash circulation and its design. The RBI has to take into account its monetary sovereignty in determining the digital currency framework.



## Manual Scavenging As A Blow To Human Dignity

- Reference
- Background
- What is Manual Scavenging
- Challenges before manual scavengers
- Measures are taken to end manual scavenging
- Way ahead

### Reference

After independence, there has been a vast change in the mindset of the determinants of elections in Indian democracy. But “caste” has been such a factor in the election which is present till now. We can say that the caste system has become a feature of Indian society. And the manual scavenging (the practice of manual scavenging) present as a serious effect of this caste system is still injuring human dignity.

### Background

- The practice of manual scavenging has existed in India for centuries. Fashion has told in his travelogue that the people of the lower class of the society were called Chandal, they were kept separate from the society and outside the village and city. This class was considered to be untouchable and this class was mainly engaged in the work of cleaning especially roads, drains, and manual scavenging.
- For the first time in modern India, Mahatma Gandhi raised his voice against untouchability and inspired all the people for cleanliness himself. After independence, all the governments of India also took cognizance of this inhuman act. Former Prime Minister Manmohan Singh called it

caste apartheid, while the current Prime Minister called it a stigma on his forehead. Although it was termed as a stigma by all the parties, there was no strong will by these parties to remove it.

### What is Manual Scavenging:-

Manual scavenging or manual scavenging is the removal, carrying, disposal of human waste from dry toilets or open drains, sewers, etc., by a person by hand.

### Manual Scavenging: India's Situation

- In July 2019, the Ministry of Social Justice and Empowerment informed the Parliament that 54,130 cases of manual scavenging have been registered in 170 districts of 18 states of the country.
- Generally only temporary people in the unorganized sector are hired for this undesirable and risky work in India. They usually come from a particular caste.
- Manual scavengers also do not have adequate safety equipment while at work. Due to this, there is a possibility of death in this work. It is estimated that every five days in India, a sanitation worker who cleans the sewer by hand dies.
- According to Human Rights Watch,

the remuneration for low-level manual cleaning work in India is also very low. In the absence of fixed income, their bargaining power also decreases. Sometimes cleaning work is done instead of necessities like food.

- Not only men but women are also employed in such work. All of them allegedly belong to the lower caste who have been discriminated against in respect of health, education, employment, land wages, etc.
- Although manual scavenging has been prohibited in India, it is still associated with the caste system and remains a stigma on human dignity.

### Challenges before manual scavengers:-

Manual scavengers have to do this work at the risk of their dignity, safety, and health. Manual scavengers are vulnerable even among vulnerable workers. Many times they have to face unwanted challenges during work, but they do not have proper working conditions and protection from accidents at the workplace.

According to the recent report of the World Health Organization, the major challenges and risks faced by sanitation workers can be classified into four dimensions-

- **Health concerns:** The biggest challenge for manual scavengers is

health concerns. Due to the lack of health and safety equipment in their working conditions, the sanitation workers even die. During the cleaning of sewers, the sanitation workers come in contact with poisonous gases and harmful chemicals, due to which they have to face serious diseases.

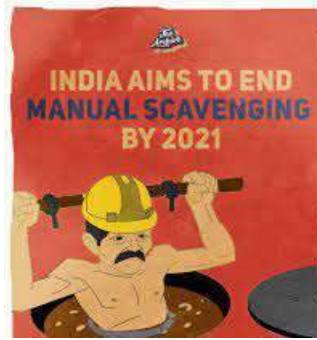
- **Weak legal protection:** The main reason for unorganized and temporary manual scavengers is due to the inaction of laws. The groups and organizations demanding the rights of these workers and improving their working conditions are also not strong enough. The provisions of the Prohibition of Employment and Rehabilitation Act as manual scavengers are not followed.

- **Financial insecurity:** Almost all the people employed as sanitation workers come from the so-called lower castes leading a life of extreme poverty and deprivation. Their wages are very low and uncertain due to lack of awareness and deprivation.

- **Social Discrimination:** Social discrimination against sanitation workers is deeply rooted. Even they have to face untouchability and complete social isolation.

### The reason for the continuation of manual scavenging

- The caste system has become an unnecessary feature of Indian society. Since manual scavenging was done and practiced for centuries only by people of a certain caste, they have also been declared socially untouchables. As a result, their socio-economic development has lagged so much that apart from the work of cleaning, they have no other way to survive. The WSO's Health, Safety, and Dignity of Sanitation Workers - An Initial Assessment Report also identified caste-based discrimination as the root of the problem.



- Despite restrictions on manual scavenging and construction of dry latrines, 1,82,505 manual scavengers and 7,40,048 households in India use manual scavengers to clean dry latrines. Among the manual scavengers, the number of women is much higher than that of men, which ranges from 95-98%, one of the main reasons is that the benefits of most rehabilitation schemes reach only men.

- According to the survey of Rashtriya Garima Abhiyan, more than 60% of manual scavengers are employed in rural areas. In rural areas, there is a lack of rehabilitation plans and awareness of rights. Due to this majority of manual scavengers are not able to participate in the rehabilitation schemes.

### Measures are taken to end manual scavenging

#### Constitutional Efforts:

##### In Preamble

- Establishment of EQUALITY of status and of opportunity and assuring the dignity of the individual .

##### Fundamental Rights:

- Right to Equality- Article 14, 15, 16, 17
- Freedom of choice of occupation has been given in Article 19.
- Article 21 deals with the freedom to lead a life of dignity.
- Citizens have the right against exploitation in Article-23.

##### Directive principles

- Article 42 contains provisions regarding just and humane conditions

of work in the Directive Principles of State Policy.

- Article 43 has been made for the provision of subsistence wages for the workers.

#### Legal effort

#### Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993.

- Under this Act, considering manual scavenging as a cognizable offense, there is a provision to impose both fine and imprisonment, which may be punishable with imprisonment for one year or with a fine of Rs 2,000 or with both.

#### Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

- The state will be responsible for the rehabilitation of the manual scavengers' families under this Act. Also, providing training to manual scavengers, giving loans, providing accommodation, etc. will be the responsibility of the state.

#### Other efforts

- Through Rashtriya Garima Abhiyan and Swachh Bharat Abhiyan, an attempt has been made to spread awareness about this problem and to reduce the root (uncleanliness) of this problem.

#### Way ahead

- The efforts made by the government to end the practice of manual scavenging are commendable. But still, this practice exists, so the following measures can be accepted in this context.
- In the practice of manual scavenging, 98% of women are employed, due to which women are economically weak along with caste. Their economic empowerment will help get them out of this stigma.



## The Russia-Ukraine dispute raises questions on the relevance of international law

- Context
- Introduction
- What is International Law
- International law according to some other jurists
- Arguments in favor of the utility of International Law
- Conclusion

### Context

The relevance of international law has come under doubt after the recent Ukraine- Russia war.

### Introduction:

Ukraine was attacked by Russia amid widespread tensions rising internationally. Ukraine was invaded by Russia to prevent the spread of NATO from reaching Ukraine and to legitimize its activities in Crimea. It is to be known that before this Ukraine was part of the Soviet Union and with the end of the Cold War in 1991, Ukraine came into independent existence. Russia and the United States have had many agreements with Ukraine in which the security of Ukraine was ensured. But the recent attack by Russia has crossed the limits of international law. This move by Russia is putting the relevance of international law in doubt.

### What is International Law:

International law refers to the rules governing the mutual relations between nations. Formerly it was known as the "Law of Nations". But the use of this word created a confusing situation. The term international was first used by Bentham in his book "Principles of Morals and Legislation" in 1789.

### International law according to

### some other jurists

• **According to Hall:** - International law consists of certain rules of conduct which modern civilized state regards as binding on them in their relation with another.

• **According to Brierley:-** Law of nations or International law is the body of rules and principles of action, which are binding on civilized states in their relations with one another . ,

• **According to Oppenheim:** - Law of nations or international law is the name of a body of customary and treaty rules which are considered to be legally binding in their relations with one another.

### Has international law become irrelevant in the present world?

### Arguments against recognition of international law as law

Controversy often prevails among various jurists regarding the relevance of international law. Thinkers like Austin, Bentham, Holland, Hobbes, and their supporters believe that international law is not law. In this regard, the following arguments are given by these jurists-

• **According to Austin:** Law should be made by a sovereign authority and it should be enforced by them. International law is not created by a sovereign authority, so it cannot be considered a "law".

• **According to Holland:** Rules ,whose observance depends on the will of the states and is motivated by their behavior towards each other. They can only be humbly placed in the category of law.

Apart from these definitions, some other arguments raise questions about the relevance of international law as "law"-

### Lack of senior political power:-

• International law is devoid of any political authority. There is nobody that can compel states to abide by the provisions of international law.

• We have often seen that strong nations continue to violate laws. In the case of the Philippines and China, the International Tribunal ruled in favor of the Philippines, but China did not accept that decision. Russia's recent attack on Ukraine clearly shows that Russia is also violating the rules of the international community.

• The United Nations has failed to punish these nations which are affecting the relevance of international law.

### Lack of law-making body

• There is no law-making body for making of international law. States make international law through mutual treaties. The past treaties are made by the states, so the states break the treaties in the



name of sovereignty when necessary.

### Incompetence of International Court

- There is no other tribunal other than the International Court of Justice, which has the authority to apply international laws to the state.
- The biggest problem is that the International Court of Justice does not have contempt power.
- Lack of democracy in global institutions
- Due to the politicization of the United Nations Security Council (known as the global executive) has become less credible. Here 5 countries (America, China, Russia, France, Britain) have privileges. These countries also use the veto to stop the rules passed by the United Nations General Assembly by the majority. ,
- Western countries dominate global economic organizations and the United Nations, where they make rules according to their will. Questions were also raised on the role of the World Health Organization during the Corona period.

### Concept of nation-state

- States give more importance to sovereignty due to the nation-state concept that came in modern times. At times, due to the importance of sovereignty, states are free from fear of any kind of punishment while breaking international laws.
- Often the rules of IMF, World

Bank, etc. are violated by nation-states.

### Empowering Bodies:-

- The law in the states applies to individuals. Whereas in international law states are parties. States are more powerful than individuals, so they violate laws.

Abuse of international institutions, by India, Pakistan, and Israel On nuclear disarmament, encroachment on the South China Sea by China, often unilateral sanctions by the US on other countries and have reduced the relevance of international law. That is why many jurists consider international law to be merely “definite international morality” rather than the actual law. This belief has been further strengthened by Russia’s invasion of Ukraine.

### Arguments in favor of the utility of International Law:

Oppenheim considers International Law to be the real law and he also argues in terms of its effectiveness.

**According to Oppenheim,** “The states of the world together constitute a body, bound together by their common interests. These rules create wide contact between them and are the root cause of the international community. These rules are the culture of the states. , do not affect the difference in economic structure or political system. Although there is a difference between the mutual jurisdiction of states and the mutual jurisdiction of individuals, it can certainly be said that the existence of international law regulates certain conduct of states.

- Supporters of Oppenheim have put forward many such arguments that prove the usefulness of international law, it is often a violation of the conventions and conventions of the base, which is not true. If we look at the Russia-Ukraine dispute itself, this

dispute has come to its intensity after 30 years, but international law has played a major role in keeping this matter quiet for 30 years.

- International treaties are enforced by foreign offices, ambassadors, courts, and other government bodies in all states, which demonstrates the importance of international law.

• Whenever a state violates international law, it tries to justify its action by contradicting international law. If the states do not give importance to international law, then they are not responsible to anyone for their action, but the arguments given by them show that international law is important.

- Although cases of violation of international law are often seen, if all the countries continue to violate it in the absence of international law, there will be unrest in the world.

• Many states have accepted the obligation of international finance in their constitutions, for example, Article 6 of the United States Constitution provides that, “International law is the supreme law of the country”, which has also been recognized by the United States Court. has given.

- States often file their complaints with organizations such as the International Court of Justice, the IMF, the World Bank, or the World Health Organization. There are procedures to be followed in the context of a dispute. Such a system has been possible only because of international law.

• When a country violates international law, sanctions are imposed on it by the international community. For example scientific and economic sanctions imposed on India in 1974, nuclear sanctions on Iran, economic sanctions imposed by many countries on Russia in the recent case.

- It is seen that international laws are often violated only on political issues, International laws are recognized on issues like environmental

issues, globalization, terrorism, organized crime, cybercrime. Thus we see that customs and treaties are often considered by the state, and are rarely violated by some states. There is also a provision of sanctions in violation of international law, which proves the relevance of international law as “law”. Thus it is of useful relevance to the present world.

### The role of international law in ending the current crisis

- The refugee crisis in Ukraine will begin after the current crisis. International human rights laws will remain in effect during this refugee crisis.
- Russia should be pressured by the world community to accept the Geneva Convention and the Budapest Convention.
- There is also a situation of sanctions being created by Russia for not listening to the global community. Germany has imposed economic sanctions on Russia by banning Nord Stream 2.
- The world community should take a decision, in consultation with all stakeholders, on the “principle of state recognition” necessary to bifurcate Ukraine.
- In this context, the United Nations and the United Nations Security Council have to play an effective role.

### India and Russia - Ukraine Crisis

India’s priority is Indian residents stranded in Ukraine. India should first think about bringing those citizens to India.

Following a request by Ukraine, Indian Prime Minister Narendra Modi has decided to talk to Russian President Vladimir Putin about this crisis. India has been a traditional friend of Russia. Along with this, India is a strong supporter of global peace. India can use its diplomacy to end this

crisis. If this India plays an important role in solving this crisis or it will strengthen India’s global stature.

### Conclusion

International problems are increasing in the present time. There are many problems like global warming, cybercrime, cryptocurrency, terrorism, organized crime, money laundering for which the international

community has to come together. International law is highly relevant in these matters. National states sometimes violate international law due to political ambition, but this does not mean that international law has become irrelevant. Efforts should be made to resolve the dispute between Russia and Ukraine diplomatically, making the global community an important role in this matter.



### NOTES





## Pathology of school closure in India

- **Why in News**
- **Context**
- **Analyse the root causes of school closure in India**
- **Adopt 'PERI' Approach**
- **Way Forward**

### **Why in News:**

In the last two years, India has achieved the dubious distinction of becoming the country with the second longest COVID-19 pandemic-linked school closure in the world — next only to Uganda.

### **Context:**

In the last two years, India has achieved the dubious distinction of becoming the country with the second longest COVID-19 pandemic-linked school closure in the world next only to Uganda.

According to a United Nations report, it is an estimated 82 weeks, with some intermittent classes in between. Much has been said, written and published about the impact of school closure on learning loss.

However, there has been very limited discourse on why in spite of scientific evidence to support re-opening Indian States continued to remain reluctant to reopen schools.

### **Analyse the root causes of school closure in India:**

To start with, one of the biggest reasons for continued school closure has been widespread misinformation. Unsubstantiated statements such as 'the third wave would affect children' and 'let's wait for vac-

ination of kids before reopening schools' were made by influential individuals and amplified on social media. These scared parents and (incorrectly) linked school reopening with COVID-19 vaccination of children. Occasional reports of children being hospitalised in different parts of the world were on loop on television channels, sensationalising the matter; while it boosted their target rating point (TRP), it harmed hapless children.

Two, the opinion of a small section of privileged parents and self-proclaimed representatives of their association — often not fully understanding the complexity of the issues — dominated and prevailed in the mainstream discourse. Though surveys had indicated that poor and middle class parents — no matter which part of the country they were from — wanted schools to be open, they were largely ignored in decision making, which was also influenced by 'sensational' newspaper reports and high-pitched TV debates. Many 'experts-on-everything' appeared on television channels with the argument 'lets err on the side of caution', as if epidemiological and scientific evidence were of no value. Every time privileged parents or an 'expert on everything' spoke, they deprived

children from poor and marginalised backgrounds of their opportunity of and right to education. It needs no reiteration that, in the last two years, already wide educational inequities have only widened further.

Three, the Government's response, at all levels, to the misinformation was delayed and arguably insufficient. Though science communication increased over a period of time, it did not match the pace of misinformation. Politicians in most States played to the gallery and used the opposition (by a small group of the mostly privileged) to re-open schools as an excuse to delay school reopening.

Four, the lived experience of citizens from the second COVID-19 wave in India — in which people had to fend for themselves — dented the trust of the average citizen in the Government and its institutions. Alongside, the widespread misinformation not countered by the Government and not engaging with stakeholders for regaining trust, compounded the challenge.

Five, for many months after the initial closure of schools, there was almost no planning and discussion on the need for objective criteria to reopen schools. In early January 2021, India had almost declared victory over the

COVID-19 pandemic. However, there was very little discussion and urgency to reopen schools.

**Delay in school reopening has revealed societal aspects as well:**

First, it is not a given that those with the influence and voices would speak on behalf of the poor and the voiceless.

Second, school closure has had the worst impact on children who were already at a disadvantage.

Third, the learnings during the novel coronavirus pandemic have been (wrongly) equated with completion of the syllabus.

**Adopt 'PERI' Approach:**

In the weeks ahead, schools are likely to reopen in more States and for additional classes/grades; however, it will be unfair to our children if we simply move on without sufficient measures to ensure that schools start functioning at full capacity. It is possible through a structured approach of P-E-R-I: Prepare; Engage; Reimagine and Innovate.

Prepare for the continuity of school education. The necessary planning and everyone developing a perspective on the risk of COVID-19 is absolutely essential. Even when the pandemic winds down, COVID-19 cases will continue to be reported. Occasionally, there could be a rise in coronavirus cases in various settings. Therefore, every State needs to develop a road map, strategies and plan ahead to prevent avoidable disruptions. The objective criteria for school closure — if at all — needs to be developed and such a decision or decisions should be implemented in a decentralised manner at the block or the district level. All of us need to develop a perspective about the impact of COVID-19 on children. As an example, in many settings, the risk of hospitalisation of children due to



dengue, malaria or diarrhoea is far greater than with COVID-19. If we do not close schools for those conditions, why do so for COVID-19?

Engage with key stakeholders including parents and raise awareness about the importance of in-person education and the concept of holistic child development. There is a need for the continued engagement of all key stakeholders parents, community members, schools, public health experts and the local governments to counter any misinformation in the course of things and bring learning on track. Learning (as well as nutrition) loss has been the maximum for younger children. However, anganwadi, pre-nursery and nursery schools in most States and primary schools in many States continue to remain closed, which should be opened urgently and immediately.

Reimagine every facet of school functioning such as improved ventilation and blended learning methods. More importantly, there are reports that children from many poor and marginalised communities have already dropped out of schools and may not return to the education system, i.e. children pulled into child labour and other paid and unpaid work. The task clearly would be only half done when schools open. Special initiatives socio-political engagement and discourse need to be started so that every single child who is in need of education

can return to in-person learning. It is also an opportunity to revive school health services in Indian States, and institutionalise regular counselling and mental health services for school-age children, especially for adolescents.

Innovate for compensating for learning loss and make schools place for holistic child development. Schools are far more than a place to complete the syllabus. A child meeting and interacting with other children in real life and in school contributes to the emotional, social, cognitive, communication, and language development. There is a lot of focus on compensating for learning loss and the months before the next academic session starts are being suggested to be used for catching up on missed lessons. It would be a narrow approach and this period is far too short.

**Way Forward:**

For the majority of the poor and lower- and middle-income families, quality education is the only hope to come out from the vicious cycle of poverty and think of a bright future. The widening educational inequities now mean that the pandemic has deprived the poor and the most vulnerable in society of this opportunity.

Continued school closure and a hesitation in reopening academic institutions are the symptoms of a deeper malady in India's education system as well as a reflection of the value decision makers attach to school education. It is our socio-political responsibility that everything needed to ensure the safe return of every child in the country to the school is done. It is not a matter of choice but what we, as a responsible society, must do urgently.



# SHORT ISSUES

# NATIONAL

## 1 Kisan Drone launched in India

Nowadays, Drone technology is used in security, wildlife conservation, defence, border monitoring and many more areas. Its better usage will help in progress and security of the country. The use of Kisan Drones has been started in India for the development of the agricultural sector and for providing necessary help to the farmers in their agricultural work. Prime Minister Narendra Modi has inaugurated Kisan Drones through video conferencing as part of a special campaign aimed at helping the farmers of the country. Kisan Drone Yatra has been started first in Punjab and then in Goa. Kisan Drone Yatra has also started in Kannauj Uttar Pradesh, Neemuch Madhya Pradesh and Raja Mangaram Andhra Pradesh. Kisan drones have started working in Salem in Tamil Nadu, Golaghat in Assam, Jaipur in Rajasthan

Karimnagar in Telangana and Manesar, Haryana. This is a new chapter in the direction of the modern farming system of the 21st century. This is the beginning of the New Age Revolution. The launch of Kisan Drones will not only develop the drone sector but will open up possibilities of its use in many areas. This will lead to the development of an ecosystem of drone start-ups in the country. With these objectives, Indian Prime Minister Narendra Modi inaugurated 100 Kisan drones for spraying pesticides in the country's agricultural lands and fields.

The PM said that earlier there was a perception in the name of drones that it is related to the army or things used to fight enemies but now it is a new chapter in the direction of the modern farming system. The PM said that this launch will not only

prove to be a milestone in the development of the drone sector but will also open up an infinite sky of possibilities. Drones will be used to spray pesticides in the fields. With this, Garuda Aerospace has set a target of making 1 lakh Made in India drones in the next 2 years. This will create new jobs and new opportunities for the youth.

Union Finance Minister Nirmala Sitharaman said that the Center will promote farmer drones, chemical-free natural farming, public-private partnerships for delivery of digital and high-tech services to farmers across the country in the financial year 2022-23. She had said that farmer drones would be promoted for crop evaluation, digitization of land records and spraying of pesticides and nutrients.

## 2 Budget Boost for River Linking Projects

Recently in Budget 2022-23, an announcement was made for the implementation of the Ken-Betwa Link Project with an estimated cost of ₹44,605 crore. Budget also announced that Draft DPRs of five river links, namely Damanganga-Pinjal, Par-Tapi-Narmada, Godavari-Krishna, Krishna-Pennar and Pennar-Cauvery have also been finalised.

### Background:

• **National perspective plan (NPP):** The proposal to interlink rivers gathered momentum when the Ministry

of Water Resources formulated a national perspective plan (NPP) for optimum utilisation of the country's water resources during the 1980s.

• This ambitious plan of linking of the rivers received a further boost when Atal Bihari Vajpayee was the Prime Minister. Under the NPP, the National Water Development Agency (NWDA) identified 14 river links in the northern Himalayan river development component and 16 in southern peninsular river development component for inter-basin transfer of water.

### About Ken-Betwa Link Project

- The Ken-Betwa Link project proposes to transfer water from the Ken river to the Betwa river — both tributaries of Yamuna.
- With a 2-km long tunnel, this link project will have a total of 221 km long canals.
- The project is seen as a panacea for water-starved Bundelkhand region in Uttar Pradesh and Madhya Pradesh covering a total 13 districts will primarily benefit from this project.
- This river link is expected to create 9.08 lakh hectares of irrigated land,

drinking water for 62 lakh people, 103 MW hydro and 27 MW of solar-power.

#### Concerns-

- Experts said RLP is an extravagant scheme involving huge costs.
- A few environmentalists and hydrologists asserted that RLP can do

irreversible damage:

1. The large network of dams and canals will alter the natural drainage leading to flooding.
2. Vast tracts of lands will submerge leading to displacement of innumerable people.
3. Increase the vulnerability of already very fragile ecosystem like

Himalayas, Western Ghats

- Some river basin experts said that surplus water should not be diverted from a river on a large scale as the excess water is necessary to keep river basins healthy as it percolates down to the soil, recharges groundwater, etc.

## 3

### International Conference on Indian Temple Architecture 2022

The Amrit Mahotsav of Independence is being celebrated in different levels and forms with the aim of accelerating the cultural integration of India. Under the aegis of the same festival, the Archaeological Survey of India (ASI), under the Ministry of Culture, Government of India, organized a two-day international conference on the theme 'Devayatanam' - A Long Journey of Indian Temple Architecture on 25- 26 February 2022 at Hampi, Karnataka. The conference was inaugurated by the Union Minister of Culture, Tourism and Development of the North Eastern Region of India. The inaugural session was held at Pattabiram Temple in Hampi. Various styles and forms of temple architecture like Nagara, Vesara, Dravida, and Kalinga were discussed in the conference.

The aim of the conference is to discuss the philosophical, religious, social, economic, technical, scientific, art and architectural aspects of the temple. A dialogue on the development and progress of different styles of temple architecture like Nagara, Vesara, Dravida and Kalinga other temples were also organized in the conference. This conference will be beneficial for scholars, students of Indian history, archaeology, culture and architecture and the general public. The aim of the conference is

to generate interest among scholars and students, to learn and honor the heritage.

Temples have always been an integral part of Indian life and its ecosystem. Temple building was not only practiced as a sacred act in the sub-continent, but the idea also spread to the nearest neighborhoods such as South-East and East Asia so it becomes an interesting study to see how the art and technique of temple architecture propagated from India. and this art spread to other parts of the world

#### Importance of Hampi in Indian Temple Architecture:

Hampi, the capital of the Vijayanagara Empire, was one of the greatest empires of medieval India during the fourteenth century. It is located in the state of Karnataka. It has been a symbol of India's cultural pride. It was founded by Harihara and Bukka in the year 1336.

Classified as a World Heritage Site by UNESCO (the year 1986), it is also the "largest open-air museum in the world". Hampi is surrounded by the Tungabhadra River in the north and stony granite mountains on the other three sides. The ruins of the fourteenth century of Hampi are spread over an area of about 26 square

kilometers. The monuments of Vijayanagara city, also known as Vidya Sagar in honor of the saint Vidya Narayan, were built between 1336-1570 AD by kings from Harihara-I to Sadashiv Raya etc. Most of the buildings here were built by the great ruler of the Tuluva dynasty, Krishna Deva Raya (1509-30 AD). The temples of Hampi are known for their large dimensions, floral ornamentation, conspicuous carvings, huge pillars, lavish mandapas and sculptures and traditional paintings depicting themes from Ramayana and Mahabharata. The Vitthal temple at Hampi is a classic example of the artistic style of the Vijayanagara Empire. The idols of Goddess Lakshmi, Narasimha, and Ganesh carved out of a single stone are remarkable for their vastness and grandeur. Among the Jain temples located here, Krishna Temple, Pattabhiram Temple, Hazara Ram Chandra, and Chandra Shekhar Temple are prominent.

# INTERNATIONAL

1

## India-UAE CEPA

### Why in News?

- Recently, India and the United Arab Emirates signed a Comprehensive Economic Partnership Agreement (CEPA)
- The accord was signed by Commerce and Industry Minister Piyush Goyal and UAE's Minister of Economy Abdullah bin Touq Al Marri.
- The bilateral trade pact is India's first in the region and the first comprehensive trade agreement with any country in a decade.

### Reduced Tariff

Under the pact, India agreed to provide tariff concessions on gold imports, while the UAE eliminated tariffs on jewellery imports into that country.

It will allow 90% of the country's exports duty-free access to the Emirates.

The CEPA is likely to benefit about \$26 billion worth of Indian products that are currently subjected to 5% import duty by the UAE.

### It is set to reduce tariffs for 80 percent of goods.

The remaining 20% includes goods that are "sensitive" for domestic businesses and would require more time to reach a state when tariffs can be lowered.

Further tariff concessions were expected on both sides over 5 years that would lead to lower tariffs for 98 per cent of exports and 90 percent of imports from the UAE.

Indian exports are set to get zero duty access within a further 5 to 10

years, including electronic goods, chemicals and petrochemicals cement, ceramics and machinery accounting for about 9 percent of the value of current exports to the UAE.

### Significance of the Deal

- It is expected to boost bilateral trade to \$100 billion in the next five years from \$60 billion now.
- It will help in realizing the ambitious target of U.S.\$1 trillion of merchandise exports and U.S.\$1 trillion of services exports by the year 2030.
- Through the pact, Indian exporters will also get access to the much larger Arab and African markets.
- India's labour-intensive and employment-generating industries such as gems and jewelry, textiles, leather, footwear, sports goods, furniture, pharmaceuticals, medical devices and automobiles are expected to gain the most from the pact.
- The pact will create investment opportunities for Indian investors in establishing specialized industrial advanced technology zones in Abu Dhabi, focusing on logistics and services, pharmaceuticals agriculture, steel and aluminium.

This CEPA with the UAE will pave the way for India to enter the UAE's strategic location, and have relatively easy access to the African market and its various trade partners which can help India in becoming a part of that supply chain, especially in handlooms, handicrafts, textiles and pharma.



### NOTES

# 1

## The Significance of EU-India Partnership in the Indo-Pacific

### Why in News?

Europe and its key Indo-Pacific partners are joining forces to deliver a positive agenda for the region at the ministerial Forum taking place in Paris under France's ongoing presidency of the EU. This first-of-its-kind event brings together the foreign affairs ministers from EU member states and 30 Indo-Pacific countries, including India's Foreign Minister Jaishankar, with France and the EU as co-chairs.

The issues at stake in this crucial region, including security challenges, are of concern to all EU countries. Europe's answer is a comprehensive and positive agenda of solutions, rather than a military confrontation. This is also the guiding principle of the EU Strategy for Cooperation in the Indo-Pacific, unveiled in September 2021. Europe can offer the countries of the region a sustainable, transparent model for preserving their sovereignty, and an alternative to other models, such as China's. Forum is France's contribution to translating this strategy into actions.

### India, EU & Indo Pacific Region

- On the issues of security and defense, connectivity and common goods, India has a central role to play.
- France, itself a nation of the Indo-Pacific, has a long-standing commitment to upholding the law of the sea in the region, particularly through permanent naval presence and joint exercises, such as yearly "Varuna" drills with India.

- Other EU countries are increasingly present at the national level.
- Stronger European engagement will help to better the response for the security challenges in this vast region.
- This would be a significant step that demonstrating the EU's role as a provider of stability in the region.

### India's recent Participation with EU in Indo-Pacific region

- India's support for France's membership of the Indian Ocean Rim Association (IORA).
- India's backing for a larger European role in the Indo-Pacific.
- India has welcomed the interest of Germany and Netherlands in building a new geopolitical architecture in the Indo-Pacific.
- Some of the crucial areas that India and EU can work together include joint efforts in capacity building against challenges like piracy, counter-terrorism etc and cooperation in enhancing interoperability and domain awareness, maritime technologies, blue economy etc.

### Conclusion

- In a world of growing tensions, the core goal of France's EU Presidency is to strengthen Europe's sovereignty and its ability to decide its own fate.
- This endeavor matches India's fundamental aspiration for strategic autonomy. That is why France believes that the EU can be India's natural partner to reshape the post-pandemic world and promote a multipolar order.



### NOTES

# ENVIRONMENT

1

## Hope Island

Andhra Pradesh government has recently planned for the development of air connectivity between Kakinada City and Hope Island located in “Kakinada Bay” which will also give a new direction to the beauty of Godavari estuary in Andhra Pradesh.

Hope Island is part of the Coringa Wildlife Sanctuary in Andhra Pradesh and is also home to the Olive Ridley Turtles in India. For their protection, NTPC is also working here according to Corporate Social Responsibility (CSR) norms.

Hope Island acts as natural break water and protects the city of Kakinada from cyclones in the Bay of Bengal. Storms coming from the Bay of Ben-

gal first hit this island. Fishermen are advised to shift but they never leave. The island is 8.04 sq km in the shape of a tadpole in the Bay of Bengal. It is formed from the sand of the Coringa River over 200 years.

The process of getting the status of UNESCO World Heritage Site for Coringa Wildlife Sanctuary has also been started by the state government.

A total of 120 species of birds are found in this wildlife sanctuary, in which herons, flamingos and pheasants are prominent. Apart from this, golden jackals, sea turtles and otters are also found here.

A variety of birds are found in this sanctuary due to the availability of a

large quantity of food items.

The importance of this wildlife sanctuary can be gauged from the fact that some species on the verge of extinction like a long-billed vulture and white ibis are also found here.

### Coringa Wildlife

- The sanctuary is located near Kakinada in Andhra Pradesh. It is the second-largest mangrove forest area in the country after the Sundarbans delta of West Bengal in India.
- More than 120 species of birds are found in this sanctuary.
- The total area of this sanctuary is 235.70 sq. km.

2

## Objection against declaring wildlife as vermin in India

Recently, People for the Ethical Treatment of Animals (PETA) has opposed declaring animals as vermin in India and appealed that the provisions declaring animals as vermin should be removed. In fact, the Government of India has added some new provisions for the protection of wildlife through the Wildlife Protection Amendment Bill 2021. For this reason, PETA has opposed declaring some animals as Vermin.

Section 62 of the Indian Wildlife Protection Act 1972 has made a provision to declare some wildlife as vermin. It provides that the Central Government may, by notification, declare any animal other than those specified in Schedule I and Schedule

II to be vermin.

For the period for which they will be declared vermin, the same can be done as given in the notification. As long as this notification is in force, such wildlife will be known as Schedule 5 species.

In 2016, Uttarakhand and Bihar declared wild boars as vermin. In the year 2020, Uttarakhand had also declared Nilgai as a vermin, which means that no permission would be needed to kill such creatures for 1 year.

Recently, the farmers of Orissa had also demanded to declare wild boars as vermin because they cause great damage to the crops. Earlier, mon-

keys have also been declared vermin in Himachal Pradesh. In 2016, the Agriculture Department of the Himachal Pradesh government had said in its report that there was a crop loss of Rs 184.28 crore due to wildlife, especially monkeys. Similarly, there has been a demand for the declaration of Neela Kozhi bird in Kerala, wild boar as vermin in Goa in recent times.





## 1 Chandrayaan-2 Orbiter Detects Solar Proton Events

### Why in News?

Recently, a large Area Soft X-ray Spectrometer (CLASS), a payload on-board Chandrayaan-2 Orbiter, has detected solar proton events (SPEs) which significantly increase radiation exposure to humans in space, the Indian Space Research Organisation (ISRO) said on Wednesday.

### Context:

- Chandrayaan-2 Large Area Soft X-ray Spectrometer (CLASS) on-board Chandrayaan-2 Orbiter detected SPE due to an M5.5 class solar flare that occurred on January 20, 2022. The CLASS instrument also detected a Coronal Mass Ejection (CME) event as it passed through the moon due to an M1.5 class solar flare that occurred on January 18.
- CME travels at a speed of about 1,000 km/s and it takes about 2-3 days to reach the Earth.
- The signature of this event is missed by the GOES satellite NASA, as Earth's magnetic field provides shielding from such events. However, the event was recorded by Chandrayaan-2. The CLASS payload on Chandrayaan-2 saw both the SPE and CME events pass by from two intense flares on the Sun.
- The instrument on January 18 also recorded coronal mass ejections (CME), a powerful stream of ionised material and magnetic fields, which reach the Earth a few days later, leading to geomagnetic storms and lighting up the polar sky with auroras.
- Such multi-point observations

help us understand the propagation and its impact on different planetary systems.

- The SPE event was seen by NASA's Geostationary Operational Environmental Satellite (GOES) satellite orbiting around Earth. However, the CME event was not detected by GOES.

### What is Solar flare?

- When the Sun is active, spectacular eruptions called solar flares occur that sometimes also spew out energetic particles (called Solar Proton Events or SPEs) into inter-planetary space. Most of these are high energy protons that impact space systems and significantly increase radiation exposure to humans in space. They can cause ionisation on large scales in Earth's middle atmosphere.
- Many intense solar flares are accompanied by CMEs, a powerful stream of ionised material and magnetic fields, which reach the Earth a few days later, leading to geomagnetic storms and lighting up the polar sky with auroras.

### Way forward:

- These are the natural phenomenon and we cannot stop it. Prediction and prevention is the only option to reduce the effect of these storms.
- For example at the Space Weather Prediction Center – continually monitor the sun, both from space and from Earth's surface. When a solar storm with the potential to affect Earth takes place, they see it and rises an alert.

- Governments and scientists are beginning to pay more attention to this issue, with an eye to creating systems and procedures to help withstand such powerful effects from the sun.

## NOTES

**Why in News?**

India and France are close to concluding a deal, likely in the next couple of months, for the joint development of a 125KN engine for the indigenous fifth generation Advanced Medium Combat Aircraft (AMCA) under development, according to defence officials.

**What is Advanced Medium Combat Aircraft?**

- The Advanced Medium Combat Aircraft (AMCA) is an Indian programme to develop fifth generation fighter aircraft for the Indian Air Force and the Indian Navy which will also include sixth generation niche technologies.
- The design of the aircraft is carried out by Aeronautical Development Agency (ADA), an aircraft design and development agency constituted under Defence Research and Development Organisation (DRDO).
- It is expected to be produced by a public-private joint venture between the DRDO, Hindustan Aeronautics Limited (HAL), and French engine maker Safran.
- The programme has an aim to start production by 2028. The development cost is estimated to be around ₹15,000 crore.
- AMCA will be a single-seat, twin-engine, stealth all-weather swing-role fighter aircraft. Two variants of AMCA will be produced in a phased production model. AMCA Mark 1 will come equipped with fifth generation technologies and Mark 2 will have the incremental sixth generation technology upgrades.
- The initial design of the AMCA started way back in 2009 and is en-

visaged as a twin engine stealth aircraft with internal weapons bay and Diverterless Supersonic Intake, which has been developed for the first time and for which the design is complete. It will be a 25 tonne aircraft with internal carriage of 1,500 kg of payload and 5,500 kg external payload with 6,500 kg of internal fuel.

- The configuration has been frozen, Preliminary Service Quality Requirements (PSQR) are finalised and the preliminary design review is complete. The Critical Design Review (CDR) is expected later this year with the roll out planned in 2024 and first flight planned in 2025.
- The AMCA will have stealth and non-stealth configurations, and would be developed in two phases — an AMCA MK1 with existing GE414 engine, and an AMCA Mk2 with an advanced, more powerful engine planned to be jointly developed.
- Simultaneously, the project for the development of a twin engine deck-based fighter jet meant to fly from the Navy's aircraft carriers is also making progress. Various programmes underway, have commonality of systems and technologies.
- The AMCA which is intended to perform a multitude of missions including air superiority, ground-strike, Suppression of Enemy Air Defenses (SEAD) and electronic warfare (EW) missions would be a potent replacement for the Sukhoi Su-30MKI air superiority fighter, which forms the backbone of the IAF fighter fleet.
- The AMCA design is optimised for low radar cross section and super-cruise capability.

**Advantages of Stealth Technology**

- Efficiency can be increased while in a war zone when stealth vehicles are used in place of conventional vehicles, providing long term fiscal savings.
- Strikes from a stealth fighter aircraft prevent enemies from initiating attacks and as enemies are unable to locate them stealth weapons are utilized as intimidation fleets.
- Decline in casualty rates is achievable using stealth technology in warfare.

**Disadvantages of Stealth Technology**

- Compared to conventional aircrafts, stealth aircrafts are less agile and lack efficient maneuverability.
- Stealth aircraft have lower payload or carrying capacity than the conventional aircraft.
- The biggest disadvantage of a stealth aircraft is its high cost. Ex. Fighter aircraft such as B-2 (\$2 billion) and F-22 (\$100 million) are the most expensive aircraft in the world.

**NOTES**

# ECONOMY

## 1 Decoding Our Import Tariff Policy

### Why in News?

According to the World Trade Organisation's (WTO) Tariff Profile for 2021, India has one of the highest average tariffs of 15% in the Asia-Pacific region.

### Key Points:

- The Union budget for 2022-23 talks about an "Amrit Kaal", or a Vision for India at 2047, when the country is expected to become the third largest economy in the world.
- The government wants to boost "Make in India", reduce import dependence, and promote exports.

### Steps Taken:

- The previous budget focused on Production Linked Incentive (PLI) schemes to scale up domestic manufacturing.
- Efforts have been made to reduce inverted duties in sectors like medical devices, which were hampering Make in India.
- More than 75% of India's demand for medical devices is met through imports and many studies confirmed that higher import duties on raw materials/intermediate products than on finished medical devices were hampering domestic production.
- o Stakeholder consultations organized by the ICRIER on autonomous tariffs versus trade agreements, covering over 30 industries, confirmed that most of the issues related to inverted duties have been resolved.
- There remain issues in certain sectors like alcoholic beverages where both the final and intermedi-

ate products face duties and cesses of around 150% in total, which has been a concern for India's trading partners and the domestic industry alike.

- o However, it can be used as a bargaining tool in our ongoing trade negotiations.
- Addressing the problem of inverted duties over the last couple of years has led to the rationalization of customs exemptions, imposition of new tariffs and reduction in tariffs for certain products.
- o In some sectors like electronics, this has delivered positive results. India, for example, has started manufacturing smartphones.

### Way Forward:

- India's previous trade agreements were mostly geo-strategic, but New Delhi is now focusing on greater market access in key export destinations.
- o After withdrawing from the mega-regional agreement, the Regional Comprehensive Economic Partnership (RCEP), and implementing several measures to restrict imports from China, India quickly sealed a deal with its transshipment hub, the UAE.
- o Sectors like gems and jewellery and engineering already see this as a key export-promotion agreement.
- o An early-harvest pact is on the cards with Australia, which is a key partner in supply-chain initiatives along with Japan, which shares similar concerns about over-dependence on China.

o The first round of negotiations with the UK, with which India has a positive trade balance in both goods and services, was complete by January 2022.

- o And India has relaunched trade talks with the EU.
- Trade talks could be launched with the US also, but Washington is the world's toughest trade negotiator and it is better to have domestic policy regimes in place for areas like data sharing before such negotiations.
- In terms of the selection of export destinations as trade-agreement partners, India seems to have followed the right strategy.
- India is also trying to make its domestic subsidies/incentive regime WTO-compliant.
- A huge thrust has been given to quality improvement, product standardization and infrastructure and logistics development, so as to reduce costs and enhance our export competitiveness.





### 1. Indian Army organizes “Sainya RANAKSHETRAM” Hackathon

The first hackathon was organized by the Indian Army named “Sainya Ranakshetram” from 01 October 2021 to 31 December 2021. This is the first hackathon of its kind. It was organized at Military College of Telecommunication Engineering (MCTE), Mhow. This hackathon was organized under the guidance of Army Training Command, Shimla. In this sequence, the Chief of the Army Staff, General MM Naravane honoured the winners of the hackathon in an online ceremony on 10 February 2022. Recently, the Indian Army has established Quantum Lab and Artificial Intelligence (AI) Center at Military College of Telecommunication Engineering in Mhow, MP.

### 2. ‘Health star rating’ on packaged foods

Recently, the Food Safety and Standards Authority of India (FSSAI) has issued a directive regarding the packaging of food items. Under this, ‘Health Star Rating’ will now be shown on packaged food items. The number of stars will show how good or bad the object is in terms of health. This rating will be based on the amount of fat, sugar and salt present in the food. The supporting study for this was done by the Indian Institute of Management, Ahmedabad.

The Food Safety and Standards Authority of India (FSSAI) is a statutory body established under the Ministry of Health and Family Welfare, Government of India. It has been established under the Food Safety and Standards Act, 2006, which is a consolidated law relating to food safety and regulation in India.



### 3. Government launches Smile scheme for marginalized persons for livelihood and enterprise

The Department of Social Justice and Empowerment, Government of India has started the Smile Scheme. The smile scheme is a central scheme for the welfare of the transgender community and beggars. The Ministry of Social Justice and Empowerment has allocated Rs 365 crore for the scheme. There are two sub-schemes under this. The first is for comprehensive rehabilitation of the transgender community and second for the comprehensive rehabilitation of beggars.

The components of the scheme for the welfare of transgender persons are as follows:-

- Scholarship for transgender students up to class ninth and post-graduation.
- To provide skill development and livelihood under the PM-Daksh scheme.
- Providing accommodation in the form of ‘Dignity Home’.
- Establishment of transgender protection cells in each state.
- Providing e-services and other welfare measures.

At the same time, the focus of the scheme is on survey and identification, mobilization and shelter home for comprehensive rehabilitation of persons engaged in begging.



#### 4. India ranks 46th in EIU's Democracy Index

India is ranked 46th out of 167 countries with a score of 6.91 in the Economist Intelligence Unit (EIU)'s Democracy Index 2021. In the index, India has got the lowest score (5) on the parameter of political culture and the highest score (8.67) on the parameter of electoral process and pluralism. India's neighbouring country Bangladesh has improved one rank to 75th in the Democracy Index in 2021. The index claims that more than a third of the world's population lives under authoritarian rule. Norway ranks first in the Democracy Index, followed by New Zealand, Finland and Iceland. Afghanistan ranks last in the index, followed by Myanmar (2nd from the bottom)

and North Korea (3rd from the bottom). Zambia has shown the biggest improvement in its overall index score globally. On the other hand, Indonesia has made the second biggest improvement in its overall index score globally. Out of 167 countries included in the index, 21 have been placed in the category of full democracies and 53 in the category of flawed democracies. While 34 have been placed in the hybrid democracy category and 69 have been placed under authoritarian governments.

#### 5. Launch of 'Jiva' program with the aim of promoting natural farming

National Bank for Agriculture and Rural Development (NABARD) has launched the 'Jiva' program to promote natural farming under watershed programmes. The objective of this program is to promote natural farming as commercial farming. Jiva is an amalgamation of several projects under the watershed program of NABARD. The program will be implemented on a pilot basis in five agro-ecological zones. NABARD will invest Rs 50,000 per hectare under this programme.

##### **NABARD at a Glance:-**

- It was established in 1982.
- It is an apex bank for regulation of regional rural banks and co-operative banks in India.
- It works under the jurisdiction of the Ministry of Finance.



#### 6. The share of women in board seats in Indian companies is only 17.1%

According to a Deloitte India report, the share of women in board seats in Indian companies has increased from 13.8 per cent in 2018 to 17.1 per cent in 2021. The report also claimed that 4.7% of chief executive officers and 3.9% of chief financial officers in Indian companies are women. At the same time, there has been a decrease in the number of women chairpersons in 2021 as compared to 2018. Global statistics show that globally, women account for 19.7% of board seats which shows an increase of 2.8% from the figures of 2018. The report claims that if the same increase in the figures continues, then by 2045 the share of women in board seats will reach 50%. The report

states that Indian regulators have put in place a comprehensive framework to encourage the representation of women in key positions in corporates. The average tenure of women directors in India has also increased from 5.0 years to 5.1 years in 2021. This edition of the Boardroom Report aggregates data from 72 countries.



### 7. India bans 54 Chinese apps

India has banned 54 apps of Chinese origin for security reasons. The banned apps include Marquee Game by Sea Ltd, Free Fire and other apps related to tech firms like Tencent, Alibaba and NetEase. These apps are banned by the Ministry of Electronics and Information Technology. These are re-branded versions of apps banned by India in 2020. Free Fire is compared to PUBG which was already banned.

#### **When and how many Chinese apps were banned:-**

Indian government initially blocked 59 apps on 29th June 2020 followed by 47 related/cloning apps on 10 August 2020, thereafter 118 apps were blocked on September 1, 2020 and later 43 apps were blocked on November

19, 2020.

These apps were banned through an order under Section 69A of the IT Act. Section 69A of the Information Technology (IT) Act, 2000 empowers the Government to issue directions to block public access to any information through any computer resource. This section allows the government to block websites.

### 8. Emergency imposed in Canada

Canadian Prime Minister Trudeau has invoked the Emergency Act for the first time in 50 years to tackle anti-government protests. The Canadian government has made it mandatory for truck drivers to get vaccinated, due to which Canadians are protesting. The protests have affected Canada's economy and its relations with the United States. The Emergency in Canada Act was passed in 1988 and can be used to ensure the safety of Canada. The Act includes four conditions on the basis of which an emergency can be imposed. These grounds are public welfare emergency, public order emergency, war emergency and international emergency. According to the provisions of the emergency, the government can freeze the bank accounts of any person associated with the protest.



### 9. The government launched DNT's economic empowerment scheme SEED

The Union Ministry of Social Justice and Empowerment has launched a 'SEED' scheme for the economic empowerment of Denotified Tribes (DNTs). Under this scheme, members of DNT/NT/SNT communities will be provided good quality coaching at the community level, health insurance, livelihood initiatives and financial assistance for house construction. Free coaching for DNT students will help them to appear in competitive exams and get admission in professional courses. The scheme will have four components and around Rs. 200 crores will be spent in 5 years. This scheme will be implemented through the portal developed by the Department of Social Justice and Empowerment.

Earlier the government had constituted a National Commission for Denotified, Nomadic and Semi Nomadic Tribes in 2014 and further the government had also constituted the Development and Welfare Board in 2019 for this class. According to statistics, there are about 1,500 nomadic and semi-nomadic tribes and 198 denotified tribes in India



### 10. 'Test Batting Award' to Rishabh Pant in ESPN Cricinfo Awards

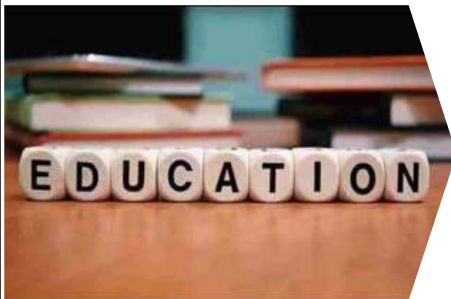
Indian cricketer Rishabh Pant has been presented with the "Test Batting" award at the ESPN Cricinfo Awards. He has been given this award for his unbeaten 89 at the Gabba during the Border Gavaskar Trophy. At the same time, New Zealand captain Kane Williamson has been given the Captain of the Year award. While the Test Bowling Award went to Kyle Jamieson and England fast bowler Ollie Robinson got the 'Debutant of the Year' award. Shaheen Afridi has won the 'T20 Bowler' award for his performance against India in the T20 World Cup. In the same sequence, Fakhar Zaman received the 'ODI Batting' Award for his performance against South Africa at the Wanderers.

### 11. PM Modi inaugurates TERI's World Sustainable Development Summit

The World Sustainable Development Summit (WSDS) was inaugurated by Prime Minister Narendra Modi on 16 February which was organized by TERI (The Energy and Resources Institute). The theme of the summit is 'Towards a Resilient Planet: Ensuring a Sustainable and Equitable Future'. This conference was held from 16-18 February. In this conference, many issues including climate change, sustainable production, energy transition, resource security etc. will be discussed by experts. The President of the Dominican Republic and the President of Guyana will participate in this three-day summit. The main objective of this summit is to bring together governments, business leaders, academicians, climate scientists on a common platform to discuss issues related to climate change.



### 12. New India Literacy Program Approved by the Central Government



A new scheme "New India Literacy Program" has been approved by the government for the period of 2022 to 2027. This scheme will cover all aspects of adult education. In the National Education Policy 2020, adult education and lifelong learning have been recommended. The objective of this scheme is not only to provide basic literacy and numerical knowledge but also to incorporate other components necessary for the citizen of the 21st century. The non-literates of the age of 15 years and above from all the states and union territories of the country will come under the purview of this scheme. The scheme will be implemented online mode through volunteers. The estimated total outlay of "Nav Bharat Literacy Program" is Rs 1037.90 crore.

### 13. Asia's largest Bio-CNG plant inaugurated

Asia's largest Bio-CNG was inaugurated by Prime Minister Shri Narendra Modi in Indore. The plant will be operated entirely with 100% wet waste. This is expected to produce 18,000 kg of gas per day. The plant has a total capacity of 550 MT which will produce CNG with 96% pure methane gas. It is estimated that due to this, Indore Municipal Corporation will get a revenue of 2.5 crore rupees annually. The plant will improve calorific value, enhance the effectiveness of Bio-CNG and help purify the air quality of densely populated cities. In this way, it will help in reducing carbon dioxide by 1,30,000 tonnes annually. According to the estimates of Indore Municipal Corporation, about 400 buses can be run in Indore in the coming few years from Bio-CNG produced from this plant.



## Current Affairs at a Glance

- India Pavilion inaugurated at the 72nd Berlinale European Film Market 2022.
- 'Koala' has been listed by Australia as an endangered species.
- "How to Prevent the Next Pandemic" (Bill Gates's new book) will be released on May 3.
- The fourth meeting of the Quad Foreign Ministers concluded in Melbourne, Australia. Quad was established in 2007. Currently, Australia, India, Japan and the United States are its members.
- FICCI CASCADE launched Anti-Smuggling Day. Anti-Smuggling Day will be observed every year on 11 February.  
It has been launched to enhance coordination and cooperation among law enforcement agencies.
- Paul-Henri Sandogo Damiba was elected President of Burkina Faso.
- Israel became the first country to allow drones in civilian airspace.
- Vineet Joshi will be the new chairman of CBSE.
- "Hope Express" will be launched in Maharashtra to prevent cancer.
- Manoj Tiwari became the brand ambassador of Khadi and other handicrafts of Bihar.
- Union Minister of Ports, Shipping and Waterways launched a water taxi service in Mumbai.
- Foodgrain production is estimated to be 316 million tonnes in the year 2021-22.
- The Ladakh Autonomous Hill Development Council has launched a new scheme 'kunsnyoms' for persons with disabilities.
- FPI limit for investing in the local debt market raised to Rs 2.5 lakh crore.
- Vedanta entered into an agreement with Foxconn to manufacture semiconductors in India.
- India will host the Olympics 2023 season, which will be held in Mumbai.
- Movie Pushpa: The Rise won the Film of the Year award in the Dadasaheb Phalke International Film Festival





# BRAIN BOOSTER

### 1. Why in News

Elections are going on in Uttar Pradesh, Uttarakhand, Punjab, Manipur, and Goa. Elections are fought with huge funds nowadays. Estimates vary, but a candidate may spend in crores in just one constituency.

### 2. Electoral Integrity

- Elections are the basis for democratic legitimacy.
- They give citizens a way to hold their leaders accountable by voting contestants in to, or out of, office.
- A credible election is one that is characterized by inclusiveness, transparency, accountability, and competitiveness.

### 3. Credible elections

Credible elections are characterized by inclusiveness, transparency, accountability, and competitiveness.

- Inclusive elections provide equal opportunities for all eligible citizens to participate as voters in selecting their representatives and as candidates for election to government.
- Elections are transparent when each step is open to scrutiny, and stakeholders can independently verify whether the process is conducted honestly and accurately.
- Accountability in elections refers to the rights of citizens with respect to the conduct of other electoral stakeholders, including the government, election management bodies (EMBs), political parties, candidates and security forces.
- Elections are competitive when citizens have reasonable and equitable opportunities to compete to be elected to governmental offices.

- It may go against the voter's own interest.
- Another long term solution is to fund political parties or one's favourite candidate with small donations.

### 4. Elections are a Process

- Elections are a process, not an event.
- Every election comprises numerous elements and involves multiple institutions and actors throughout the pre-election, election day and post-election periods.

### 5. Open Election Data Principles

When election data is "opened up," it can:

- Increase the transparency of individual election processes.
- Improve the effectiveness of an election management body
- Increase voter participation in elections
- Increase citizen engagement
- Improve the inclusiveness of traditionally marginalized groups
- Reduce tension
- Generate new insights

### 6. Campaign Finance

- Competitive elections require that electoral contestants have a means for financing their election campaigns and routine operations.
- Campaign finance, an element of broader political finance, refers to all funds raised and spent in order to promote candidates, political parties or policies in elections, referendums, initiatives, party activities and party organizations.

### 7. Importance of campaign expenditures

- Campaign expenditures generally include any expenditure for electoral purposes, monetary or in-kind, by a candidate or party during an electoral campaign.
- Citizens can use information on campaign expenditures to make more informed choices among contestants.

### 8. Election Campaigns

- Election campaigns are the means by which candidates and political parties prepare and present their ideas and positions on issues to the voters in the period preceding election day.
- Contestants use a variety of techniques to reach voters and deliver their messages, including through traditional and new media, public events, written materials, or other means.

### 9. Importance of election campaigns

- Democratic elections require an informed as well as a free vote and a fair chance for contestants to win support and motivate supporters to help them gain office.
- Election campaigns are vital to achieving those goals.
- Elections that are genuinely competitive offer equitable opportunities for contestants to convey their positions to citizens and compete for votes

### 10. Duty of a citizen and voter

- First and foremost is to vote, and equally important, make an informed choice.
- This means gathering all relevant information about the candidate, funding, spending and so on.
- Official websites of political parties, the Election Commission and some nonpartisan NGOs have information.
- It would also help if such information is shared widely with friends.
- Voting for any candidate or party that spends too much should be considered very carefully.

## Election Campaigns



### 1. Why in News:

LCA Tejas, performed aerobatic displays over Changi International Airport in Singapore Airshow 2022. LCA Tejas, which had enthralled the audience at the Dubai Air Show made a stunning appearance in Singapore and the Indian Air Force tweeted and called it 'A Diamond In The Sky'.

### 2. About Tejas

- Tejas is a single engined, light weight, highly agile, multi-role supersonic fighter.
- It is a 4.5 generation multirole fighter aircraft.
- It has quadruplex digital fly-by-wire Flight Control System (FCS) with associated advanced flight control laws.
- The aircraft with delta wing is designed for 'air combat' and 'offensive air support' with 'reconnaissance' and 'anti-ship' as its secondary roles.
- Extensive use of advanced composites in the airframe gives a high strength to weight ratio, long fatigue life and low radar signatures.
- Aeronautical Development Agency is the designated project manager for the development of LCA.

Specification	Measurement
Length	13.2 m
Span	8.2 m
Height	4.4 m
Max Take of Weight	13.5 t
Payload	5.3 t
Speed	1.6 M
Radius of Action	300 Km
Take off distance	1700 m
Landing Distance	1300 m
Service ceiling	16 Km

- The TEDBF is being designed based on lessons learnt from the Naval LCA programme and the first flight is planned in 2026.

### 3. The Beginning

- The Light Combat Aircraft (LCA) Tejas was conceptualised in the year 1984.
- The first flight of the LCA technology demonstrator was in January 2001.
- The indigenous jet was christened as 'Tejas' by then Prime Minister Atal Bihari Vajpayee in May 2003.
- It has come a long way both in terms of the maturity of the platform as well as the overall aircraft development programme despite repeated delays and cost overruns.

### 4. Status of the LCA programme

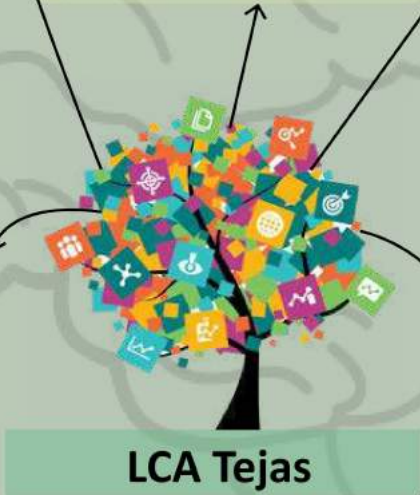
- Two decades since the first flight, in February 2021, the Defence Ministry signed a ₹48,000 crore deal with HAL to supply 83 LCAMk1A to the IAF.
- The MK1A will have new Electronic Warfare system, Advanced Electronically Scanning Array (AESA) radar, Beyond Visual Range (BVR) missiles and network warfare system including Software Defined Radio (SDR).
- LCA achieved Initial Operation Clearance (IOC) in December 2013 and Final Operation Clearance (FOC) in February 2019.
- The first LCA squadron No. 45 "Flying Daggers" in the IAF was formed in July 2016.
- The second LCA squadron No. 18 'Flying Bullets' was operationalised in May 2020.

### 5. Cost of the LCA programme

- The Government had originally sanctioned ₹2,188 crore for Full Scale Engineering Development (FSED) — Phase-I programme to design and develop two Technology Demonstrators (TDs), and ₹5,777.56 crore for FSED —Phase-II Programme.
- On the overall project cost, the Government informed Parliament in March 2020 that a total of ₹11,096 crore has been spent till date on the indigenous LCA and the Kaveri jet engine (now shelved) development programmes. Of the total amount, ₹9,063.96 crore was spent on LCA and ₹2,032 crore on the Kaveri Engine.

### 6. Way forward

- As per the contract, HAL has to deliver the first three MK1A aircraft to IAF in 2024 followed by 16 aircraft per year for the next five years, according to the Defence Ministry.
- To ramp up production, HAL has already set up two additional assembly lines which are operational. Some back end activities are also being finished at the moment, according to HAL.



## LCA Tejas

- The indigenous content in LCA is currently about 52% and HAL said it is looking at ways to increase it to 65%.
- In addition, the LCA MK2, a larger aircraft with a more capable engine is expected to roll out by year end or early 2023 following which it would take a year for its first flight.
- An ambitious fifth generation fighter aircraft Advanced Medium Combat Aircraft (AMCA), and a new Twin Engine Deck Based Fighter (TEDBF) to operate from the Navy's aircraft carriers are being developed by the Defence Research and Development Organisation (DRDO) and Aeronautical Development Agency (ADA).

### 1. Fiscal space

- The Survey notes that buoyant tax revenues and government policies have created “headroom for taking up additional fiscal policy interventions.”
- Stressing the need to continue the focus on capital expenditure, it has indicated that the government is on course to achieve the fiscal deficit target of 6.8% of GDP for the current year.
- Revenue receipts of the Centre during April-November 2021 have gone up by 67.2% (YoY) as against an estimated growth of 9.6% in the 2021-22 Budget Estimates.
- The estimated tax collections provide the cushion to support growth next year.

### 2. Vaccine economics

- The Survey says the progress of vaccination should be seen not just as a health response indicator, but also as a buffer against economic disruptions caused by repeated pandemic waves.
- This is based in part on the assumption that private consumption is poised to see stronger recovery with rapid coverage in vaccination and faster normalisation of economic activity, and the importance of vaccination in the re-opening of contact-intensive sectors.

### 3. Inflation pressures

- The Survey flags inflation as an issue.
- It has noted that while India’s CPI inflation 5.2% in 2021-22 (April-December) is within the targeted tolerance band, WPI inflation has been running in double digits.
- This is partly due to base effects; however, India does need to be wary of imported inflation, especially from elevated global energy prices.

### 4. Global uncertainty

- While the sizeable accretion of foreign exchange reserves - \$633.6 billion as of December 31, 2021-makes India’s external sector resilient for the withdrawal of liquidity measures, the Survey points out that the overall balance of risks for global trade is tilted to the downside.
- The biggest downside risk comes from the pandemic.
- Longer port delays, higher freight rates, and the shortage of shipping containers and inputs such as semiconductors.
- Supply-side disruptions, exacerbated by recovery in demand, pose significant risks for global trade.

### 5. Energy risks

- The report calls for a “diversified mix of sources of energy of which fossil fuels are an important part”, but simultaneously calls for focus on building storage for intermittent electricity generation from solar PV and wind farms to ensure on-demand energy supply.

### 6. Supply side reforms

- It calls for emphasis on developing a supply-side strategy.
- It will deal with the long term unpredictability of the post-Covid world, emanating mainly from factors such as changes in consumer behaviour, technological developments, geopolitics, climate change, and their potentially unpredictable interactions.

### 7. Industrial growth

- The industrial sector, which suffered due to pandemic disruptions, is likely to record a growth of 11.8% in 2021-22, the Survey says.
- The pace of this recovery and further growth is likely to continue due to consistent efforts of the government to bring in various structural, fiscal and infrastructural reforms in addition to a slew of measures/schemes like the production linked incentive scheme (PLI) to support industries,” it said.

## Economic Survey

### 9. Way forward

- Basis the macro-economic stability indicators, the Survey believes that the Indian economy is “well placed” to take on the challenges of 2022-23.
- The government’s strategy has been to not pre-commit to a “rigid response” while using safety nets for vulnerable sections, and responding iteratively based on Bayesian-updating of information.
- The Survey proposes use of the Agile approach to policymaking with 80 high-frequency indicators in an environment of “extreme uncertainty”.

### 8. Public spending

- After a slowdown in the first half of the ongoing financial year, capital expenditure by the Centre revived during October-December, the Survey notes.
- The first-half slowdown was mainly on account of Covid-19-led restrictions.
- During April-November 2021, capital expenditure grew by 13.5% (YoY), with focus in infrastructure-intensive sectors like roads and highways, railways, and housing and urban affairs.



### 1. Why in News ?

Election Commission of India (ECI) is conducting elections in Uttar Pradesh, Uttarakhand, Punjab, Manipur, and Goa. Voters cast their vote through electronic voting machine (EVM).

### 2. About EVM

- An electronic voting machine (EVM) is a portable instrument for the purpose of conducting elections to the parliament, legislature and local bodies like panchayats and municipalities.
- EVM is a microcontroller-based instrument designed to modernise the election procedure.
- There is no scope for invalid votes and total secrecy of voting data is maintained.
- It also facilitates quick and accurate counting.
- The voting data recorded in EVMs can be retained for years and can be extracted if necessary.
- The EVM is designed for a single post and a single vote.
- EVMs were used for the first time in the Goa State Assembly elections of 1999.

### 3. Background of EVM

- With a view to overcome certain problems associated with use of ballot papers and taking advantage of development of technology, the Commission in December, 1977 mooted the idea of EVM.
- The law was amended by the Parliament in December, 1988 and a new section 61A was inserted in the Representation of the People Act, 1951 empowering the Commission to use voting machines.
- The amended provision came into force w.e.f. 15th March, 1989.
- Central Government appointed the Electoral Reforms Committee in January, 1990 consisting of representative of several recognized National and State Parties.

### 4. How to use EVM?

- A voter needs to press the button against the candidate of his/her choice and then a red light glows against the symbol and name of the candidate for whom the vote has been cast. Simultaneously, a long beep can be heard, which confirms the polling of a particular vote.

### 5. Working Module of EVM

- An EVM consists of a control unit, balloting unit and a VVPAT connected together by a cable.
- The control unit belongs to a polling officer while the balloting unit is kept in a compartment to cast votes.
- EVMs can even be used in areas with no electricity, as they can be operated on alkaline batteries.

### 6. Technical Security of EVMs used by ECI

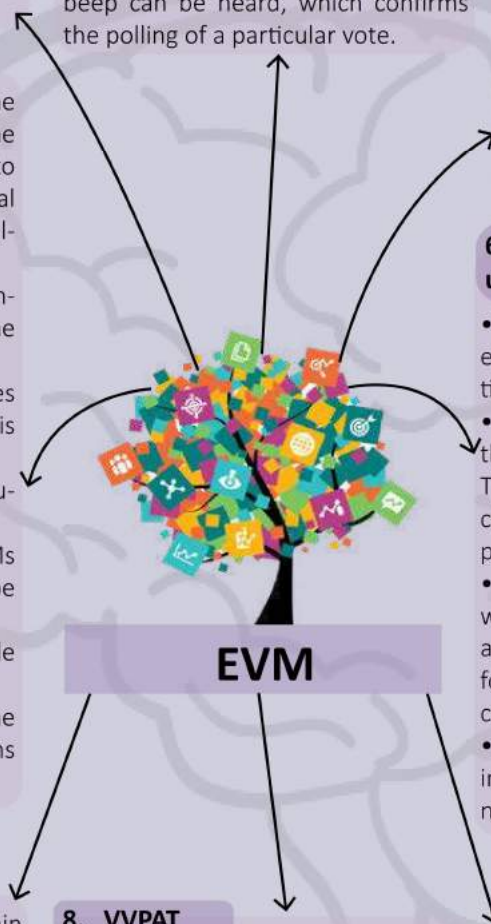
- The machine is electronically protected to prevent any tampering/manipulation.
- The programme (software) used in these machines is burnt into a One Time Programmable (OTP)/Masked chip so that it cannot be altered or tampered with.
- Further these machines are not networked either by wire or by wireless to any other machine or system. Therefore, there is no possibility of its data corruption.
- The software of EVMs is developed in-house by a selected group of Engineers in BEL and ECIL.

### 8. VVPAT

- Voter Verifiable Paper Audit Trail (VVPAT) is an independent system attached with the Electronic Voting Machines that allows the voters to verify that their votes are cast as intended.
- When a vote is cast, a slip is printed on the VVPAT printer containing the serial number, name and symbol of the candidate and remains exposed through a transparent window for 7 seconds.
- This printed slip automatically gets cut and falls in sealed drop box of the VVPAT.

### 7. Uniqueness of ECI-EVMs

- ECI EVMs are Stand alone Machine.
- Most of the systems used in other countries are Computer based with internet connectivity. Hence, these could be vulnerable to hacking.
- The software in the ECI-EVM chip is one time programmable (OTP) and burnt into the chip at the time of manufacture.
- Nothing can be written on the chip after manufacture. Thus the ECI-EVMs are fundamentally different from the voting machines and processes adopted in various foreign countries.



### 1. Why in news

Scientists in the United Kingdom have managed to produce the largest amount of energy so far from a nuclear fusion reaction. This result is being seen as a major breakthrough in the ongoing global efforts to produce a fusion nuclear reactor.

### 2. Nuclear Fusion

- In a nuclear fusion reaction two lighter nuclei combine to form a relatively heavier nucleus.
- In this process huge amount of energy is also released.
- Temperature at which protons would have enough energy to overcome the coulomb's barrier is very high.

### 3. Thermonuclear fusion

- Increasing the temperature of the material until the particles have enough energy due to their thermal motions alone to overcome the coulomb barrier.
- For thermonuclear fusion, extreme conditions of temperature and pressure are required.
- Example of Thermonuclear fusion is generation of energy in stars

### 4. Energy Generation in Sun

- The mass of one hydrogen atom is 1.007825 Atomic Mass unit (AMU).
- When four hydrogen atoms are combined, it transmutes into a helium atom.
- The sum of the mass of four hydrogen atoms is 4.03130 AMU, while the mass of one helium atom is just 4.00268 AMU.
- As we know, matter is neither created nor destroyed; hence the mass difference 0.02862 AMU is converted into pure energy by way of Einstein's famous formula  $E=mc^2$
- Final reaction is:-  $4\text{H} + 2e^- \rightarrow 4\text{He} + 6\gamma + 2\nu + 26.7\text{MeV}$

### 5. Recent Advancement

- China's Experimental Advanced Superconducting Tokamak (EAST) sustained the plasma at 70 million degrees Celsius for 1,056 seconds in January 2022.
- In February 2022, the Joint European Torus (JET) fusion experiment in Oxfordshire, U.K., produced 59 megajoules (MJ) of energy from thermonuclear fusion.

### 6. About Tokamak

- For fusion to occur, the first step has to be the creation of hot plasma.
- Heating a tiny pellet of hydrogen to millions of degrees and generating plasma is not that hard; lasers could do the job well.
- To keep the fiery plasma at millions of degrees from touching the container wall is the main task
- Soviet physicists Igor Tamm and Andrei Sakharov conceptualised that if one can create a magnetic field in the shape of a torus, then the scorching plasma could be contained in the invisible magnetic bottle.
- Based upon this theory, an experimental reactor was built and demonstrated by a Soviet team led by Lev Artsimovich at the Kurchatov Institute, Moscow.
- The Tokamak is an acronym for tongue-twisting Russian terms 'toroidalnaia kamera magnitnykh katushkami', which means "toroidal chamber with magnetic coils".
- Despite alternative designs having been designed and tested, tokamaks are far ahead for achieving fusion.
- 35 countries, including India, Russia, USA, UK, China, EU, are collaborating to jointly build the largest Tokamak as part of the International Thermonuclear Experimental Reactor (ITER).
- In 2035, the plant is expected to generate 500 MW power and consume 50 MW for its operation, resulting in a net 450 MW power generation.
- None of the tokamaks worldwide, has demonstrated net energy production more than the input.

### 8. What about India visàvis fusion?

- Way back in 1955, in the first 'Atoms for Peace' meeting in Geneva, Homi J. Bhabha saw a future in energy coming from thermonuclear fusion.
- The Institute for Plasma Research (IPR) in Gandhinagar and the Hot Plasma Project at Saha Institute of Nuclear Physics (SINP), Kolkata, took the lead in nuclear fusion research in India.
- It is also known as proton-proton cycle because this process starts with protons.
- The JET experiment could harvest onethird of the input energy as an output, a significant step from earlier results.

### 7. Significance of the recent accomplishment

- The plasma at high temperature needs to be sustained for a long time if commercial energy has to be obtained.
- The Chinese accomplishment of maintaining 2.8 times the Sun's temperature for 17 minutes is a milestone in this direction.



## Nuclear fusion breakthrough

### 1. Why in News

The COVID-19 pandemic has heightened economic inequalities across the world. The pandemic led to the deaths of millions of people globally. It has also exposed the weakness of public health systems and social and income protections for people worldwide.

### 2. About "Inequality Kills" report

- "Inequality Kills" is a report released in January 2022 by Oxfam, a U.K.-based consortium of 21 charitable organisations that have a global presence.
- The report argues for sustained and immediate action to end the pandemic, address global inequality and initiate concerted measures to tackle the climate emergency.
- The central argument of the report is that inequality is a death sentence for people that are marginalised by social and economic structures and removed from political decision making

### 3. India's Inequality Crises

- As per the Forbes billionaires report, in October 2021, the collective wealth of India's 100 richest hit a record high of USD 775 billion and more than 80% of these families saw an increase in their wealth as compared to 2020.
- Approximately three-fifths of (61 %) of these billionaires added a whopping USD 1 billion or more to their collective wealth.
- Meanwhile, 84 % of households in India suffered a decline in their income in the beginning of the pandemic. That wealth inequality is growing appears to be a reality.

### 4. Progressive Taxation

- Progressive taxation ensures that the tax burden is higher for the wealthy than it is for those with lower incomes.
- The idea behind such a system is that it allows for the wealthy to in some sense, fund via taxes, a basic standard of living for lower-income families, paying for basics such as shelter, food, health, education and transportation among other things.
- A progressive taxation system allows low income households to spend a significant portion of their meagre income on cost-of-living expenses, and as such is one of the least distortionary policy tools available to help control the rise in inequality by redistributing the gains from growth.

### 5. Deprioritising Social Spending

#### • Health

« The chronic neglect of the health-care system in India is clear when one looks at the poor budgetary allocations to the sector made by successive governments.

« The poor state of public-funded healthcare in the country has pushed the majority of the population to resort to the private sector to obtain healthcare.

« Higher investment in healthcare and education could have reduced the spread of COVID-19.

#### • Education

« Education is critical in the fight against inequality.

« Globally, countries with higher mean years of schooling tend to have lower income inequality.

« Closures and mergers of schools have hit India's poor and marginalised communities hardest.

#### • Social Security

« Expenditure on social security schemes for workers (under the Ministry of Labour and Employment) and the centrally sponsored scheme of National Social Assistance Programme is abysmally low at 0.6 percent of total union expenditure in 2021-22, or INR 20,574 crore, a decline from 1.5 percent of total expenditure from previous year.

« The e-Shram portal, which aims to register all migrant and gig workers had only been able to register 24% of such workers.

« Only 8% had heard of Ayushman Bharat and just 1% had a health card.

### 6. Way Forward

- Recognise inequality is real and agree to measure it.
- Redistribute India's wealth from the super-rich to generate resources for the majority.
- Generate revenue to invest in the education and health of future generations.
- Enact and enforce statutory social provisions for informal sector workers.

## Inequality Kills : Oxfam report

- Inequality is not natural, but is rather the manifestation of biased economic and social policies.
- Changes in the structure of the economy or broader changes in non-economic, political, social, cultural, or other spheres have a major impact on inequality.

### 1. Why in News

The Pune-based Gennova Biopharmaceuticals is trying to roll out India's first homegrown mRNA (messenger ribonucleic acid) vaccine by April. Due to COVID19 pandemic, RNA therapies came to limelight. Two vaccines that emerged in late 2020, Pfizer-BioNtech and Moderna, used this technology.

### 2. About mRNA vaccine

- Like other vaccines, the mRNA vaccine strives to activate the immune system to produce antibodies that help counter an infection from a live virus.
- While the traditional method to do this involves introducing a part or the whole virus in a way that it cannot replicate, there is always the risk of an adverse reaction in the case of the SARS-CoV-2 virus.
- The theory goes that the less of a foreign body injected, the fewer the odds of an adverse response.
- A common approach by vaccine makers during the pandemic was to introduce a portion of the spike protein, the key part of the coronavirus, as part of a vaccine.
- Some makers, such as AstraZeneca or Sputnik V, wrapped the gene that codes for the spike protein into an inactivated virus that affects chimpanzees, called the chimpanzee adenovirus.
- The aim is to have the body use its own machinery to make spike proteins from the given genetic code.
- The immune system, when it registers the spike protein, will create antibodies against it.
- Other vaccines use a piece of DNA to envelope the spike protein genes.
- An mRNA vaccine works in similar ways in that it too is a piece of genetic code inserted into the body to stimulate an immune response.

### 3. How mRNA vaccines are different

- A piece of DNA must be converted into RNA for a cell to be able to manufacture the spike protein.
- While an mRNA vaccine might look like a more direct approach to getting the cell to produce the necessary proteins, mRNA is very fragile and will be shredded apart at room temperature or by the body's enzymes when injected.
- To preserve its integrity, the mRNA needs to be wrapped in a layer of oily lipids, or fat cells.
- mRNA lipid unit most closely mimics how a virus presents itself to the body, except that it cannot replicate

like one.

- DNA is much more stable and can be more flexibly integrated into a vaccine vector.
- A challenge with mRNA vaccines is that they need to be frozen from -90°C to -50°C.
- A major reason why mRNA vaccines never made it to India was the stringent freezer conditions that made them expensive.
- A major advantage of mRNA and DNA vaccines is that because they only need the genetic code, it is possible to quickly update vaccines to emerging variants and even use them for a variety of diseases.

### 4. About Gennova's mRNA vaccine

- Gennova had said that the prospective vaccine uses a concoction of lipids and enzymes that allows the vaccine to be stored at 2°C to 8°C.
- However, the bulk of the materials necessary to manufacture the vaccine rely on imports.
- Company officials also say that the Indian mRNA vaccine will be cheaper than their imported versions but probably costlier than Covishield or Covaxin.

### India's mRNA vaccine

- Vaccine makers are hoping to supply to those below 15 years as well as cater to demand for third doses.

### 5. The Indian progress

- The mRNA vaccine is currently in phase 2/3 trial to evaluate the safety, tolerability and immunogenicity of the candidate vaccine in healthy subjects.
- Around 4,000 volunteers have been recruited for the trial.
- Results from a phase 1 trial are expected to be published soon.
- Gennova has got ₹125 crore from the Department of Biotechnology.
- India has now fully vaccinated more than half its population and at least seven homegrown vaccines have been cleared by authorities



# MCQs Based on Environment and Ecology

Q1. Consider the following statements:

1. Vulnerability to death at a relatively early age
2. Adult Literacy rate
3. Percentage of the population not using an improved water source.
4. Percentage of families having water-seal toilets.

Which of the above dimensions are used for measuring the Human Poverty Index-1 (HPI-1) as per the UNDP?

- (a) 1, 2 and 3 only
- (b) 3 and 4 only
- (c) 1, 2, 3 and 4
- (d) 4 only

Q2. Consider the following gases:

1. Carbon dioxide
2. Methane
3. Ozone
4. CFCs
5. Nitrous oxide

Which one of the following is a correct sequence of relative contribution to the Man-made Green house-effect?

- (a) 1, 2, 3, 4, 5
- (b) 1, 2, 4, 5, 3
- (c) 2, 1, 5, 3, 4
- (d) 1, 2, 4, 3, 5

Q3. Water has been harvested in India from ancient times. Our ancestors have perfected art of water management. Which among the following are traditional kind of water harvesting system in India?

1. Kats
2. Kunds
3. Zing
4. Surangam
5. Baolis or Dighis

**Code:**

- (a) 1, 2, 3, 4 and 5
- (b) 2, 3 and 4 only
- (c) 1, 2, 4 and 5 only
- (d) 2, 3, 4 and 5 only

Q4. The prime mission of the "National Mission on sustainable Habitat" is to

- (a) Systematically change the land use pattern.
- (b) Ensure afforestation on degraded forest lands

and expand forest cover.

- (c) Develop climate resistant crops and improve agricultural practices.
- (d) Promote energy efficiency as a core component of urban planning.

Q5. Under the Integrated Child Development Scheme, Which among the following services are provided?

1. Immunization
2. Supplementary nutrition
3. Primary School Education
4. Health check-up

Select the correct answer using the code given below:

- (a) 1, 2 and 3 only
- (b) 3 and 4 only
- (c) 1, 2 and 4 only
- (d) 1, 2 and 3 and 4

Q6. To minimize the toxicity in food, which of the following preventive measures should be taken?

1. Discard the use of chemical fertilizer in crops.
2. Use organic manures in crops.
3. Use biopesticides in crops

Select the correct answer using the code given below:

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Q7. On the packet of a packaged food product, what is the symbol that indicates that the food is vegetarian?

- (a) A green plus mark
- (b) A green square in a circle
- (c) A green leaf of a plant
- (d) A green circular dot in a square

Q8. With reference to pre-packed food items in India, it is mandatory to the manufacturer to put which of the following information on the main label as per food safety and standards (Packaging and Labelling) Regulation, 2011?

1. List of ingredients including additives.
2. Nutrition information
3. Recommendations, If any, made by the medical profession.

4. Vegetarian/non vegetarian (in the form of green or brown logo)

Select the correct answer using the code given below:

- (a) 1, 2 and 3 only
- (b) 3 and 4 only
- (c) 1, 2 and 4 only
- (d) 1, 2, 3 and 4

Q9. Consider the following statements:

1. Higher levels of Ozone concentrations in the ambient air aggravates the frequency of symptoms among asthmatics.

2. A short-term increase in particulate matter in the ambient air increases the chance of acute heart attacks.

Which of the statement(s) given above is/ are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q10. Insectivorous plant generally grow in soil which is deficient in-

- (a) Water
- (b) Nitrogen
- (c) Sodium
- (d) Calcium

Q11. Eutrophication causes decrease in

- (a) Dissolved nitrogen
- (b) Dissolved salts
- (c) Dissolved oxygen
- (d) All of these

Q12. A high BOD value in aquatic environment is indicative of-

- (a) A pollution free system
- (b) A highly polluted system due to excess of nutrients
- (c) A highly polluted system due to abundant heterotrophs
- (d) A highly pure water with abundance of autotrophs

Q13. The Ecological pyramid that is always upright

- (a) Pyramid of energy
- (b) Pyramid of biomass
- (c) Pyramid of number
- (d) Population Pyramid

Q14. "Green house effect" with respect to global warming refers to-

- (a) Cooling & moist condition
- (b) Warming effect
- (c) Increased rainfall & greenery
- (d) Increase of desertification of Sahara

Q15. In India, tropical rain forest occurs in-

- (a) Punjab
- (b) Andaman & Nicobar
- (c) Uttar Pradesh
- (d) Haryana

### Answer

- |         |         |
|---------|---------|
| 1. (c)  | 12. (b) |
| 2. (d)  | 13. (a) |
| 3. (a)  | 14. (b) |
| 4. (d)  | 15. (b) |
| 5. (d)  |         |
| 6. (d)  |         |
| 7. (d)  |         |
| 8. (d)  |         |
| 9. (c)  |         |
| 10. (b) |         |
| 11. (c) |         |

## MCQs Based on Current Affairs

Q.1 With reference to the Ken-Betwa link project, consider the following statements:

1. An estimated amount of Rs.4000 crore has been allocated for completing the Ken-Betwa link project in the budget 2022-23.
2. The Ken-Betwa Link Project proposes to transfer water from the Betwa River to the Ken River.

Select the correct answer by using the code given below.

- a) only 1
- b) only 2
- c) Both 1 and 2
- d) neither 1 nor 2

**Answer: d**

Q.2 Which of the following statement(s) is/are correct?

1. The United Arab Emirates is India's fifth largest trading partner globally.
2. India's major exports to the UAE include petroleum products, precious metals, stones, gems and jewellery.

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) neither 1 nor 2

**Answer- b**

Q.3 Consider the following statements about stealth technology aircraft:

1. Stealth aircraft make the radar's task of effectively locating or tracking aircraft more difficult.
2. Only the US (F-35 and F-22 Raptor) and Russia (Su-57 Felon) have fifth-generation aircraft.

Which of the above statements is/are not correct?

- a) only 1
- b) only 2
- c) Both 1 and 2
- d) None of these

**Answer: b**

Q.4 Geostationary Operational Environment Satellite (GOES) is operated by which organization?

- a) Indian Space Research Organization
- b) National Oceanic and Atmospheric Administration

c) European Space Agency

d) India Meteorological Department

**Answer: b**

Q.5 With reference to the World Tariff Profile, consider the following statements:

1. It is a statistical yearbook that provides comprehensive information on tariff and non-tariff measures imposed only by WTO members.
2. It is published only by WTO.
3. It states that India has the highest average tariff in the Asia-Pacific region.

Which of the above statements is/are correct?

- a) only 1
- b) 1 and 2 only
- c) 2 and 3 only
- d) only 3

**Answer: d**

Q.6 Which of the following language was added to the 8th Schedule of the Constitution by the 21st Amendment Act 1967?

- a) Konkani
- b) Dogri
- c) Manipuri
- d) Sindhi

**Answer: d**

Q.7 Consider the following statements :

1. In COVID-19, only involuntary-push based reverse migration takes place.
  2. In India, women dominate interstate rural to rural migration from the place of the last residence.
- Select the correct answer using the code given below.

- a) only 1
- b) only 2
- c) Both 1 and 2
- d) neither 1 nor 2

**Answer: b**

Q.8 With reference to the caste census, consider the following statements:

1. After independence, each census included data from Scheduled Castes and Scheduled Tribes.
2. The Socio-Economic and Caste Census (SECC) is conducted by the Ministry of Program

Implementation.

Which of the above statements is/are correct?

- a) only 1
- b) only 2
- c) Both 1 and 2
- d) neither 1 nor 2

**Answer: a**

Q.9 For which of the following Smile scheme has been brought?

- a) for children
- b) Transgender and beggars
- c) For those below the poverty line
- d) for women

**Answer: b**

Q10. Sankalp and Strive scheme are related to which sector?

- a) health
- b) education
- c) Skill Development
- d) Public Administration

**Answer: c**

Q11. Where has Asia's largest Bio-CNG plant been set up recently?

- a) Ahmedabad
- b) Kolkata
- c) Indore
- d) Chennai

**Answer: c**

Q12. Which organization has recently launched the 'Health Star Rating' initiative?

- a) World Health Organization (WHO)
- b) Food Safety and Standards Authority of India
- c) Indian Council of Medical Research
- d) Ministry of Youth Affairs and Sports

**Answer: b**

Q13. Intracortical Visual Prosthesis (ICVP) has been in the news recently. This is a term related to which of the following fields?

- a) a technique for controlling the speed of sunlight
- b) A new technique of artificially keeping a person alive for some time after death
- c) A new technique to decipher messages received from aliens
- d) a technique for providing artificial vision

**Answer: d**

Q14. In which state of India is the 'Giant Metrewave Radio Telescope (GMRT)' located?

- a) Tamil Nadu
- b) Andhra Pradesh
- c) Jammu and Kashmir
- d) Maharashtra

**Answer: b**

Q15. Consider the following statements about green hydrogen :

1. Green hydrogen is defined as hydrogen produced from biomass such as hydrogen produced from trees and plants.
2. Green Hydrogen Energy has an important role to play for India in meeting its Nationally Determined Contribution (INDC).

Which of the above statements is/are correct?

- a) only 1
- b) only 2
- c) Both 1 and 2
- d) None of these

**Answer: b**

Q16. Where was the country's first water taxi service launched recently?

- a) Ahmedabad
- b) Kolkata
- c) Mumbai
- d) Chennai

**Answer: c**

Q17. Which of the following statement(s) is/are true regarding 'DefExpo-2022'?

1. This annual event will be held in Gandhinagar, Gujarat between March 10-13.
  2. It is going to be the biggest defense exhibition in Asia.
  3. It aims to project the country as an emerging defense manufacturing hub.
- a) 1 and 2 only
  - b) 2 and 3 only
  - c) 1 and 3 only
  - d) 1, 2 and 3

**Answer: b**

Q18. According to the Economic Survey 2021-22, with which country is India's largest export?

- a) USA
- b) United Arab Emirates

- c) China
- d) UK

**Answer: a**

Q19 In which of the following places, the conference on Indian temple architecture titled “Devayatanam - Tour of Indian Temple Architecture” organized by the Archaeological Survey of India was inaugurated recently?

- a) Karnataka
- b) Maharashtra
- c) Kerala
- d) Tamil Nadu

**Answer: a**

Q20. The book “How to Prevent the Next Pandemic” has been authored by?

- a) Bill Gates
- b) Cyrus Poonawalla
- c) Satya Nadella
- d) Dr. Tedros Adrenom Gabreyesus

**Answer: a**

## Important Days of March

DATES	DAYS
1 March	World Civil Defence Day
3 March	World Wildlife Day
8 March	International Women’s Day
10 March	CISF Raising Day
13 March	No Smoking Day
15 March	World Consumer Rights Day
18 March	Ordnance Factories Day
20 March	International Day of Happiness World Sparrow Day
21 March	World Forestry Day World Down syndrome Day
22 March	World Water Day
23 March	World Meteorological Day
24 March	World Tuberculosis (TB) Day

## Case Study

You are District Magistrate of a district in U.P. After controlling the second wave of the corona epidemic, the U.P. Government has ended the lockdown in several stages. The government is administering the vaccine to people on a large scale. All educational institutes have been opened. The economy is improving.

One day you inspected some primary schools situated in rural areas of your district. You noticed that most of the students are absent. Teachers informed you about the heavy decrease in the number of admissions in initial classes, this year.

Basic Shiksha Adhikari tells you two reasons for this problem. First, people are unwilling to send their children to school due to fear of corona. Second, the income of people has decreased due to the corona epidemic and lockdown. So students are also helping their family members in rice plantations and other agricultural work in fields. Some students have formed their group and are busy planting rice in the field of rich farmers in lieu of money.

**(a)** Now, what measures would you adopt to ensure the presence of students in primary schools.

**(b)** Evaluate each of these options and choose the option which you would adopt giving reasons.

In the given case, I am the District Magistrate of a district and the challenges in front of me are the following-

- High absenteeism of students in rural primary schools
- Fear of parents, preventing their children to resume schooling
- Children engaged in child labor
- The economic difficulty of people in villages

### Measures that can be adopted by me :

- I can launch an awareness drive regarding Corona prevention and benefits of literacy in villages concerned- This option will spread a positive message among villagers but due to their economic hardships, they won't let children resume schooling as there will be fewer hands at the farm.
- I can call concerned authorities to check child labor in villages and punish people responsible for it- this will allow the rescue of children from farms but will not ensure their return to school and even discourage the parents.
- I can put stringent Corona safety and prevention

guidelines for the schools and also provide for the availability of sanitizer and masks for free. I can put on awareness drive against child labor and in favor of school education and can also help the rural population to come out of economic hardships- this will help to curb the fear of infection from the minds of parents and also help them economically.

I will choose the third option as it will enable children to resume schooling and also dampen the fear of infection among parents. The free availability of masks and sanitizer will help in both of the above causes as the free availability of these items will not affect the pockets of villagers. With the effective implementation of MGN-REGA and other schemes with the same objective, the economic well off of villagers will be ensured. This will also draw children away from farm fields. A strict warning to landowners responsible for child labor will also ensure the above task.

### NOTES

## Eminent Personality-Shanti Swarup Bhatnagar



Dr. Shanti Swarup Bhatnagar was a visionary scientist, who dreamed of making the country a leader in the field of science and started working on it. He is remembered as the father of Indian research laboratories. The credit for the establishment of the Council of Scientific and Industrial Research (CSIR), which has 38 scientific research laboratories across the country working in diverse fields of science, goes to Dr. Shanti Swarup Bhatnagar. He was a famous Indian scientist and academic administrator. He was born on February 21, 1894, in Shahpur (Presently Pakistan).

In the year 1913, after passing the Intermediate examination from Panjab University in first class, he joined the Forman Christian College, Lahore. From here he passed B.Sc in the year 1916 and MSc in 1919. After completing his master's degree, he went to England on a research fellowship. From here he received his doctorate in science from University College London in 1921 under the supervision of Professor Frederic G. Donnan of Chemistry. During his stay in England, he received a scholarship of 250 Euro annually from the Department of Scientific and Industrial Research, London.

He returned to India in August 1921 and taught for three years as a Professor of Chemistry at the Banaras Hindu University (BHU). Thereafter, he worked as a professor of 'physical chemistry' at the Punjab University, Lahore, as well as the director of the university's chemical laboratories.

This was the most important time of his scientific life in which he did fundamental scientific research. He made important contributions in the field of 'magneto-chemis-

try' in addition to work on emulsions, colloids and industrial chemistry. In the year 1928, he joined K.N. Mathur. Together they propounded the Bhatnagar-Mathur magnetic interference balance. It was one of the most sensitive instruments to determine the magnetic nature, which was later produced by the British company. When India got independence in the year 1947, the work of laying the foundation of science and technology in the country started. For this, Dr. Shanti Swarup Bhatnagar played an important role in making infrastructure and policies in the field of science and technology. He guided and encouraged many young and talented scientists. He also served as Secretary in the Ministry of Education and was also the Education Advisor to the Government of India. Under his leadership, oil refining centres were started, factories for the production of new metals like titanium and zirconium were built and a survey of mineral oil (petroleum) was also started.

Shanti Swarup Bhatnagar did important work in the field of practical chemistry. He played an important role in the establishment of the National Research Development Corporation (NRDC). The role of NRDC has been to bridge the gap between research and development. He played an important role in the promotion of the 'Industrial Research Movement' in the country. A total of twelve national laboratories were established in India under his leadership. The CSIR he founded is today leading India on the global stage in various fields of science and technology. Today CSIR has an active network of 38 National Laboratories, 39 Remote Centers, 3 Innovative Complexes and 05 Units across India. CSIR is working in the fields of radio and space physics, ocean science, geophysics, chemistry, pharmaceuticals, genomics, biotechnology etc.

In the year 1954, the Government of India honoured Dr. Shanti Swarup Bhatnagar with the Padma Bhushan award for his significant contribution in the field of science and engineering. Dr. Shanti Swarup Bhatnagar died of a heart attack on January 1, 1955. In 1957, CSIR announced Shanti Swarup Bhatnagar Award in his honour. This award is given to scientists who have made significant contributions in various fields of science.

# POLITY TERMINOLOGY

## Salient features of the constitution

### About the Constitution

The Indian Constitution is unique in its content and spirit. It has many borrowed features from almost every Constitution of the world but the Constitution of India has several salient features that distinguish it from the Constitutions of the other countries.

### Salient Features

#### 1. Longest Written Constitution

Constitutions are classified into 2 types

- written eg India, Germany, France, US
- unwritten eg UK, New Zealand and Israel.

#### Factors due to which we have such a large constitution are

- \* Geographical factors :- Due to vastness and diversity of the country
- \* Historical factors:- Due to influence of the Government of India Act of 1935, which was bulky and many other.
- \* Single Constitution for both the Centre and the states
- \* Dominance of legal experts in the Constituent Assembly

#### 2. Borrowed Constitution

- **Government of India Act of 1935** :- Federal Scheme, Office of governor, Judiciary, Public Service Commissions, Emergency provisions and administrative details
- **British Constitution** :- Parliamentary government, Rule of Law, legislative procedure, single citizenship, cabinet system, prerogative writs, parliamentary privileges and bicameralism
- **US Constitution** :- Fundamental rights, independence of judiciary, judicial review, impeachment of the president, removal of Supreme Court and high court judges and post of vice-president
- **Irish Constitution** :- Directive Principles of State Policy, nomination of members to Rajya Sabha and method of election of President
- **Japanese Constitution** :- Procedure established by Law.

#### 3. Rigid and Flexible :-

- Under Article 368, Constitution can be amended in 2 ways.
- In the Kesavananda Bharati case (1973), the Supreme Court ruled that under Article 368 the Parliament can

amend the Constitution but it can't alter the 'basic structure' of the Constitution

#### 4. Parliamentary Form of Government

The parliamentary system is also known as the 'Westminster' Model of Government, responsible Government and Cabinet Government.

**Features of parliamentary form of government are:-**

- \* Presence of nominal and real executives
- \* Majority party rule
- \* Collective responsibility of the executive to the legislature
- \* Ministers are members of either of the houses
- \* Prime Minister is the leader
- \* Only Lower House gets dissolved

#### 5. Fundamental Rights

Part III of the Indian Constitution guarantees six fundamental rights.

#### 6. Directive Principles of State Policy

The DPSP's are meant for the promotion of ideal of social and economic democracy. They seek to establish a 'welfare state' in India

#### 7. Federal System

The Constitution of India establishes a federal system of Government. It contains two Government, division of powers, written Constitution, supremacy of Constitution, rigidity of Constitution, independent judiciary and bicameralism.

#### 8. Unitary Bias

Unitary bias can be seen by a strong Centre, single Constitution, single citizenship, flexibility of Constitution, integrated judiciary, appointment of state governor by the Centre, all-India services, emergency provisions etc.

#### 9. Fundamental Duties

By the 42nd Constitutional Amendment Act, 1976 on the recommendation of the Swaran Singh Committee, Fundamental duties were added. By the 86th Constitutional Amendment Act, 2002 one more fundamental duty was added





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## **APRIL 2022 VOLUME 2**



## Right to Information: An Overview

### Context

According to an RTI analysis, The Application for Information was denied by the center on “national security grounds” increased by almost 83 percent in 2020-21.

### Introduction

Under the Right to Information Act-2005, all ministries have to send RTI status reports of their departments to the Central Information Commission (CIC). Reports sent by over 2,182 departments of these ministries were analyzed by a Commonwealth Human Rights Initiative (CHRI) official. A total of 53,537 applications have been rejected during this period. Of the rejected applications, 1,024 notices were rejected on grounds of ‘national security. It may be noted that last year 557 notifications were rejected on grounds of national security.

### Key points of analysis:-

- As per the data received from the central departments, it is found that 1.29 million RTI requests were received in 2019-20, which is 2.48 percent less than the previous year.
- The Maximum number of RTI applications were filed with the Ministries of Health and Steel.
- There has been an 83% increase in the rejection of Right to Information (RTI) applications by Central Government Ministries on the grounds of “National Security” during 2020-21 while the rejection rate of all cases has decreased by 2.95%.
- Although India’s overall rejection

rate has declined, the government’s use of section 8(1) of the RTI Act (Exemption from providing information on national security matters) has increased. For example, 401 RTI applications have been rejected by the Ministry of Consumer Affairs on the grounds of “national security”.

- Like in previous years, this year also, the prohibition of seeking “personal information” was prohibited under Section 8(1J) of the Act.

### Analysis of the status of various ministries

- 401 RTI applications have been rejected by the Ministry of Consumer Affairs on the grounds of “National Security”.
- Ministry of Labor and Employment Rejected RTI based on “intelligence and security agencies”. It may be noted that Section 24 of RTI prohibits information other than a corruption from security establishments.
- The Ministry of Health and Family Welfare and the Ministry of Consumer Affairs and Public Distribution refused to report the use of national security exemptions in hundreds of cases during the pandemic year.
- According to the analysis, there was a decline in rejections by seven ministries namely Finance, Defence, Personnel, and Education. Whereas, several other ministries like steel, external affairs, railways, and health and family welfare have seen a substantial increase in the rejection of RTI applications.
- As per the analysis, in the case

of some ministries like steel and consumer affairs, the main reason for the high rejection rate was that these ministries had made very few rejections last year. This year the rate has increased as compared to last year due to higher rejections.

### About the right to information

RTI was enacted in 2005 to promote the concept of transparency by making general information related to the working of the government machinery accessible to the public.

### Key Provisions of RTI Act

- Any citizen can request information from a public authority.
- The request made by the citizen is required to be replied to within 30 days.
- The Act also requires every public authority to computerize its records for dissemination.
- If the citizen is not satisfied with the information provided, he can file an objection within 90 days.
- Its implementation is done by the Central Information Commission.
- Every department has a Public Information Officer or Public Information Officer who provides information on behalf of the department concerned.

### Grounds for denial of information:

There are also certain provisions based on which a public authority can disapprove of providing information to a citizen. These grounds have been laid down in section 8 of the Act.

- Information that may affect national security interests, national environmental interests, national scientific interests, integrity, abatement of crime, and relations with foreign states
- Confidential information relating to foreign states
- Information regarding cabinet meetings
- Information prohibited by the court
- Notice of breach of parliamentary privilege
- Information relating to patents and trade secrets
- Personal information that has no public interest
- Information available to a person in his/her deliberation (contractual relationship) unless such disclosure is in the public interest
- Information that endangers the life or physical safety of any person.
- Information that obstructs the process of investigation

“Central intelligence and security agencies such as IB, Enforcement Directorate, Research and Analysis Wing, Central Bureau of Investigation (CBI), Directorate of Revenue Intelligence and agencies designated by the State Governments have also been kept out of the purview of Right to Information through a notification. However, the exemption received by these institutions is not absolute. Information related to human rights, corruption will have to be given by these institutions.

Under section 9, the Public Information Officer can cancel the application in the absence of access to the information.

#### **Benefits of Right to Information Act**

- The Second Administrative Reforms Commission has described this act as the master key of governance.



- This year 1.29 million RTI applications have been received which shows public awareness of this Act.
- Commonwealth scam, 2G scams have been reported using this act.
- This act has improved the working style of the institutions. For example, the candidates of IIT JEE and Civil Services started getting answer keys, information about their numbers, pending cases started becoming available in the courts.
- Transparency International's report considered the act as an effective tool against corruption.
- Seeing the success of this Act, Sri Lanka has also implemented this Act.

#### **Challenges in front of Right to Information Act**

- Official Secrecy Act 1923: was implemented by the colonial powers. At present, although the RTI Act (Section 8(2)) states that in case of conflict with the Official Secrets Act, information should be provided “on grounds of public interest”, this does not happen. It is generally seen that in almost all the cases related to the Official Secrecy Act, information is not provided. , Therefore, the Second Administrative Reforms Commission has recommended repeal of the Official Secrecy Act, of 1923 and the introduction of a dedicated National Security Bill to protect national security interests.
- **Jurisdiction of RTI:** It is known that political parties and media

houses are a major source of information to the public but political parties, media houses, and courts are not under the purview of RTI.

- **Lack of punctuality:** The number of employees is insufficient for the proper operation of RTI and those who are appointed as RTI officers have to look after the day-to-day work of their department. As a result, there is no assurance of getting the information within 30 days. As a result, the pendency of RTI cases also increases.

- **The Low Penalty:** If the information officer is unable to provide the information or refuses to take the application, then the information officer will be fined at the rate of RS. 250 per day (the total fine will not exceed Rs. 25,000) and the Information will also have to be provided later. But so far only 1% of the people have been fined.

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

- In this context, first of all, following the recommendation of the Second Administrative Reforms Commission, the Official Secrecy Act will have to be repealed.
- Media houses and political parties have to be brought under the purview of RTI. It is noteworthy that efforts are being made by the Hon'ble Court in this regard, balancing transparency and autonomy.
- The provision of providing information within 30 days should be strictly followed.



## The Status of Women in the Workforce: Prospects and Challenges

### Context

According to the Employees' Provident Fund data, a state-run social security organization, "women's employment in the organized economy will grow at twice the rate of men's net jobs."

### Introduction

- There is a steady decline in the cases of corona in India, along with this, women are seen making better efforts for employment. By December 2021, data from the Employees' Provident Fund, a state-run social security organization, shows that women's employment in the formal economy will grow at twice the pace of men's net jobs. Along with this, if we talk about the global health sector, according to a study published in the medical journal 'Lancet' for the year 2021, women represent 71% of the global health care workforce. In addition, this study suggests that women are five times more likely to face disruptions than men. In India, women account for 30% of doctors and more than 80% of nurses and midwives, so their challenges are also greater.

- Amid these possibilities and challenges, although the participation of women in organized sector jobs is increasing, they still face huge challenges.

### Opportunities in the field of women's employment

- According to the Employees' Provident Fund data, a state-run social security organization, "wom-

en's employment in the organized economy will grow at twice the pace of men's net jobs." According to a LinkedIn Opportunity Index 2021 survey, 66% of Indian women's Gender discrimination has reduced compared to a generation ago. This is a great success.

- The participation of women in the organized sector is increasing. For example, according to the data of Employees Provident Fund, a state-run social security organization, in 2021-22, there will be one woman employed for every four working men. In 2020-21 this ratio was 1:5.

- Employment of women is increasing relative to men in the younger generation. In 2018-19, 33.4 percent of the women entering the workforce were in the age group of 18-21 and 28.4% were in the age group of 22-25. In 2021-22, the share of employment increased for women aged 22-25 and 26-28 and declined in all other categories. On the other hand, for men, employment shifts from younger to older men. In 2018-19, most of the jobs were among men in the age group of 18-25 years but the increase over the years has been higher for men aged 26 years and above.

- The government has taken some important initiatives to promote gender equality and welfare. These include Beti Bachao, Beti Padhao Abhiyan, Pradhan Mantri Matru Vandana Yojana, Poshan Abhiyan, and Pradhan Mantri Ujjwala Yojana.

- Under the Mahila Shakti Kendra Yojana, efforts are made to

empower rural women through community participation.

- The 'Nari Shakti' initiative presented in the Union Budget is aimed at bringing about a change in the status of women and the inclusive development of women.

### Challenges for employment of women in India:

#### The problem of patriarchy

- As a result of patriarchal culture, the role of women in different religions and households is also different in the fabric of society. These roles sometimes put extra pressure on women. The patriarchal prejudice that "earning is a man's job" affects the position of women in employment.

#### Work-Family Balance:

- The biggest obstacle in women's employment is the problem of balancing work with family responsibilities.

- Work like child care, cleaning and cooking are essential for the welfare of the household for the betterment of the society as a whole.

- During the Corona period in India, about 85% of women were unable to get promotions as their ability to do domestic and organizational work together during work from home was affected.

- In the LinkedIn Opportunity Index 2021 survey, 71% of women admit that it is difficult to strike a balance between work and household responsibilities.



### Work place problem

- Inconvenience of transport for women to reach the workplace and cases of sexual harassment at the workplace make employment difficult for women. 22% of women believe that the corporate environment is male-friendly.

### Selected Employment and Employment Encroachment

- Women are considered eligible for select services like education, health. They are considered unskilled in STEM (Science, Technology, Engineering, Management). Along with this, there has been encroachment by men in the employment of traditional women such as chefs (food manufacturing), tailoring (clothing).
- Data from the Employees' Provident Fund, a state-run social security organization, shows that women's employment has increased in areas with less expertise and lower wages. Therefore, income inequality still exists between women and men.

### Care economy

- Care economy refers to the responsibility of taking care of children or family members on women. In India, 66 percent of women's work is unpaid compared to an average of 12 percent of men. Which is part of the care economy. Which is a challenge in their planning.

### Efforts made for the empowerment of working women in India

#### Constitutional provision

- Article 15 and 16 of the Constitu-

-tion of India protects against discrimination based on gender. Equal pay for equal work has been provided in the Directive Principles of the Indian Constitution. The Constitution of India also provides for women's reservations.

### Statutory provision

- The government has extended the period of maternity leave granted under the Maternity Benefit (Amendment) Act, 2017 to 26 weeks instead of 12 weeks. It also has other provisions that may make it easier for women to work.
- Initiated by the Ministry of Labor under the Factories Act 1948, especially regarding the safety of women for travel. As per this provision, the state will provide a pick and drop facility for the late working women which will help in creating a strong infrastructure to create an enabling environment for the working women.
- The Equal Remuneration Act, 1948 also applies equally to men and women without any discrimination.
- Internal Complaints Committee Local Complaints Committee (LCC) has been set up in each district to receive harassment complaints at the workplace by the Women's Harassment (Prevention, Prohibition, and Redressal) Act. The Act has several provisions for the empowerment of women in the workplace.

### What should be done


- The social status of women is different than that of men. Women at the workplace re-enter the workforce after a break at different stages (e.g. single women, married women, young mothers, and widowed women). Where there is an emotional difference with the ability to work. In this situation, there is a need to accept gender-sensitive thinking.
- Along with the law, it is neces-

sary for society to be democratic. The divergence of the principles of society and law brings with it a major problem. To get rid of this time, it is necessary to develop women's empowerment as a mass movement.

- The legal problem also needs to be rectified on some grounds. Legislation designed for women working in the unorganized sector with gender-sensitive provisions such as ensuring confidentiality, minimum wages, maternity benefits, leave and a legal framework for grievance redressal can benefit women empowerment.
- Will have to invest in the care economy. Investing in the CARE economy will provide women with a break from caregiving, thereby increasing productivity in the health, social work, and education sectors (in which women play an important role).
- Equal pay for equal work needs to be promoted.
- Violence and harassment at the workplace must end. Domestic violence and gender-based violence and harassment at the workplace have seen a rise during the pandemic. As a result, the ability of women to engage in employment has further reduced.

### Conclusion

According to NHFS data, this is the first time that the number of females per 1000 males in India has been 1020. More than 50% of the population also needs more empowerment. Although various efforts have been made for women's empowerment in India, due to these efforts, 66% of women believe that gender discrimination has reduced compared to a generation ago. Along with this, the participation of women in the organized sector is also increasing, but it is also a harsh truth that India needs to make a lot of efforts in this direction.



## The problem of heart attack And Youth

### Context

Recently, Australia's legendary spinner Shane warne has died due to a heart attack. Although it usually comes in old age (after 60 years) but for some time it has also been seen in people in the age group of 40 to 60 years.

### Introduction

Legendary Australian leg-spinner Shane Warne has died at the age of 52 due to a heart attack. It should be noted that Shane Warne was also the highest wicket-taker for Test Cricket Australia and the first winning captain of the Indian Premier League to be held in India. In his youth, he had to face the problem of heart attack even after having a healthy body, a luxurious lifestyle. Recently former Indian cricket captain and currently BCCI President Sourav Ganguly and comedian Sunil Grover had heart attacks. Some time ago Siddharth Shukla (40 years), Inder Kumar (43 years) - Puneet Rajkumar (46 years) died of a heart attack.

### What is heart attack?

A heart attack is also called a myocardial infarction. Along with this, it is also known as cardiac infarction, cardiopulmonary arrest, congestive heart failure, and coronary infarction. This is a condition in which there is less blood flow and blood stops in one part of the heart. After this, the muscles of the heart are broken and pain is felt in the left part of the body (from chest to shoulders and arms). Along with this, there is also difficulty in breathing in this dis-

ease. Other symptoms include tachycardia, sweating, anxiety, fish, vomiting, cough, and dizziness.

### Causes of heart attack

There are many reasons responsible for the condition of heart attack-

- Diabetes (with or without insulin resistance).
- smoking tobacco
- Hypercholesterolemia
- Low HDL
- High Triglycerides
- high blood pressure
- obesity
- Irregular sleep patterns
- Irregular lifestyle
- Pollution

### Statics of heart attack in India

- According to the Cardiological Society of India (CSI), more than 6 million people in India suffer from heart failure.
- According to the 2019 report of All India Medical Research (ICMR)
  - o About 200 million young people under the age of 30 suffer from high blood pressure and 19% of all deaths per year are related to heart disease.
  - o ICMR also told that every fourth youth of the country is on the threshold of a heart attack. More than 800 youth are dying every day due to heart-related diseases.
  - Tobacco use is one of the biggest risk factors for heart disease. In the age group of 30 to 44, 26% of heart diseases are due to tobacco use. Subsequently, irregular sleep patterns and stress conditions are responsible for heart attacks. More than 70 million people in India have diabetes. It

also includes a lot of young people.

o According to heart experts, "Young men who smoke 10 cigarettes a day increase their chances of getting heart disease by 50%. It is important to note that the level of cholesterol increases due to smoking and faulty eating pattern, which increases the heart rate by 50 percent. And the blood pressure increases by 30 percent.

- 50% of the total heart attack cases in the country are people below 50 years of age and 25% are below 40 years of age. Between 2000 and 2016 the rate of heart attack in this age group (40 to 60) increased by 2% per year.
- Cardiovascular diseases are responsible for about 80% of premature deaths due to air pollution. The fine particulate matter gets carried into the bloodstream along with the toxins by the speaker which cause a serious heart attack.

### Diagnosing heart attack

Treatment of myocardial infarction can range from lifestyle changes and cardiac rehabilitation to medication, stents, and bypass surgery.

### Prevention

- It is important to note that many of these factors are modifiable, so the problem of heart attack can be avoided by making a healthy lifestyle. For this, the problem of heart attack can be prevented by using regular exercise, yoga, pure food, lifestyle according to biological clock, etc.

### Diagnosis during heart attack

- The defibrillation method uses electric shocks. These electric shocks help in correcting irregular heart rates. It not only helps in restoring normal heart rate but in this process, by providing extra oxygen to the patient, an attempt is made to remove the problem of blood circulation and breathing.

- If the cause of myocardial infarction is fat deposition, statins may be used in that case. It helps in reducing the production of harmful cholesterol in the liver. Through this process, the pressure of the obstructed blood vessels is reduced and the vessels get relaxed.

- Coronary artery bypass graft (CABG) surgery or heart bypass surgery is an important method of prevention of heart attack. It is an open-heart procedure. Typically, this procedure involves removing a segment of a vein from a location elsewhere in the patient's body (usually the leg) and grafting it, bypassing (bypassing) the blocked artery, thereby releasing the blocked artery. A new route of blood flow is created (bypassing it).

- Balloon angioplasty is a group of heart procedures called percutaneous coronary intervention (PCI). Balloon angioplasty does not require open surgery. In this, the doctor will fix a fixed place and make a hole there, in this local anaesthesia is used to numb the location of the hole. After this, a small tube called a sheath is then inserted into the artery to provide a temporary passage for medical devices to reach the heart.

- During a coronary angiogram, the doctor will inject a contrast dye through a catheter into the bloodstream, allowing the doctor to see the patient's arteries on an X-ray monitor. A small balloon attached to the end of the medical device is in-

serted into the catheter and passed from inside arteries to the blocked coronary artery. The balloon is then inflated. It is normal to feel a little bit of pain when the balloon is inflated. The balloon is then emptied and the catheter is removed from artery. This procedure relieves narrowing of coronary artery and increases blood flow through artery.

- Stent therapy: A stent is a small, metal, expandable sieve-like tube that supports an artery and helps keep it open. In many cases, balloon angioplasty alone may not be successful in opening clogged artery. Therefore, doctor may recommend a coronary stent to replace the blockage of the artery. Another type of PCI procedure is the placement of a stent in an artery of the heart. Placement of a stent does not require open surgery.

### Preventive measures after a heart attack

- Medicines used in the treatment of myocardial infarction have some side effects. The medicines given to the patients have high nitrate content. The most commonly seen side effect is a headache.

- After this, a heart attack can be prevented by a healthy lifestyle, abstinence from tobacco and alcohol consumption, etc.

### Conclusion

India is a country of Youths . India's economy is on the path of demographic dividend. Diseases such as heart attacks deplete India's human resources and affect its demographic dividend. The government is making continuous efforts towards the problem of a heart attack. The government provides subsidies on bypass surgery, along with this work is also being done to make people aware. are being made aware of yoga in the



country. Although even after these efforts, we can say that the problem of heart attack is becoming a big threat to the whole world including India. Although even after these efforts, we can say that the problem of heart attack is becoming a big threat to the whole world including India.

### NOTES



## Defence Self-Reliance: Key to National Security

### Why in News?

Addressing a webinar on budget proposals related to the defense sector, PM Modi alluded to the neglect of indigenous design and development in the defense sector after independence that led to the country becoming one of the world's largest arms importers in recent years. PM Modi said the development of the local defense industry was critical for national security.

Design and development of unique defense capabilities that are tailor-made to meet the Indian military's requirement is the key to national security as it cannot be achieved through imports, said Prime Minister Narendra Modi as he explained the blueprint to achieve self-reliance in defense.

### Challenges to achieving self-reliance in Defence Sector:

#### These challenges are:

#### • **Lack of growth in defence modernisation and defence capabilities:**

Over the years, the pace of defence modernisation in India has remained slow and indigenous production of high-tech weapons continues to be a challenge. This is mainly due to a

- o Declining defence budget towards long term investments, and research and development;
- o Process inefficiencies and delays in domestic production by government lead organizations;
- o The government's reluctance to grant defence contracts to India's private sector.
- o As a result, India continues to

rely on foreign imports for high-tech weapons, thereby hindering the development of the indigenous industry.

- **Budgetary issues:** While India's defence budget has increased over the years, a major chunk is spent on personnel costs such as salaries and pension, thereby shrinking the funds available for defence production. Further, India's budget allocation for research and development remains around 4 % (It was 4% of the total defence budget for 2020-2021). This is much lower compared to capital expenditure by technologically advanced countries like USA and China, which spend 12% and 20% of their defence budgets on research and development, respectively.

#### • **Lack of strategic planning for future needs of the Armed Forces:**

In the emerging geopolitical scenario, the Indian Armed Forces have to remain operationally ready to respond to border threats. Consequently, the Armed Forces' war-fighting capabilities have to be constantly augmented and the technology in the weapons and equipment has to be updated. In order to meet these needs indigenously, there is a need to strategically and pragmatically plan for the needs of the Armed Forces and invest in long-term development of high-tech weapons. Commentators have argued that this is currently lacking in India's defence policy.

#### • **Production and time delays:**

Indigenous defence production has been wrought with production de-

lays. For example, India's first indigenously produced Light Combat Aircraft, HAL Tejas, faced a long production delay with HAL requiring a total of seven years to produce 16 aircrafts despite the estimated timeline of four years.

#### • **Hierarchical and skewed decision-making:**

A 2018 internal report of the Ministry of Defence identified skewed decision-making process, bureaucratic red-tape and multiple decision-making heads as the reason for inordinate delays in defence procurement. Decision-making on issues of national security and defence procurement has been slow and inefficient due to hierarchical complexities, resulting in the slow growth of defence modernisation.

### Government initiatives to Self-Reliance in Defence Sector:

- Ministry of Defence has notified a 'First Positive Indigenisation list' of 101 items on 21st August, 2020 and '2nd Positive Indigenisation list' of 108 items on 31st May, 2021 for which there would be an embargo on the import beyond the timelines indicated against them. This is a big step to promote indigenisation in defence sector.

- SRIJAN portal to promote indigenisation was launched on 14 August, 2020. As on date, 10,929 items, which were earlier imported, have been displayed on the portal for indigenisation.

- DPP-2016 has been revised as Defence Acquisition Procedure (DAP)-2020, which is driven by the



tenets of Defence Reforms announced as part of 'AatmaNirbhar Bharat Abhiyan'.

- In order to promote indigenous design and development of defence equipment 'Buy (Indian-IDDMM (Indigenously Designed, Developed and manufactured))' category has been accorded top most priority for procurement of capital equipment.

- The 'Make' Procedure of capital procurement has been simplified. There is a provision for funding up to 70% of development cost by the Government to Indian industry under Make-I category. In addition, there are specific reservations for MSMEs under the 'Make' procedure.

- FDI: The Government of India has enhanced FDI in Defence Sector up to 74% through the Automatic Route for companies seeking new defence industrial license and up to 100% by Government Route.

- An innovation ecosystem for Defence titled 'Innovations for Defence Excellence (iDEX)' has been launched in April, 2018. iDEX is aimed at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, startups, individual innovators, R&D institutes and academia and provide them grants/funding and other support to carry out R&D which has potential for future adoption for Indian defence and aerospace needs.

- Government has established two Defence Industrial Corridors, one each in the States of Uttar Pradesh and Tamil Nadu. The investments of Rs 20,000 crore are planned in Defence corridors of Uttar Pradesh and Tamil Nadu by year 2024..

- Defence Investor Cell (DIC) has been created in Feb-2018 the Ministry to provide all necessary information including addressing queries related to investment opportunities, procedures and regulatory require-



-ments for investment in the sector. As on date, 1,176 queries had been received and addressed by Defence Investor Cell.

- Technology Development Fund (TDF) has been created under DRDO to promote self-reliance in Defence Technology through participation of Public/Private industries especially MSMEs and startups.

#### Way forward:

- To overcome the challenges identified above and support self-reliance in defence production, the government should consider the following suggestions for reform:

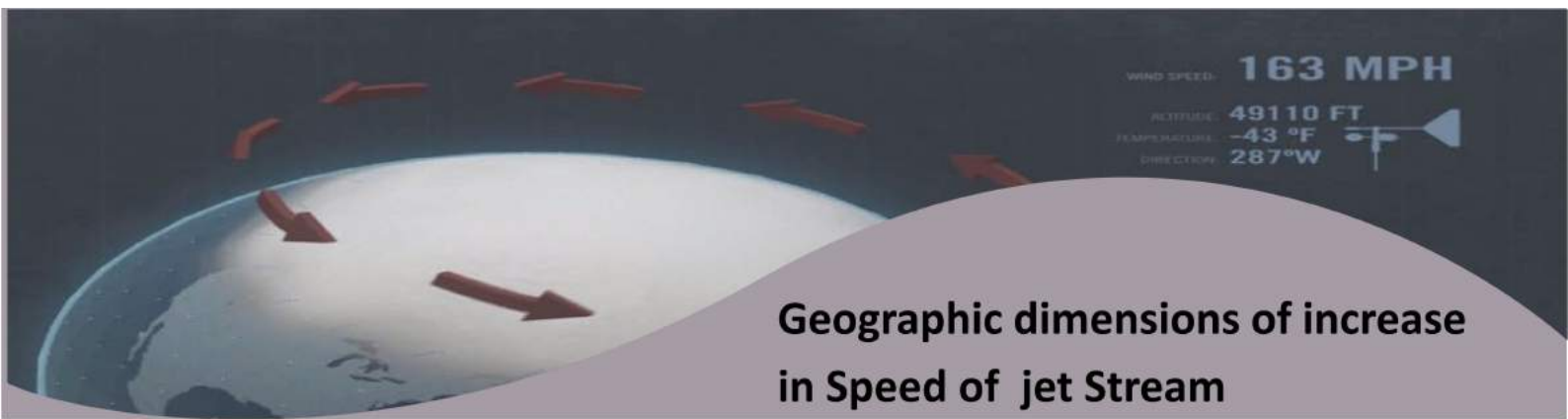
- **Supporting private sector:** To build a defence industrial base, the government should consider supporting the private sector in India and trusting the private sector with bigger and stable defence contracts. Supporting research and development, and design and manufacturing capabilities of the private sector are vital for increasing defence production in India.

- **Funds for Armed Forces:** Several defence projects are pending due to a lack of funds. The Indian government should consider reviewing the budget allocation for the defence to ensure adequate funds for the three forces relative to personnel costs. In addition, long-term and larger capital investment in the defence production, and research and development are the need of the hour.

- **Decision-making and time delays:** To overcome decision-making challenges facing defence procurement, the Ministry of Defence should consider a restructuring of the decision-making process. Representatives from the three forces should be included in defence procurement and national security decision-making for a more inclusive and efficient decision-making. Time delays in defence procurement can also be reduced by making structural changes to the decision-making process.

- Self-reliance in defence manufacturing is a crucial component of effective defence capability and to maintain national sovereignty and achieve military superiority. A robust domestic defence manufacturing sector can transform India's military capabilities and help achieve self-reliance in its defence requirements

#### NOTES



## Geographic dimensions of increase in Speed of jet Stream

### Context :

New recent research shows that the Northern Hemisphere jet stream (in Winter ) position over the North Atlantic and Eurasia has moved northward by 330 km and averaged over 141 years during 1871–2011. Winter jet-speed increased to 132 mph.

### About research

This research was done by the Natural Environmental Research Council under the auspices of JPI climate and JPI Ocean Joint Call.

This research is funded by the Government of Ireland and supported by the Marine Institute.

### Key findings of the research

- The study, published in Climate Dynamics, provides a comparative study of the “Northern Hemisphere Jet Stream” across oceans and continents.
- This study revealed that jet stream trends vary on a regional and seasonal basis.
- Between 1871 and 2011, the average speed in the (Winter) jet stream latitudes in the North Atlantic from 44°N to 47°N increased from 10 mph to 132 mph in the range between 1871 and 2011, but in the North Pacific no increase was observed.
- Significant increases in winter jet latitude and speed have been observed in the North Atlantic and Eurasia. These changes are directly proportional to the decreasing temperature and increasing pressure gradient between the equator and the Arctic during the period. This is

potentially warming the Arctic ice.

- In the North Pacific, no increase in jet latitude or speed has been observed. However, the change in North Pacific sea surface temperature during this time reflects variability in the jet latitude of about 50%.”
- The variability and trends in the Northern Hemisphere jet stream vary on a regional basis in the North Atlantic, North Pacific, Eurasia, and North America. It is important for forecasting the climate and developing plans to deal with climate change.

### What is jet stream?

Jet stream refers to the very high-speed wind flow running in the troposphere. Generally, they are found in the Northern Hemisphere. These air currents flow in a transition belt about 150 km wide and 2 to 3 km thick. The normal speed of jet flow is 150 to 200 km per hour, but in the core, their speed ranges from 320 km to 480 km per hour. This wind flows mainly in the southern hemisphere from 60 ° south latitude towards the pole. The kinetic energy of jet wind is concentrated in a narrow belt of high-velocity wind.

### Origin of jet stream:-

The origin of jet stream is mainly due to :-

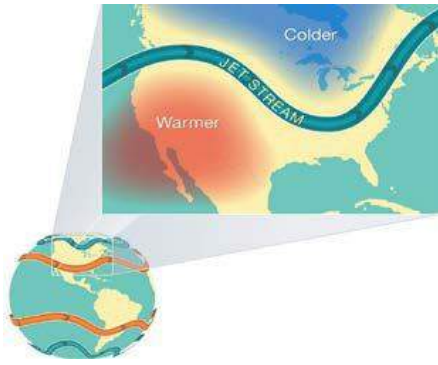
- The temperature gradient between the equator to the poles ,
- The Circumpolar Whirl caused by high pressure on the surface of the poles (pressure gradient between poles and equator) ,
- Low pressure in the troposphere

above it(Pressure gradient between surface and subsurface air over the poles).

### Types of jet stream

There are mainly 4 types

- o Polar jet air currents
- o Polar Frontier Jet Stream
- o Sub-tropical westerly jet
- o Tropical East Jet
- **Polar jet air currents:** - These currents mainly flow in the troposphere from 60 ° north and south latitudes towards the poles. Their direction is from South-West to North-East in the Northern Hemisphere and from North-West to South-East in the Southern Hemisphere.
- **Polar Frontal Jet Stream:** - This jet stream was discovered by Swedish scientist Rossby, hence it is also known as ‘Rossby Web’. They are formed (about 8 to 12 km) above the convergence zone (30 ° - 60 ° latitude) of home polar cold air masses and tropical warm air masses. Due to the union of two opposite air masses, their temperature gradient is high. The direction of these winds is from southwest to northeast. These winds are irregular.
- **Sub-tropical westerly jet:-** This airflow occurs in the upper troposphere (10-14 km ) north of the home sub-tropical high air pressure belt above latitudes of 20 degrees to 35 degrees. Its speed is 340-385 km / hr. The main reason for their origin is the convection action in the equatorial region. Due to the convection action, the north-east flow in the belt of the disturbance boundary is there.



- **Tropical East Jet :-** This flow occurs only in the northern hemisphere in summer (14 to 16 km) over India and Africa. The direction of its flow is from north-east to south-west.

### Changes in the position and extent of the jet stream: Index Cycle of Jet Stream

There is often a change in the position and extent of the jet stream (from the poles to the equator). Under which the jet stream pattern is almost straight from the flow in the west-east direction to the diversion path. The period of formation of the wave-like flow path from the west-east direction is called the index cycle. This index cycle precedes 4 phases. These cycles are also called jet development-cycle nouns.

The description of the four stages is as follows:

- **First Stage:-** This position of the jet stream is known as a high tropical index due to its being near the poles. In the Northern Hemisphere, this current is polarized in the north and warm westerly winds in the south. In this stage, the communication of the jet stream is almost in a straight path from west to east. In this situation, the direction of the stream appears on the surface due to the convergence of the cold polar air masses, the western air masses.
- **The Second stage:-** Gradually the wave starts forming in the jet stream. This wave is also known as the Rossby wave. When the amplitude of

these Rossby waves increases, the jet stream expands to the equator. As a result, the cooler polar air moves closer to the equator, and the tropical air reaches the poles.

- **Third Stage:-** In this stage, the flow of the jet stream becomes completely meandering or wave-like. At this time the flow is very close to the equator. It is to be noted that in the first two stages, the slope is north-south, while in this stage it becomes in the east-west direction. Polar cold air masses care about the equator. Along with this, a large amount of tropical hot air masses flow towards the poles.

- **The Fourth stage: -** During this, due to the excessive longitudinal flow of the jet stream (north-south side), the waves break up. As a result of the break, some streams separate from the original stream and flow through a circular path. Due to this many cells of the circular air system (cyclonic cells and front) develop.

### Importance of jet stream

The jet stream affects the weather in a big way. It has the following importance-

- Horizontal convergence and divergence occur in the upper part of the troposphere due to jet stream. High-level cyclones and anticyclones are formed due to convergence and divergence in the upper atmosphere. Air rises in cyclones and air settles down in the anticyclonic air system. In this way, due to the upward and downward circulation of air in the upper surface, there is a rapid mixing of the winds of the troposphere and the stratosphere. This mixture of air sends man-made pollutants from the troposphere to the stratosphere.
- Due to the change like the surface (low level) cyclones and counter cyclones due to the jet stream, there are fluctuations in the local weather (flood-drought).

- It carries some ozone depleting substances into the stratosphere resulting in depletion of ozone layer.
- The jet stream has a significant influence on the monsoons of South Asia. The tropical monsoon rain would have been influenced by the jet stream.
- Jet stream influences the climate of India. Tropical east jet affects India. This flow is responsible for the origin of the Indian monsoon. Being warm, this jet stream carries convective rain in India by lifting the surface of hot and humid air. Thus monsoon bursts in India.
- The sub-tropical westerly jet is responsible for the Western Disturbance in India which brings winter rains over northern India. It is good for wheat crops.

### NOTES



## Economy in Time of War

### Why in News?

- Recently, News of Russia's invasion of Ukraine triggered panic among investors everywhere.

### Key Highlights

- The Sensex at the BSE fell 2,702 points or 4.7% to close at a six-month low of 54,529.
- Markets will likely remain volatile in the near term in line with geopolitical developments.
- Experts feel that since India is not a party to this external event and is not impacted directly, its medium- to long-term economic prospects are not altered — and investors should not sell in panic.

### Concerns

#### • Inflation Risks

#### o Fuel Prices

- Russia is the world's third largest oil producer.
- ▣ Brent crude shot past the \$100 per barrel mark for the first time in eight years on concerns over supply.
- ▣ Rising oil prices could speed up already rising inflation.
- ▣ India imports more than 80% of its oil requirement, but the share of oil imports in its total imports is around 27.5%.
- ▣ While increases in domestic fuel prices have been put on hold as five states vote in Assembly elections, the recent surge in global crude could intensify the pressure on the state-owned oil retailers.
- ▣ Calibrating price hikes is now more complex, given the cascading inflation impact that could follow the increase.

#### o Current Account Deficit

▣ Rising oil prices will also impact the current account deficit, which is the difference between the values of goods and services imported and exported.

#### o Other Commodity Prices

▣ Sanctions on Russia by the West could impact its trade with the world — and result in a rise in the prices of other commodities and products, including wheat, edible oil, and metals.

▣ India imports most of its requirement of sunflower oil from Ukraine, and the two countries now at war are also two of the world's biggest producers of wheat.

### Inflation

- Inflation refers to the rise in the prices of most goods and services of daily or common use, such as food, clothing, housing 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 is measured in percentage.
- In India, the Ministry of Statistics and Programme Implementation measures inflation.

### Deflation

- o The opposite and rare fall in the price index of this basket of items is called 'deflation'.
- In India, inflation is primarily measured by two main indices — WPI (Wholesale Price Index) and CPI (Consumer Price Index).
- o WPI measures wholesale and CPI measures retail-level price changes.

### Economic Recovery

- The rise in crude prices poses inflationary, fiscal, and external sector risks.
- Oil-related products have a share of over 9% in the WPI basket.
- According to Madan Sabnavis, chief economist at Bank of Baroda, a 10% increase in crude would lead to an increase of around 0.9% in WPI inflation.
- o A larger oil import bill will impact India's external position.
- It is also likely to increase subsidies on LPG and kerosene, pushing up the overall subsidy bill.
- Some experts, however, argue that India's economic fundamentals remain strong, and the war will not have a significant impact on the economy.
- There is a view that with the third wave of Covid close to its end and most restrictions having been withdrawn, there will be an increase in consumption and domestic growth, quickening the pace of recovery.

### FPI Sentiment

- Foreign portfolio investors have been selling their holdings in Indian equities over the last four months after the US Federal Reserve announced an increase in the pace of withdrawal of stimulus followed by a hike in interest rates beginning March 2022.
- Investors started pulling out funds from emerging economies to park them in US treasuries and benefit from the expected rise in bond yields.
- Geopolitical concerns have inten-

-sified the outflow of funds over the last two months.

- Out of the total FPI pullout of Rs 82,745 crore beginning November 2021, Rs 57,774 crore was withdrawn between January and February 2022.
- This outflow is likely to continue over the coming days.
- On 24 Feb, FPIs pulled out a net of Rs 6,448 crore from Indian equities, leading to the fall in the markets.

### Foreign Portfolio Investors (FPI)

- Foreign portfolio investment (FPI) consists of securities and other financial assets held by investors in another country.
- It does not provide the investor with direct ownership of a company's assets and is relatively liquid depending on the volatility of the market.
- Along with foreign direct investment (FDI), FPI is one of the common ways to invest in an overseas economy.
- FDI and FPI are both important sources of funding for most economies.

### Domestic Institutional Investors Behavior

- As FPIs pulled out on Thursday, domestic institutions emerged as net investors.
- According to provisional data released by the stock exchanges, DIIs ( Domestic Institutional Investors ) invested a net of Rs 7,667 crore on Thursday, which is more than what the FPIs pulled out.
- Over the last two months, DIIs have invested a net of Rs 55,551 crore in equities.
- Experts say that the current geopolitical concerns will not impact long-term fundamentals and prospects of businesses, and investors should take the fall in markets as

an opportunity to invest in mutual funds and high-quality blue chip companies.

### Domestic Institutional Investors (DIIs)

- Domestic Institutional Investors are institutions like insurance companies, mutual fund houses, pension funds, or provident funds.
- DIIs generally pool money from the small investors of the country and then trade in different securities and assets of the country.
- Like the FIIs, over the years, DIIs have also emerged to become an essential source of domestic funds for the companies and play a significant role in the economy's net investment flow.

### Equity Investors

- While markets may remain volatile, retail investors should look at the DII investment pattern, investment advisors say.
- If DIIs are investing amid the sharp fall in markets, retail investors too should not panic- and should increase their investments if they are underweight in equities.
- With the fundamentals strong and concerns restricted mostly to external factors, experts say the markets will likely bounce back once the situation eases.
- However, investors should not take unnecessary risks.

### Gold Outlook

- In times of uncertainty and inflation, gold emerges as the asset class of choice for investors.
- It is important to note that at a time when equities have been falling, gold has risen sharply.
- Gold prices are likely to rise further from current levels, as investors will move towards the safe haven following inflation-related concerns on higher crude prices and geopolitical

tensions.

- If the current situation further escalates, investors will cling on to safe haven asset or sit on cash, i.e. dollar.
- Along with geopolitical tensions, rising inflationary concerns has also been supporting precious metal prices on lower levels, hence supporting our view of buying on dips.

### Conclusion

- The pandemic has left the global economy with two key points of vulnerability — high inflation and jittery financial markets.
  - o Aftershocks from the invasion could easily worsen both.
- Household spending an even-larger chunk of their incomes on fuel will have less cash for other goods and services.
- Plunging markets would add another drag, hitting wealth and confidence, and making it harder for firms to tap funds for investment.



### NOTES



## Moving towards Zero Budget Natural Farming

### Context

The Government of India is continuously moving towards zero-budget natural agriculture. Since the last three Union budgets, continuous provision is being made regarding zero-budget natural agriculture.

### Introduction

The Finance Minister of India has repeated the government's commitment to natural, chemical-free, organic, and natural agriculture in her budget speech. This is the third time in the last budget speeches that the Finance Minister has mentioned natural farming zero-budget. The term budget used in this farming system refers to the expenditure on agriculture. That is, zero budget agriculture means performing agricultural work by natural inputs without using available agricultural inputs like chemical fertilizers and fertilizers in the market. This reduces the cost of this farming method to zero. Collectively this process is called zero-budget natural farming.

### Pillars of Zero Budget Natural Agriculture

The following four techniques are used for zero-budget natural farming.

- **Jeevamrutha** – Nutrients are provided to the soil with the help of Jivamrita or Jeevamrutha. Due to Jeevamrutha, the activity of microorganisms in the soil increases, which leads to a good yield of crops. Along with this, trees and plants can also be saved from fungal and bacterial plant diseases with the help of Jee-

vamrut. Hence it acts as a catalytic agent in natural agriculture.

- o To make this, 200 liters of water, 10 kg of fresh cow dung, 5 to 10 liters of aged cow urine, 2 kg of pulse flour, 2 kg of brown sugar and clay are used.

- **Beejamrutha:-** It is used during seed sowing. With its help, the roots of new plants are protected from fungus, soil-borne diseases, and other diseases. Cow dung, cow urine, anti-bacterial liquid, lime, and clay are used in their manufacture.

- **Mulching:-** This method is used to conserve soil moisture and maintain soil fertility. Under this process, many types of materials are applied to the soil surface. It manages the soil quality during agriculture.

- **Whapasa (vapour, moisture):** - In this method of agriculture, plants do not require much water to grow (according to Subhash Palekar's book) so in this method, the plant is given steam for growth. , Whapasa refers to the condition in which the elements of air and water are present in the soil and help in the growth of the plant.

### Need for zero budget natural farming

- Due to chemical farming for the last several years, there has been a massive decline in the fertility of the soil. The rate of desertification has increased. Zero budget natural farming is necessary to stop this.

- Agriculture at present suffers from the problem of "continuously declining profits". In chemical agriculture, money is used for many

works including the use of pesticides, fertilizers, irrigation, which increases the cost of agriculture and reduces profit. Zero-budget natural farming can solve this problem.

- Due to the exploitation of groundwater for irrigation, a situation of the water crisis is arising. Zero budget natural agriculture will reduce the exploitation of groundwater.

- Due to chemical farming, there has been a great decline in the health of nature and human beings. This problem can be prevented by natural farming.

- The foods lose their quality due to the use of chemical fertilizers and pesticides. Which is affecting the food of humans as well as the animals that eat fodder.

### Benefits of zero budget natural farming

- Zero budget natural farming does not require chemical pesticides and chemical fertilizers. Which reduces the cost of agriculture. Presently the demand for organic foods is increasing which will provide benefits to the farmers doing natural farming.

- It protects the environment. An increase in the groundwater level leads to a reduction in pollution through the soil, food, and water in the ground.

- This method is also suitable for soil conservation. The use of organic manure improves the quality of the land. Along with this, the water holding capacity of the land increases with the use of this method.

- At present, there is a discussion on creating a balance between economic growth and environmental protection at the global level. Zero-budget natural farming can play an important role in this context.
- Government of India gives a huge amount of subsidy on chemical fertilizers. The central government has made a provision of Rs 63,222.32 crore for urea subsidy and Rs 42,000 crore for nutrient-based subsidy in the Budget 2022-23. Zero budget natural farming could lead to a drastic drop in this subsidy which could strengthen fiscal consolidation.

### Issues related to zero budget natural farming

- Shortly after the introduction of organic farming in Sikkim, there has been a decline in the production of organic agriculture. Along with this, many farmers have returned to traditional farming after a few years given the decline of yield benefits in zero-budget natural farming.
- It is not completely zero-cost agriculture. There are many types of costs involved in this, such as maintenance of cows, cost of electricity and pumps for irrigation, labor, etc.
- There are only 23.02 million hectares of land under natural farming, which is only 1.27 percent of the total cultivable land (181.95 million hectares) in India.
- Central subsidy provided for chemical fertilizers has been one of the major economic burdens of India, but the organic sector receives a subsidy of only Rs 500 crore.
- The role of zero-budget natural farming is still unclear in the context of increasing agricultural productivity and farmer income.
- A study published in the journal 'Nature Sustainability' states that while the nutritive value of natural inputs is effective in low-input farms (farms that use low amounts of

fertilizers and pesticides), it is less effective in high-input farms. Effectiveness is low.

- Farmers lack the expertise and patience to manufacture the materials used in zero-budget natural agriculture.
- Productivity will be low in natural farming. This can affect the food security of the growing population of the country.
- Simultaneously, the government's inaction at the ground level has also affected natural farming.

### Status of Natural Agriculture in India

- Sikkim is the first organic farming state in India.
- Andhra Pradesh government has set a target of reaching zero budget natural farming to every village by the year 2024.
- Himachal Pradesh government also started a project to promote zero-budget natural farming in its state.
- Paramparagat Krishi Vikas Yojana launched in 2015 has covered 7 lakh hectares of land and 8 lakh farmers in the last four years. He said that Andhra Pradesh, Karnataka, Himachal Pradesh, and Kerala have adopted natural farming on a large scale.

- In the next five years, the Government of India aims to reach 20 lakh hectares of land in any form of organic farming, including natural farming.

### Conclusion

The United Nations Report on the Right to Food, 2017 stated that agroecosystems are capable of providing sufficient yields to provide food and ensure proper nutrition to the entire population of the world. Food security is pervasive not only at the level of India but at the global level. Along with this, there are many such examples where villages are bringing transformation in rural life by moving towards natural farming and successful experiments of natural farming are being done in cities too. The Indian government is indeed encouraging people to promote natural farming, but this encouragement should be at the subsidized and economic level along with publicity and awareness. Despite the adequacy of government assistance, looking at these achievements of natural agriculture, it can be imagined that if the state's cooperation is received in it, then it can play an important role in economic development and in establishing environmental balance.





# SHORT ISSUES



# NATIONAL

## 1 'Sagar Parikrama' program

Oceans are the world's largest ecosystem covering about three-quarters of the Earth's surface. Not only this, but they are also very important from the point of view of livelihood, climate change, commerce and security. In such a situation, neglecting them cannot be considered good for any economy, so recently the Government of India started a program called 'Sagar Parikrama'.

Oceans are very important for the economy, security and livelihood of the coastal states of India. The country has a coastline of 8118 km, which passes through 9 coastal states and 4 union territories. It provides livelihood to lakhs of coastal fishermen. Realizing its importance, on March 5, the Union Minister for Fisheries, Animal Husbandry and Dairying, Shri Purushottam Rupala inaugurated a 'Sagar Parikrama' program. The event was jointly organized by the Department of Fisheries, National

Fisheries Development Board, Coast Guard of India, Fisheries Survey of India, Gujarat Marine Board and representatives of fishermen.

This program has been started as a part of 'Azadi Ka Amrit Mahotsav'. Under this, navigational travel will be done on a pre-determined sea route which will pass through all the coastal states and union territories. It aims to show a sense of unity with all fishermen, fish farmers and other stakeholders. Also, the yatra is being organized with the aim of interacting with fishermen and fisheries communities and stakeholders to know the problems of coastal fishermen. The Yatra of 'Sagar Parikrama' will focus on a sustainable balance in the use of marine fish resources for the country's food security, livelihoods of coastal fishing communities and protection of the marine ecosystem. The 'Azadi Ka Amrit Mahotsav' is an important initiative to celebrate the

75th year of Independence of the Government of India and the glorious history of its people, culture and achievements.

The 'Sagar Parikrama' Yatra was started from Shyamiji Krishna Varma Memorial in Mandvi, Gujarat. This parikrama will be organized in other districts of Gujarat and other states/UTs of the country in a phased manner. The Parikrama will involve fisheries officers from the state, various representatives of fishermen, farmers, entrepreneurs, stakeholders, professionals, officials and scientists from across the country associated with fisheries. Under the program, efforts will be made to adopt various measures for the conservation of marine ecosystems. In this, certificates related to PM Matsya Sampada Yojana will also be provided to fish farmers, progressive fishermen and young fisheries entrepreneurs.

## 2 GNCTD (Amendment) Act 2021

### Why in News?

- Supreme Court issued a notice challenging the Constitutional validity of the Government of National Capital Territory of Delhi (Amendment) Act, 2021, (GNCTD) which increased the powers of the Delhi Lieutenant Governor over the elected government.
- In February 2019, a two-judge bench of the Supreme Court had delivered a split verdict on the question of powers of the GNCTD and Union

Government over services and referred the matter to a 3-judge bench.

- The Act in question gives sweeping powers to the Lieutenant Governor of Delhi by declaring him to be the **"Government of Delhi"**.
- This Act was also questioned because it provides that the opinion of the LG "shall be obtained" on all such matters as may be specified by the LG, before taking any executive action on decisions of the Council of Ministers of the Delhi Government.

### History of GNCTD Act:

- The GNCTD Act was enacted in 1992 to supplement the constitutional provisions relating to the Assembly and the Council of Ministers in the national capital. The act outlines few important provisions such as:
  - The powers of the Assembly
  - The discretionary powers enjoyed by the L-G
  - Duties of the Chief Minister with respect to the need to furnish information to the L-G.

### Key provisions of the GNCTD Amendment Act 2021:

- Lt. Governor's upper hand: The act makes it necessary for Delhi government to obtain the opinion of the lieutenant governor before taking any executive action and it forces the elected government to take the L-G's advice before taking any action on any cabinet decision.
- Statement of object & reasons of the Act: The Union government claims that the amendment Act

seeks to give effect to the Supreme Court's interpretation and that it "further defines" the responsibilities of the elected government and the Lt Governor in line with the Constitutional scheme

- Meaning of government: In its proposed amendments the Act mentions that the term "government" in any law made by the Legislative Assembly shall mean the L-G. It gives effect to "Government means the Lieutenant Governor of the NCT of

Delhi appointed by the President under Article 239 and designated as such under Article 239 AA of the Constitution"

- Making rules: it seeks to add a provision in the original GNCTD Act, 1991, barring the Assembly or its committees from making rules to take up matters concerning day-to-day administration, or to conduct inquiries in relation to administrative decisions.

## 3

### India Data Accessibility and Use Policy

- Union government has released a draft data policy this week, 'India Data Accessibility and Use Policy', for feedback and inputs from the public.

#### Key Points:

- The Ministry of Electronics and Information Technology (MeitY) came out with a draft policy that proposes a framework for government-to-government data sharing and moots that all data for every government department or its organisation shall be open and sharable by default, with certain riders.
- Simply put, this is about generating non-personal data like traffic data which can be anonymised to build an AI algorithm which Google or Uber-like companies are already using to alert where are the congestion or which is the best route to take.
- It will be applicable to all data and information created, generated and collected by the government directly or through ministries, departments and authorised agencies.
- The 'Preamble' of the policy states

that "India's ambition of becoming a 5 trillion-dollar digital economy depends on its ability to harness the value of data".

- o This objective can be traced back to the 2018-19 Economic Survey, which contained an entire chapter on transforming citizen data into a public good for revenue generation.

- o The Survey noted that since such data is generated and belongs to the people, it should be used for the people.

- o The survey had also noted that private sector could be granted access to "select databases" for commercial use.

- The draft policy also proposes to make available certain data for the purpose of R&D and innovation.

- o Minimally processed data sets shall be made available at no cost to promote innovation and R&D — for restricted access data sharing as per the licensing model adopted.

- o Pricing of data sets will be decided by the owner/government department or agency and must be

notified in a transparent manner.

#### Significance:

- The government's draft on the 'India Data Accessibility and Use Policy' is a move aimed to ensure more effective data-based governance paradigms for better and more broad-based governance.
- According to MeitY, the objective of the policy is to "radically transform" India's ability to harness public sector data for large scale social transformation.
- To build artificial intelligence (AI) solutions for the country, access to government open data is very critical. India cannot build AI ambitions without data.
- o But, privacy has to be at the heart of it, cannot compromise any individual's privacy.
- The draft has been evolved in consultation with various stakeholders including academia, industry, and government, and currently is put up for public consultation.

## 1 Escaping the Global Sanctions Net

### Why in News?

- A shift is taking place in the business of global dominance and hegemony, from the model of expressing force through troop presence to financial sanctions. It is led by the US and has become recently visible in the US and EU sanctions on Russia.
- The US, UK and EU have adopted sanctions aimed at freezing the assets of President Vladimir Putin and his foreign minister, Sergei Lavrov, in response to the war in Ukraine. They also plan to place sanctions on the Russian central bank and remove some of the country's lenders from the Swift global payments system, in addition to other economic sanctions. Other allies, including Japan, Canada, Australia and South Korea, have also adopted sanctions.

### Economic rivalry leading to military confrontation:

- From rule-bound globalism, there is a move to an understanding of the management of individual economies, bound together by multiple networks of investment and trade.
  - o This is a global economy of individual rivalries between countries and corporations, continually shifting alliances, and contingencies overtaking assumed structural certainties.
  - o It demonstrates the emergence of an intensive rivalry among individual countries, exposing their red lines with the potential to turn into a military confrontation — the Uyghurs and Taiwan for China; the US presence in the Pacific; Ukraine for Russia, the latter already militarised.

### How sanctions work:

- Sanctions are designed by the government and implemented by both profit-making and non-profit private enterprises, domestic and international NGOs (including the United Nations).
- Due to globalization, every country and corporation are bound together by multiple networks of investment and trade.
- **Who are the beneficiaries?** The US policy of using economic tools for realising foreign policy and overall national security objectives prioritises the private sector.

### A case study of Afghanistan and sanctions by US:

- In Afghanistan, financial manipulations from afar in the form of sanctions may result in subjecting trading activities and investment ventures to the approval of the US Treasury through a system of licencing.
  - o This may give the US a say in who trades with whom and what to trade etc.
- **Confiscation of foreign exchange reserves:** Another way of exerting control from afar. Following the withdrawal of the American troops on August 15, the US froze Afghanistan's foreign exchange reserves of \$7 billion deposited in the New York Federal Bank.

### Implication and issues of sanctions:

- An opportunity to China: Sanctions offers economic lever to China in its dealings with the Taliban, to the Chinese state-owned enterprises and private corporations with an op-

portunity to invest in Afghanistan's infrastructure, linking it to the Belt and Road project, and in its rich mineral resources of copper, cobalt, and lithium.

- **Concerns for India:** China could also use this as an opportunity to unite investments in Afghanistan and Pakistan, isolating India.

- **Recasting of power configurations:** Russian military and political escalation to re-institute control over former Soviet regions, including Ukraine, Belarus, and Kazakhstan, and the rapprochement between China and Russia against the West, may open up new possibilities for China in Middle Eurasia.

- **Misuse of sanctions for personal gain:** The Taliban demanded the unfreezing of the funds by the US, much-needed in Afghanistan where, according to the UN, more than half of the population is under threat of starvation. On February 11 came the shocking news that the Biden administration will split the funds between compensation for 9/11 victims and humanitarian aid for the Afghans.

- **More loss than gain:** The impact of any disruption in Russian exports of oil, gas, palladium, wheat and fertiliser at a time when those prices are barely recovering from inflationary pressures caused by Covid-19 disruptions, is likely to offset any leverage the Western sanctions may hope to gain.

- **Peace uncertainty in future:** By supporting Russia, Beijing is suspending its long-held position of no interference in the internal affairs of

individual countries, inviting plentiful speculation about whether Putin's

move in different Eurasian regions could provide Xi with a precedent in

Taiwan.

## 2

## Freedom in the World Report, 2022

### Why in News?

India, for the second consecutive year, continues to not completely free country, according to the findings in the Freedom of the World report.

### Context:

- According to Freedom House's Freedom in the World report India's status, for the second consecutive year, continues to not completely free country, giving it 'global freedom score' of 66/100 after judging it on various political rights and civil liberties.
- This year, India has dropped a point to score 66 on 100, compared to 2021. While the reports until 2020 have called India a free country, the scores are consistently dropping since 2017 while half a decade ago, India scored 77 on 100, the score dropped to 75 in 2019 and 71 in 2020.
- India's freedom scores are similar to that of Bolivia, Hungary and Albania. The countries that have scored the worst include South Sudan, Syria, Tibet, Turkmenistan, Eritrea and North Korea. Sixty-nine countries are currently not free worldwide.
- This makes the situation worse than in 1973 when only 63 countries were not free. Apart from the worst scorers, the list also includes Saudi Arabia, United Arab Emirates, Turkey, Thailand and Qatar. This is an increase from the last year, where only 54 countries were not free.

### Freedom in the World Report, 2022

- Freedom in the World is an annual global report on political rights

and civil liberties, composed of numerical ratings and descriptive texts for each country and a select group of territories. The 2022 edition covers developments in 195 countries and 15 territories from January 1, 2021, through December 31, 2021.

- The report has been published by US-based non-profit organisation Freedom House, which is funded by the US government.
- Political rights indicators such as the electoral process, political pluralism and participation and government functioning.
- Civil liberties indicators related to freedom of expression and belief, associational and organisational rights, the rule of law and personal autonomy and individual rights.
- Countries are declared as "free", "partly free" or "not free".

### Key point about India:

- The report had criticised the ruling government in multiple areas. "Democracies in other parts of the world also continue to decline under the influence of freely elected leaders who have embraced illiberal politics. India, which has suffered a series of setbacks to political rights and civil liberties since 2019, showed no signs of reversing course, as notable opposition figures faced arrest and surveillance," it notes.

### Surveillance on People and opposition parties

- According to the report, some of the pointers that contributed to India's low scores are the detection of Pegasus in the phones of a few politicians and journalists, the death

of activist Stan Swamy, who was imprisoned under the Unlawful Activities Prevention Act and the infamous Lakhmipur Kheri incidents.

### Freedom of media and expression

- About internet freedom, India scored a mere 49, the same score as that of Uganda. Here too, the score has come down. The reasons are - the increasing internet shutdowns by governments, low internet penetration and poor infrastructure. "Internet freedom declined slightly in 2016, offsetting gains made in 2014 and 2015. The number of network shutdowns ordered by local authorities increased dramatically," it says.

### Lack of freedom' in institutions

- The report alleged that freedom of various institutions such as the Election Commission of India and the Supreme Court have been "called into question". "The panel's decisions concerning the timing and phasing of national elections, and allegations of selective enforcement of the Model Code of Conduct, which regulates politicians' campaign behaviour and techniques, suggested bias toward the ruling BJP."

# ENVIRONMENT

1

## Forest Survey Report 2021

### Why in News?

• Green space and other nature-based solutions are an essential component for the development of sustainable, resilient and inclusive cities. However, recently released FSI Report 2021 noticed a meagre increase in forest cover in the last decade in Country's Megacities.

### Key Points:

- Urbanisation is an inevitable process of development that has the potential to provide privileged social and economic advantages, including better education, health, housing and employment opportunities.
- Though only half the world's population lives in urban areas with the ability to generate 80% of the Global Gross Domestic Product, urbanisation has a good capacity and rich potential to improve well-being in societies.
- As per the UN World Cities report highlights, the present population of urban areas will increase from 55% to 68% by 2050.
  - o The urban population of Indian cities is projected to reach near 60% from 31% (2011) by 2050.
  - o By 2030, India will have seven megacities which will include Ahmedabad and Hyderabad apart from New Delhi, Mumbai, Kolkata, Chennai and Bengaluru.

### Need for Green Spaces:

• Green spaces in cities and towns besides providing various ecosystem services and public health benefits also offer services of psychological relaxation, stress reduction, physical

activities and reduction of climate-related vagaries such as pollution, heat waves, etc.

- Apart from consuming a huge quantum of natural resources by our cities, almost 70% of all greenhouse emissions is generated from an urban built environment.
  - o The ever-increasing pace of urbanisation is going to make this condition worse in the years ahead.
- In a study by T. Endreny et. al (2017), trees in megacities may save nearly \$500 million per year in services including environmental protection that make urban environments cleaner, more affordable and more pleasant places to live in.
- There have been various international meetings, conferences and agreements to improve access to fair green space to achieve the objectives of sustainable urban policies.
  - o Ensuring environmental sustainability is one of the three interlinked principles of the New Urban Agenda adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in 2016.
  - o The importance of green space has also been highlighted in Self Development Goal 11 dealing with sustainable cities and communities to make cities and human settlements inclusive, safe, resilient and sustainable.
- Green space and other nature-based solutions are an essential component for the development of sustainable, resilient and inclusive cities.
  - o WHO has recommended per

capita green space of nine square metres besides access to public green spaces within 300 m linear distance or a five-minute walk from the houses of urban residents.

- Though many western cities easily qualify when it comes to both these norms, the condition of Indian cities is quite inadequate.
  - o In terms of decadal change of forest cover in seven megacities, the FSI Report 2021 noticed an overall increase of 68 square kilometres in the last 10 years.
  - o All megacities witnessed poor decadal growth except for Hyderabad.
  - o Hyderabad is the only city that has seen decadal increase in per capita forest cover from 4.3 to 8.2 sq. met near the recommended green cover of 9 sq. met. The poor per capita forest cover in some cities needs corrective interventions for its improvement.

NOTES

## 2

## World's largest crater discovered in China

Recently, scientists of the US space agency NASA have discovered the world's largest crater within a million years in northeast China. This is the second impact crater discovered in China.

A crater is a circular or nearly round-shaped crater on an astronomical object that has been formed in an explosive manner. It can be formed by the eruption of a volcano; may have been formed by the impact of a meteorite falling from space, or it can also be formed through some other explosion inside the ground. There are many types of craters like-

1. Impact crater, which is formed when a small object collides with a large object at a very high speed. For example, impact craters are formed when asteroids or meteorites collide.
2. Volcanic crater formed by volcanic eruptions.
3. Collapse crater, which is formed by an explosion under the ground, such as a nuclear test, etc. In this, the ground sinks downwards.
4. Maar Crater which is formed by the explosion of water in boiling lava.
5. Bill crater, which is formed due to the collapse of the roof of the cave or the empty space under the ground.
6. Explosion crater, which is formed when the debris is thrown outwards from an underground explosion, that is, the ground does not sink into it.

The new crater discovered in China is Yilan Crater. This crater was formed within about 1 lakh years. It is in Xiyuan County, China's coastal province of Liaoning. This crater with a diameter of about 1.85 km

is made in the lower part of Jing'an mountain. Radiocarbon dating has shown that it was formed between about 46 thousand and 53 thousand years. This has been found from the investigation of charcoal and other organic matters present here. A study has been done about this crater has been published in the Science Journal named 'Meteorites and Planetary'.

Yilan Crater looks like a moon. Experts believe that this crater, which looks like the moon, was formed by the collision of an asteroid or meteorite.

Earlier the record for the largest crater was held by Meteor Crater in Arizona, USA. It was formed between 49 and 50 thousand years. Its diameter was 1.2 kilometres. Apart from this, there is another crater named Jiyuan in China, which is 1.8 kilometres in diameter, but its age has not been ascertained yet.

So far, about 190 craters present on Earth have been detected, which scientists have divided on the basis of age.



About 200 million years old 'Vredefort Crater' present in the Free State of South Africa is the largest and oldest crater in the world. Its diameter is about 380 km. UNESCO declared it a World Heritage Site in 2005.

### NOTES

## 1 Vacuum bomb

The war between Russia and Ukraine continues. All countries around the world are urging Russian President Putin to stop this war, but Putin is not ready to back down. In return, Ukraine is also standing on the front. Meanwhile, Ukraine has accused Russia of using banned clusters and vacuum bombs. Ukrainian President Vladimir Zelensky has claimed that Vladimir Putin is committing a war crime by using these weapons. Many civilians have died in these attacks.

The vacuum bomb is a highly explosive weapon with high power, which uses the atmosphere to increase its firepower manifold. Vacuum bombs are also called thermobaric weapons. It is one of the most powerful non-nuclear weapons ever developed. For this reason, this weapon has been banned under the Geneva Convention. This bomb is also called the Father of All Bombs. This generates heat like an atomic bomb and it explodes with an ultrasonic shock wave that brings more destruction.

The vacuum bomb absorbs oxygen from its surroundings to raise the temperature to a significant degree. Due to absorbing oxygen in this way, this bomb causes more destruction than conventional weapons. These weapons first release a special type of spray into the air, which contains very fine

particles of metal, flammable dust or chemical drop. These sprays are spread all around the environment. Then the ignition source in the bomb generates fire, which spreads very rapidly across the area, creating a tremendous and dangerous vacuum. The power of such an explosion is so high that even the roofs of houses fly away. The bunkers are ruined. The person who is present near the bomb immediately turns into steam. It has such an effect on distant people that blood starts flowing from the internal organs of their bodies.

Thermobaric weapons were developed in the 1960s by the US and the Soviet Union. Both the US and Russia have made several versions of such bombs, but they have neither sold them to any other country nor used it publicly due to international sanctions. In September 2007, Russia detonated the largest thermobaric weapon ever used, releasing the equivalent of 39.9 tons of energy. At the same time, the cost of each unit of America's thermobaric weapons is more than \$ 16 million.



# ECONOMY

1

## Microfinance and its impact on Poverty Alleviation

### Why in News?

- Critiques of the microfinance companies have said that there's too much hype about how micro loans change people's lives but the ground reality is very different. Let's look in detail how micro loans have helped in poverty alleviation.

### Key Points:

- Studies have suggested that though poor people's dependence on informal financing has reduced but not fully since micro lenders meet their demand for money only partially.
  - o People still need to raise money from the loan sharks to tackle health issues and for other emergency needs as also for children's education.
  - o Microfinance institutions (MFIs), particularly the NBFC-MFIs and banks, can only give them loans for productive purposes.
  - Moreover, at least one large MFI has been trying to raise money from investors for the past two years, without success. This is a testimony to their change in approach to the industry.
  - For many Investors MFIs in Bangladesh seems to be doing a better job at pulling people out of poverty, and those in Indonesia offering higher returns on investment.

### Role of MFIs:

The Microfinance Institutions Network (MFIN), a self-regulatory organisation (SRO) of the microfinance industry, claims microfinance has made immense contributions in pro-

moting financial inclusion over the past decade by providing doorstep access to credit and insurance services and employment through micro-enterprise development.

- Between March 2012 and December 2021, the gross loan portfolio of the industry rose from ₹ 17,264 crore to ₹ 2.51 trillion, while the number of borrowers went up from 200 million to 570 million.
  - o The coverage has expanded from 27 states to 37.
  - o It also says the number of people employed by the industry has gone up from 69,000 to at least 400,000 in the past decade.
  - Quoting a report by the National Council of Applied Economic Research, MFIN says during 2018-19, the microfinance sector created around 12.8 million jobs directly and indirectly.
  - Besides, at least 120 million people have got insurance cover both for credit and their lives.
  - Moreover, around 98% of the microfinance clients are women.
  - Finally, 90% of the loans are being disbursed directly through bank accounts, and collections too are being increasingly done digitally.
    - o The cashless loan disbursements are creating savings habits among the borrowers.
    - Sa-Dhan, another SRO of the industry, says since March 2010, the number of MFI branches almost doubled from 11,459 to 20,065 even though the number of MFIs has fallen from 264 to 208.
      - o Meanwhile, the average loan size has increased from ₹ 9,766 to ₹

35,106.

### Steps taken:

- In June 2021, the central bank released a consultative document on microfinance regulations, proposing radical changes.
  - o The plan is to waive the limit that does not allow more than two NBFC-MFIs to lend to one borrower and the limit on the amount of loan would be based on the debt-income ratio of a household.
  - o It wants to cap the payment of interest and principal for all outstanding loans by a borrower at 50% of the household income.
  - But the RBI has not said what will be the maximum household income to get the micro borrower tag.
    - o Currently, the ceiling on loans is ₹ 1.25 lakh (it cannot exceed ₹ 75,000 in the first cycle).
    - o Experts suggest that this needs to be raised.
    - o Many micro borrowers need more money, which they should be given if we want to rescue them from money lenders.
    - The RBI proposal is also in favour of doing away with the prevalent norm that 50% of the loans must be for income generation.
      - o The wall between income-generating and consumption loans is being pulled down. The lenders can give loans for education, medical expenses, household assets, consumption and even repayment of high cost loans taken from money lenders.
      - Finally, the RBI wants to do away with the cap on loan rates. That will be left to the market.



**Why in News?**

- Sharp increase in exports of engineering goods, petroleum products, gems & jewellery and chemicals pushed up India's total goods export in February by 21.88 per cent (y-o-y) to \$33.81 billion, as per preliminary data released by the government on Wednesday.

**India's exports:**

- With total goods exports in the April-February 2021-22 period at \$374.05 billion, an increase of 45.8 per cent over the same period last year, exporters are closer to meeting the target of \$400 billion set by the Commerce & Industry Ministry for FY22.
- The on-going conflict between Russia and Ukraine, however, is a growing concern for sectors such as engineering goods, which have a market in Russia, due to uncertainty over payments as well as rising freight costs.
- The value of non-petroleum exports in February was \$29.70 billion, registering a growth of 18.04 per cent over the year-ago period.

**Trade deficit widens**

- Goods import increased 34.99 per cent to \$55.01 billion, widening trade deficit to \$21.19 billion from \$13.12 billion in February 2021. The increase in imports is attributable to sectors including petroleum, electronics, gold, coal and chemicals.
- Imports in April 2021-February 2022, at \$550.12 billion, were 59.21 per cent higher than imports in the same period last fiscal, al-

most doubling the trade deficit to \$176.07 billion compared to \$88.99 billion in the comparable period of 2020-21.

- The value of non-petroleum imports came in at \$39.96 billion with a growth of 26 per cent over non-petroleum imports in February 2021.
- Exports took a beating in 2020-21, declining 7 per cent to \$292 billion, with Covid-19 disruptions affecting manufacturing, both globally and within the country. However, with a revival in global demand, exports have been on a growth track in the on-going fiscal.
- With monthly exports crossing the \$30-billion mark for the 11th consecutive time during the fiscal, we are on course to cross the \$400-billion exports target for the fiscal," said A Sakthivel, President, FIEO. This would translate into a growth of over 40 per cent over exports in the previous year.

**Global situation, a challenge**

- While the engineering goods sector is on track to achieve its export growth target of \$107 billion in 2021-22, the Russian invasion of Ukraine is proving to be a challenge. "Among the CIS countries, Russia is the biggest export market for Indian engineering goods. Exclusion of Russia from the SWIFT payment system would, therefore, mean delayed payment realisation for exporters.
- The ongoing geopolitical crisis has already pushed up the prices of key commodities, especially crude and metals. "The shipping

cost, which has already been going through the roof, would further hurt the exporters. In case the crisis continues, there could be spillover effects elsewhere, too, and that means impact on trade deepening.

**NOTES**

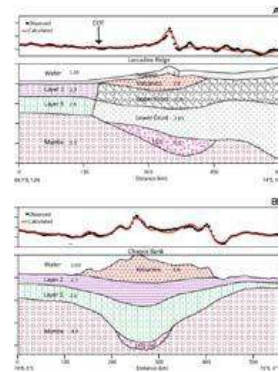


## 1. Nepal becomes the first country to adopt India's UPI platform

Nepal has become the first country to adopt India's Unified Payments Interface as a payment platform. For this purpose, NIPL has entered into an agreement with Gateway Payments Services Pvt Ltd and Manam Infotech Pvt Ltd for the adoption of UPI in Nepal. Gateway Payments Services Private Limited is an authorized Payment System Operator in Nepal. Gateway Payments Services Pvt Ltd will operate and manage UPI in Nepal as Nepal Rastra Bank Authorized Payment System Operator. According to an earlier figure, in 2021, UPI made 39 billion financial transactions possible. This amount is equivalent to about 31% of the GDP of India. NIPL is the international branch and wholly-owned subsidiary of the National Payments Corporation of India

## 2. Tectonic evolution of Greater Maldives Ridge traced by Indian researchers

Researchers from the Indian Institute of Geomagnetism have explored the tectonic and nature of the Greater Maldivian Ridge (GMR). The origin of the Greater Maldives Ridge, located in the western Indian Ocean, has been a matter of controversy. This study will help Indian researchers to understand the breakdown of Gondwanaland on the one hand and the development of ocean basins on the other. The results of the study will help to better understand the evolution of plate-tectonics of the Indian Ocean. This research suggests that the Moho deep is above the Maldives Ridge section and shallower to the south in the Deep Sea Channel region. Researchers have speculated that the Maldives Ridge may have formed around the mid-oceanic ridge.



## 3. First motorsports racing track of Northeast India to be built in Mizoram

The first motorsports racing track of East and Northeast India will be built in Mizoram. An agreement has been signed between Rural Electrification Corporation (REC) and Mizoram State Sports Council for the purpose of construction of this track. This racing track to be developed at Lengpui in Mizoram will be 2 km long and 6 meters wide. The Central Government-owned Rural Electrification Corporation will build motorsports racing tracks as part of its Corporate Social Responsibility. The Madras Motor Race Track, built in the 1980s, is India's first permanent racing circuit. The Buddh International Circuit is the only racing circuit located in Uttar Pradesh that has previously hosted the Indian Grand Prix.

## 4. SAMARTH Initiative

Recently, the Ministry of Micro, Small and Medium Enterprises has launched a 'Samarth' Initiative to promote women entrepreneurship. This Initiative will help women to become self-reliant and independent by providing them self-employment opportunities. According to the Ministry of MSME, 20 percent of seats in free skill development programs under Samarth Abhiyan will be allotted to aspiring and existing women entrepreneurs. More than seven thousand five hundred women will be benefited from this.



## 5. Annual frontiers report of UNEP released

The United Nations Environment Program (UNEP) has stated in its annual Frontiers report that the incidence of wildfires will increase in the coming years. This report states that, in recent years, due to climate change and human activities, there has been an increase in the incidence of wildfires. Increasing concentrations of atmospheric greenhouse gases have increased the risk factor of wildfires. In its report, UNEP has clearly stated that the rapid expansion of cities towards forested areas has increased the incidence of wildfires. According to the report, wildfires are now common in the savanna ecosystem, affecting a quarter of the species in the savanna ecosystem. Environmentalists have drawn particular attention to this figure in the report, which states that between 2002 and 2016, an average of about 423 million hectares of land was burnt every year. According to this report, Africa was the most affected region by wildfires in 2021.



## 6. Dadasaheb Phalke International Film Festival Awards 2022



The movie Pushpa: The Rise has been declared the Film of the Year at the Dadasaheb Phalke International Film Festival Awards 2022 at an event held in Mumbai. While the Best Actor award went to Ranveer Singh for the film 83 and the Best Actress award went to Kriti Sanon for the film Mimi. The Best Director award went to Ken Ghosh for State of Siege Temple Attack. Sher Shah has adjudged the best film. Manoj Bajpayee has been awarded the Best Actor Web Series award for the web series Family Man 2. At the same time, Raveena Tandon received the Best Actress Award for the Aranyak web series.

**The other winners are given in the following list:-**

Category	Winner
Best Actor in a Supporting Role	Satish Kaushik for Kagaz
Best Actor in a Negative Role	Aayush Sharma for Antim: The Final Truth
Critics Best Actor	Siddharth Malhotra for Shershaah
People's Choice Best Actor	Abhimanyu Dasani
best debut	Ahan Shetty for Tadap
best web series	Candy
best male playback singer	Vishal Mishra
Outstanding Contribution to the Film Industry	Asha Parekh
Best Actress in a Supporting Role	Lara Dutta for Bell Bottom
Critics Best Film	Sardar Udham
Critics Best Actress	Kiara Advani for Shershaah
People's Choice Best Actress	Radhika Madan
Best International Feature Film	Another round
best short film	Paulie
Best Female Playback Singer	Kanika Kapoor

### 7. Government of India and World Bank sign agreement for reward project

The Government of India (including the State Governments of Karnataka and Odisha) and the World Bank signed loan agreements worth US\$ 115 million for the implementation of the Rejuvenation of Watershed (Reward) project to make agriculture affordable through innovation development.

In this loan, Karnataka will get 60 million dollars, Odisha will get 49 million dollars and the Center will get 6 million dollars. This loan will be provided by the International Bank for Reconstruction and Development (IBRD) of the World Bank. This agreement will help farmers to adopt better watershed area management practices to become aware of climate change, increase productivity and enable them to earn more money.



### 8. Alcyoneus : The largest galaxy ever discovered



Researchers from the Leiden Observatory located at Leiden University in the Netherlands have discovered a new galaxy. It is the largest of all the galaxies ever discovered. It is named Alcyoneus. Alcyoneus is 240 billion times larger than the size of the Sun. Alcyoneus is 160 times larger than the Milky Way galaxy. It extends over 16.3 million light-years. Before the discovery of Alcyoneus, IC 1101 was the largest galaxy. There is also a supermassive black hole at the center of Alcyoneus. Alcyoneus has been discovered through data from the Europe-based Low-Frequency Array (LOFAR) and NASA's Wide-field Infrared Survey Explorer satellite observatory.

### 9. Beijing Winter Olympics 2022 concludes

The 2022 Winter Olympic Games concluded at the National Stadium in Beijing on 20 February. Norway topped the medals tally with 16 gold, 8 silver and 13 bronze. Germany finished second with 9 gold, 10 silver and 5 bronze while China stood third with 9 gold, 4 silver and 2 bronze. This year India has not won any medal in Beijing Winter Olympics 2022. Alpine skier Arif Khan was India's flagbearer at the opening ceremony of the Beijing 2022 Winter Olympics. He recorded India's best-ever performance in the Winter Games.



### 10. India's millionaire families to grow by 11% in 2021

The Hurun India Wealth Report 2021 claimed that India's millionaire (USD) households have grown by 11%. At present, 4.58 lakh families in India are millionaires. The report also claims that the number of millionaire households will increase by 30% in the next 5 years and will reach 6 lakh households by 2026. There is also a fact related to these figures that India's rank in the Happiness Index has fallen compared to the previous year. Mumbai has the highest number of millionaires in the country, followed by Delhi and Kolkata. The report also states the brand preferences, consumption habits and lifestyle trends of Indian millionaires.



## Current Affairs at a Glance

- Kannada litterateur Dr Chennaveera Kanavi passed away. He was known as “Samanvayada Kavi” and “Soujanya Kavi”.
- Former Vice Chief of Naval Staff G Ashok Kumar has been appointed as India’s first National Maritime Security Coordinator.
- Kharu team won the 15th CEC Cup Women’s Ice Hockey Championship 2022 at Ladakh Winter Sports Club, Leh.
- The Assam government will launch a four-year mentorship program ‘Project Aarohan’ to enhance the skills of the students.
- Bill Gates was awarded the “Hilal-e-Pakistan” award by Pakistan.
- Chetan Ghate was appointed as the new director of the Institute for Economic Development (IEG).
- Assam became the first state in the country to launch Night Navigation Mobile App in rivers.
- Gandhian social activist and freedom fighter “Shakuntala Choudhary” (also known as Shakuntala Baideo) passed away.
- India, Oman conclude bilateral Air Force exercise ‘Eastern Bridge-VI’ in Jodhpur.
- The Associated Chambers of Commerce and Industry, Kolkata conferred India’s Most Trusted Public Sector Company award to Coal India Limited at an event.
- Kerala’s first caravan park will be set up at Vagamon in the Idukki district.
- Yohan Poonawalla was honoured with the “Business Leader of the Year Award” at Urja Award 2022.
- The ‘Heal in India’ initiative was launched to promote medical facilities and infrastructure.
- For the first time in the country, the quantum key distribution link between two cities (100 km away) was demonstrated. This experiment was done jointly by the scientists of DRDO and IIT Delhi. Quantum distribution is a secure communication method that enables two parties to produce a shared random secret key known only to them.
- Moody’s estimates India’s growth rate at 8.4 percent in the financial year 2023.
- Dr. =KN Raghavan has been elected as the new chairman of the International Rubber Study Group.
- India’s first e-waste eco-park will come up in Delhi. The park will be developed on 20 acres of land. Delhi generates 2 lakh tonnes of e-waste every year.



# **BRAIN BOOSTER**

### 1. Why In news

On 23 February 2022, the websites of several Ukrainian banks and government departments became inaccessible. The incident represented the third wave of attacks against Ukraine this year, and the most sophisticated to date.

### 2. About cyber attack

- A cyber attack is any attempt to gain unauthorized access to a computer, computing system or computer network with the intent to cause damage.
- Cyber attacks aim to disable, disrupt, destroy or control computer systems or to alter, block, delete, manipulate or steal the data held within these systems.
- A cyber attack can be launched from anywhere by any individual or group using one or more various attack strategies.
- People who carry out cyber attacks are generally regarded as cybercriminals.
- Government-sponsored groups of computer experts also launch cyber attacks. They're identified as nation-state attackers.

### 3. Reasons for cyber attacks

- Financial gain
  - Most cyber attacks, especially those against commercial entities, are launched for financial gain.
  - These attacks often aim to steal sensitive data, such as customer credit card numbers or employee personal information, which the cybercriminals then use to access money or goods using the victims' identities.
- Disruption and revenge
  - Cybercriminals also launch attacks specifically to sow chaos, confusion, discontent, frustration or mistrust.
  - They could be taking such action as a way to get revenge for acts taken against them.
  - They could be aiming to publicly

### 4. Working of cyber attacks

- Threat actors use various techniques to launch cyber attacks, depending in large part on whether they're attacking a targeted or an untargeted entity.
- In an untargeted attack, they generally look for vulnerabilities that will enable them to gain access without being detected or blocked.
- In a targeted attack, the threat actors are going after a specific organization, and methods used vary depending on the attack's objectives.

embarrass the attacked entities or to damage the organizations' reputation.

- Cyberwarfare
  - Governments around the world are also involved in cyber attacks, with many national governments acknowledging or suspected of designing and executing attacks against other countries as part of ongoing political, economic and social disputes.
  - These types of attacks are classified as cyberwarfare.

access controls

- Maintaining a monitoring and detection program to identify and alert to suspicious activity
- Creating incident response plans to guide reaction to a breach

- Cyber criminals often create the software tools to use in their attacks, and they frequently share those on the so-called dark web.

### 5. Types of cyber attacks

- Malware, in which malicious software is used to attack information systems. Ransomware, spyware and Trojans are examples of malware.
- Phishing, in which hackers socially engineer email messages to entice recipients to open them. The recipients are tricked into downloading the malware contained within the email by either opening an attached file or embedded link.
- Man-in-the-middle, or MitM, where attackers secretly insert themselves between two parties, such as individual computer users and their financial institution.
- DDoS, in which hackers bombard an organization's servers with large volumes of simultaneous data requests, thereby making the servers unable to handle any legitimate requests.
- SQL injection, where hackers insert malicious code into servers using the Structured Query Language programming language to get the server to reveal sensitive data.
- Zero-day exploit, which happens when a newly identified vulnerability in IT infrastructure is first exploited by hackers.

### 6. Prevention of cyber attack

- Best practices include the following:
- Implementing perimeter defenses, such as firewalls, to help block attack attempts and to block access to known malicious domains
  - Using software to protect against malware, namely antivirus software, thereby adding another layer of protection against cyber attacks
  - Having a patch management program to address known software vulnerabilities that could be exploited by hackers.
  - Setting appropriate security configurations, password policies and user

## Cyber Attack

## 1. About Global Gateway

On 1 December 2021, the European Union unveiled the Global Gateway, its plan to support infrastructure development around the world. It will help to tackle the most pressing global challenges, from fighting climate change, to improving health systems, and boosting competitiveness and security of global supply chains.

## 2. Principles of the Global Gateway

The European model of trusted connectivity in partner countries is long-term and in line with EU's interests and values: rule of law, human rights and international norms and standards. It is about

- smart, clean and secure investments in quality infrastructure
- connecting goods, people and services around the world in a sustainable way

Global Gateway partnerships will be based on 6 principles:

- a) democratic values and high standards
- b) good governance and transparency
- c) equal partnerships
- d) green and clean
- e) security focused
- f) catalysing private sector investment

## 3. Key areas of partnership

### • Digital sector

Through the Global Gateway, the EU will strengthen connections between Europe and the world and help partner countries address the digital divide and further integrate into the global digital ecosystem.

### • Climate and energy

« The Global Gateway will support this green transformation, on the way to achieving the Sustainable Development Goals and commitments of the Paris Agreement.

« It will promote green technology exchanges and reinforce energy

## 4. Sources of financing

- The Global Gateway will be delivered through the EU and EU Member States with their financial and development institutions, including the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD).

- The Global Gateway draws on the new financial tools in the EU multi-annual financial framework 2021-2027. These are

- « Neighbourhood, Development and International Cooperation Instrument (NDICI)-Global Europe.
- « Instrument for Pre-Accession Assistance (IPA) III

- « Digital and international part of the Connecting Europe Facility

- « Interreg
- « InvestEU
- « Horizon Europe,
- « EU research and innovation programme.

- This would mobilise €300 billion between 2021-2027 for connectivity projects.

## 5. Global Gateway's approach & support to Human Rights

Global Gateway's key principles:

### • Democratic values and high standards

- « Global Gateway will adhere to the rule of law, uphold high standards of human, social, and workers' rights and respect the norms from international rules to intellectual property and open public procurement.

### • Good Governance and Transparency

- « Projects that work for people will require transparency, accountability and financial sustainability.

- « Local communities, businesses and partners will have full say through proper public consultations and civil society involvement.

### • Equal partnerships

- « Infrastructure projects will be based on the needs and opportunities that they identify for their local economies and local communities, as well as the EU's own strategic interests.

### • Green and clean

- « The Global Gateway is a climate-neutral strategy to speed up sustainable development and recovery, create inclusive growth and jobs and transition to a cleaner and more circular global economy.

### • Security-focused

- « Secure infrastructure underpins the resilience of global economy and supply chains be it on digital, health, transport or energy.

### • Education and research

- « The EU will invest in quality education, including digital education, paying particular attention to the inclusion of girls and women and other vulnerable groups.

# Global Gateway

security.

### • Transport

- « The Global Gateway will promote worldwide infrastructure investments that create sustainable, smart, resilient, inclusive and safe networks in all modes of transport.

- « It will support networks such as the extension of the Trans European Transport Network.

### • Health

- « The Global Gateway will prioritise the security of supply chains and the development of local manufacturing capacities.

- « The EU will be working with partner countries to diversify their pharmaceutical supply chains.



### 1. Why in news?

The 117th Meeting of the Permanent Indus Commission (PIC) comprising of Indus Commissioners of India and Pakistan was held from March 1-3, 2022 in Islamabad, Pakistan.

### 2. About Indus Waters Treaty

- The Indus river basin has six rivers Indus, Jhelum, Chenab, Ravi, Beas and Sutlej; originating from Tibet and flowing through the Himalayan ranges to enter Pakistan, ending in the south of Karachi.
- In 1947, partition also cut the Indus river system into two.
- Both the sides were dependent on water from the Indus river basin for their irrigation.
- Therefore, infrastructure and equitable distribution was needed.
- Initially, the Inter Dominion accord of May, 1948 was adopted, under which India would supply water to Pakistan in exchange for an annual payment.
- This agreement, however, soon disintegrated as both the countries could not agree upon common interpretations.
- In 1951, both the countries applied to the World Bank for funding of their respective irrigation projects on Indus and its tributaries, which is when the Bank offered to mediate the conflict.
- Finally in 1960, after nearly a decade of negotiations, an agreement was reached between the two countries, leading to the signing of the Indus Waters Treaty (IWT) by Jawaharlal Nehru, Ayub Khan & W.A.B. Iliff.

### 3. Crux of the treaty

- The treaty allocated the three western rivers— Indus, Chenab and Jhelum—to Pakistan for unrestricted use, barring certain non-consumptive, agricultural and domestic uses by India.
- The three Eastern rivers— Ravi, Beas and Sutlej — to India for unrestricted usage.

### 4. Objections raised under the treaty

- Treaty has been regarded internationally as a successful diplomatic effort, managing to withstand three wars and multiple military impasses between the two countries, the journey has been rocky.
- The treaty, became a source of dissatisfaction because
  - ☐ There is a growing demand for water,
  - ☐ Extensively technical nature of the document



## Indus Waters Treaty

- 80% of the share of water or about 135 Million Acre Feet (MAF) went to Pakistan, leaving the rest 33 MAF or 20% of water for use by India.
- Besides, India is also allowed a minimum storage level on the western rivers it can store up to 3.75 MAF for conservation and flood storage purposes.
- It also required both the countries to establish a Permanent Indus Commission constituted by permanent commissioners on both sides.
- India has right to build 'run of the river' hydropower projects over the Jhelum, Chenab and Indus.
- The treaty also allows Pakistan to raise objections over such projects being built by India, if it does not find them to be compliant with the specifications.

- ☐ The western rivers flow through the conflicted region of Jammu and Kashmir.
- Pakistan raised objections to Indian project over the Kishanganga Hydro Electricity Project (KHEP).
- Kishanganga is a tributary of the Jhelum river.
- The work for KHEP was started in 2007 and was supposed to be completed by 2016.
- Due to Pakistan's objection India agreed to lower the dam's height from 97 metres to 37 metres.
- In 2010, Pakistan took the matter to the International Court of Arbitration. The Court gave its final ruling in December 2013, giving India a green signal for the project, subject to conditions.
- The project was then inaugurated in 2018, despite continued protests from Pakistan.
- Pakistan had objected to the Salal dam project in 1970 over design concerns, negotiations for which ended in 1978.
- Pakistan again objected to the Baglihar Hydropower project in the 2000.

### 5. Geopolitical conflicts

- In the aftermath of the attack on J&K's Uri army camp in 2016, Prime Minister Narendra Modi had said, "Blood and water cannot flow simultaneously".
- After 2019, Pulwama terror attack, India had for the first time threatened to cut off water supply to Pakistan.
- The IWT does not have a unilateral exit provision, and is supposed to remain in force unless both the countries ratify another mutually agreed pact.
- The IWT also provides a three step dispute resolution mechanism, under which issues can first be resolved at the commission or inter-Government level.
- If that fails, either side can approach the World Bank to appoint a Neutral Expert.
- And eventually, if either party is still not satisfied, matters can be referred to a Court of Arbitration.

### 1. Why In news

By 2031, National Aeronautics and Space Administration (NASA) plans to retire and decommission the International Space Station (ISS). The U.S. space agency has detailed its goals for the next decade in the International Space Transition Report as it aims to hand over operations to commercial organisations. Other international partners that operate the ISS are, have not yet approved it.

### 2. About ISS

- The ISS was launched in 1998 as part of joint efforts by the U.S., Russia, Japan, Canada and Europe.
- The space station was assembled over many years, and it operates in low-earth orbit.
- Since its inception, the ISS has served as a laboratory suspended in space and has aided multiple scientific and technological developments.
- The idea of a space station originated in the 1984 State of the Union address by former U.S. President Ronald Reagan.
- ISS has consistently maintained human presence for the past 21 years, providing astronauts with sophisticated technologies for scientific research.

### 3. Reason for decommissioning of ISS

- The ISS was originally built to operate for 15 years.
- The space station has already surpassed that checkpoint by being active for 21 years, with plans to continue operations till 2030.
- The limitations on the lifecycle of the station are catching up.
- The ISS goes through 16 rotations of the earth per day, causing extreme temperature changes on the exterior.
- The side facing the sun can get heated up to 121°C while the temperature on the opposite, darker side can fall to -157°C, causing intense expansion and contraction of the building material.

### 4. De-orbiting the ISS

- NASA plans to remove the ISS from its orbit around the earth and eventually plunge it into the ocean at a point farthest from human civilisation.
- The space agency will use the dual method of natural orbit decay and a re-entry manoeuvre to bring an end to the ISS.
- According to the plan, the earth's natural atmospheric drag will be used in lowering the altitude of the ISS while setting up the deorbit.



## International Space Station

- This orbital thermal cycling, coupled with dynamic loading, affects the longevity of the primary structure of the space station.
- The technical lifetime is also limited by parts like radiators, modules and truss structures that tend to degrade over time.
- NASA is planning to transfer low-earth orbit operations to private players and focus on its missions to explore the moon and Mars.

- Blue Origin, the aerospace company founded by Jeff Bezos, has also announced its plans to build Orbital Reef, a commercially developed, owned, and operated space station in low-earth orbit.

- The space station operators will then provide the final push to it to lower the structure to the maximum possible height and ensure safe re-entry into the earth's atmosphere, leading it to Point Nemo over the South Pacific Oceanic Uninhabited Area (SPOUA).
- The exterior of the modules is expected to melt when the debris re-enters the earth's atmosphere.
- The exposed internal hardware is also expected to burn or vaporise during the process.
- It is believed that denser components like the truss sections will survive the re-entry and fall into the SPOUA.
- Alternative options like disassembly and return to the earth, boost to a higher orbit, and random re-entry were also considered.
- Disassembly in space would have posed huge logistical and financial challenges.
- ISS cannot be decommissioned by boosting to a higher orbit because of its large mass and low operational altitude.
- Existing propulsion systems do not have the capacity to raise the station's altitude to a high target and escape low-earth orbit.
- The random re-entry method was discarded since it carries a huge risk for the human population on the ground.

### 5. Environmental hazards associated with the plan

NASA claims that the debris of the ISS that survives the re-entry will settle on the ocean floor and not cause any substantial long-term impact.

### 6. Future of space stations

- As the ISS plans to end operations in space, new players are already lining up to replace it.
- In January 2022, China announced that its space station will be ready for operations this year.

### 1. Why in news?

Recently, one hundred and seventy-five countries have agreed to a legally binding global treaty to end the plastic pollution crisis by tackling the plastic's entire supply chain. According to UNEP, it is the "biggest multilateral environmental deal" since the 2015 Paris climate agreement.

### 2. Key points:

- Peruvian holistic approach vs Japanese selective-focussed approach:
  - I. Two competing ideas had been put forward. One, led by Peru and Rwanda, encompassed all stages of plastic's life cycle, from production to consumption and disposal.
  - II. The second was a far more limited deal focused on plastics in the oceans, recommended by Japan.
- The deal that has emerged supports the Peruvian holistic approach. Crucially, elements of the treaty are legally binding.
- Sustainable Financing Mechanism: Treaty acknowledges that lower-income countries will find it harder to grapple with plastic pollution than high-income ones and so the treaty asserts some sort of financing model to help curb plastic use and waste.

### 3. Need of the treaty

- Past successful environmental treaties:
  - I. UNEP compared the accord to past environmental treaties such as the Montreal protocol on ozone-destroying chlorofluorocarbon (CFCs) and the Minamata convention on mercury pollution, both of which led to massive reductions in emissions of these harmful chemicals.
  - II. Global treaties are proof that global deals can make governments and industry work differently.
- UNEP: Catastrophic health Consequences, if further delayed:
  - I. The world produced 381 million tonnes of plastic in 2015, and hundreds of thousands of tonnes are

### 4. Key provisions of Plastic Waste Management (Amendment) Rules, 2021

- Prohibition of manufacture, import, stocking, distribution, sale and use of single use plastics(SUP), including polystyrene and expanded polystyrene, commodities from the 1st July, 2022.
- Thickness of plastic carry bags will be increased from 50 microns to 75 microns from 30th September, 2021 to 120 microns from the 31st December, 2022.
- Special emphasis to stop littering and promote reuse.

- Guidelines for Extended Producer Responsibility/EPR(as per Plastic Waste Management Rules, 2016) has been given legal force through the 2021 Rules, for effective implementation.
- Accordingly, collection and management of plastic packaging waste, which is not covered under the phase-out of identified SUP items, through the EPR of the Producer, Importer and Brand owner (PIBO).
- Other measures for elimination of single use plastics and effective implementation of Plastic Waste Management Rules, 2016:
  - I. Strengthening of waste management infrastructure in the States through the Swachh Bharat Mission.
  - II. Comprehensive action plans by State Governments and concerned Central Ministries.
  - III. Awareness generation:
    - ☑ India Plastic Challenge-Hackathon 2021 for Higher Educational Institutions' students
    - ☑ Startups for developing alternatives to identified SUP items and digital solutions to plastic waste management.

### End 'Plastic Pollution'

- estimated to end up in the oceans every year, most of it from lower and middle-income countries with less capacity to burn or recycle it.
- II. Ubiquitous plastic pollution has been linked to negative impacts on marine life, and there are fears it causes biomagnification and bioaccumulation in the Food Web.
- UNESCO: Cleanliness is next to godliness:
    - I. As observed by UNESCO – Tourists both domestic and foreign are just disgusted when they go to the coast and see plastic stuff polluting nature.
    - II. It impacts the nation's forex and

### 5. Conclusion

What measures should be enacted under a global plastic treaty, and what teeth the deal might have, will now need to be worked out. As said by UNEP, the treaty must have "clear and strong global standards and targets".

global image as a 'dirty country' .

- Circular Economic Model is only sustainable solution:
  - I. The best way to tackle plastic pollution is to capture its whole cycle. By covering the whole supply chain, a global agreement to tackle plastic pollution can support upstream solutions such as reducing or replacing plastic in products.
  - II. There is a broad consensus that global coordination is best achieved through a legally binding agreement.

### 1. Why in news?

The U.S., Europe and several other western nations have excluded Russia from the Society for Worldwide Interbank Financial Telecommunication (SWIFT), an international network for banks to facilitate smooth money transactions globally. This could be the strongest economic sanction against Russia over its military moves in Ukraine, as it will potentially cut off the country from receiving international payments.

### 2. About SWIFT

- Founded in 1973, SWIFT is a global provider of secure financial messaging services.
- SWIFT was founded to replace the telex.
- It is a member-owned cooperative connecting more than 11,000 banks, financial institutions and corporations in more than 200 countries.
- SWIFT operates internationally with 26 offices located across the world, and is headquartered in Belgium.
- As a strategic international financial messaging service provider to the financial industry, SWIFT is overseen by the G-10 central banks.

### 3. Governance of SWIFT

- SWIFT is a cooperative company under Belgian law and is owned and controlled by its shareholders (financial institutions) representing approximately 3,500 firms from across the world.
- The shareholders elect a Board of 25 independent Directors, representing banks across the world, which governs the Company and oversees the management of the Company.
- The Executive Committee is a group of full-time employees headed by the Chief Executive Officer.
- SWIFT is overseen by the G-10 central banks (Belgium, Canada, France, Germany, Italy, Japan, The Netherlands, UK, USA, Switzerland

### 4. SWIFT Operating Centres location

- Currently, SWIFT has operating centres (OPCs) in the Netherlands, Switzerland and the US, where message data is stored.

### 5. Duration for which SWIFT keep data

- SWIFT offers different financial messaging services, including but not limited to FIN, FINplus, FINCopy, FINInform, InterAct, FileAct, SWIFT WebAccess, MI Channel, SWIFTNet Instant and SWIFTNet Copy.
- Some services offer archival of messages, others do not. The archival periods, if any, for the different services are set forth in the Service Documentation.

### 6. Role of SWIFT in relation to financial sanctions

- SWIFT does not monitor or control the messages that users send through its system.
- All decisions on the legitimacy of financial transactions under applicable regulations, such as sanctions regulations, rest with the financial institutions handling them, and their competent international and national authorities.
- As far as financial sanctions are concerned, the focus of SWIFT is to help its users in meeting their responsibilities to comply with national and international regulations.

### 7. SWIFT services complying sanctions

- In 2010, SWIFT introduced changes to its cover payment messages to allow financial institutions to include underlying customer information in cover payment transactions.
- SWIFT has a wide and growing range of financial crime compliance tools, including sanctions screening and sanctions testing services.

### 8. Countries excluded from SWIFT

- Certain Iranian banks were ousted from the system in 2018 despite resistance from several countries in Europe.



## SWIFT and sanctions

and Sweden), as well as the European Central Bank, with its lead overseer being the National Bank of Belgium.

- In 2012, this framework was reviewed and the SWIFT Oversight Forum was established, in which the G-10 central banks are joined by other central banks from major economies: Australia, China, Hong Kong, India, South Korea, Russia, Saudi Arabian, Singapore, South Africa and Turkey.

- The SWIFT Oversight Forum provides a setting for the G-10 central banks to share information on SWIFT oversight activities with a wider group of central banks.

- SWIFT is committed to open, constructive and regular dialogue with oversight authorities, as well as with individual jurisdictions.

### 1. Why in News

India and France are close to concluding a deal, likely in the next couple of months, for the joint development of a 125KN engine for the indigenous fifth generation Advanced Medium Combat Aircraft (AMCA) under development, according to defence officials.

### 2. About Advanced Medium Combat Aircraft

- The Advanced Medium Combat Aircraft (AMCA) is an Indian programme to develop fifth generation fighter aircraft for the Indian Air Force and the Indian Navy.
- The design of the aircraft is carried out by Aeronautical Development Agency (ADA), an aircraft design and development agency constituted under Defence Research and Development Organisation (DRDO).
- It is expected to be produced by a public-private joint venture between the DRDO, Hindustan Aeronautics Limited (HAL), and French engine maker Safran.
- The programme has an aim to start production by 2028. The development cost is estimated to be around ₹15,000 crore.
- AMCA will be a single-seat, twin-engine, stealth all-weather swing-role fighter aircraft. Two variants of AMCA will be produced in a phased production model. AMCA Mark 1 will come equipped with fifth generation technologies and Mark 2 will have the incremental sixth generation technology upgrades.
- The initial design of the AMCA started way back in 2009 and is envisaged as a twin engine stealth aircraft with internal weapons bay and Diverterless Supersonic Intake. It will be a 25 tonne aircraft with internal carriage of 1,500 kg of payload and 5,500 kg external payload with 6,500 kg of internal fuel.
- The configuration has been frozen, Preliminary Service Quality Requirements (PSQR) are finalised and the preliminary design review is

### 3. About Stealth aircraft

- Stealth aircraft are designed to avoid detection using a variety of technologies that reduce reflection/emission of radar, infrared, visible light, radio frequency (RF) spectrum, and audio, collectively known as stealth technology.
- No aircraft is totally invisible to radar, stealth aircraft make it more difficult for conventional radar to detect or track the aircraft effectively.
- It increases the odds of an aircraft successfully avoiding detection by enemy radar and/or avoiding being successfully targeted by radar guided weapons.

- Stealth is the combination of passive low observable (LO) features and active emitters such as low-probability-of-intercept radars, radios and laser designators.

### 4. Advantages of Stealth Technology

- Efficiency can be increased while in a war zone when stealth vehicles are used in place of conventional vehicles, providing long term fiscal savings.
- Strikes from a stealth fighter aircraft prevent enemies from initiating attacks and as enemies are unable to locate them stealth weapons are utilized as intimidation fleets.
- Decline in casualty rates is achievable using stealth technology in warfare.

### 5. Disadvantages of Stealth Technology

- Compared to conventional aircrafts, stealth aircrafts are less agile and lack efficient maneuverability.
- Stealth aircraft have lower payload or carrying capacity than the conventional aircraft.
- The biggest disadvantage of a stealth aircraft is its high cost.

### 6. Way forward:

- Once the agreement is concluded with France, development of the aircraft as well as the engine should progress parallelly to meet the timelines.
- The manufacturing and production of the aircraft should be planned through a Special Purpose Vehicle, which will also involve private industry.
- AMCA would ensure India's entry into the elite club of countries with fifth-generation stealth warplanes.

## Indigenous Stealth Fighter

complete. The Critical Design Review (CDR) is expected later this year with the roll out planned in 2024 and first flight planned in 2025.

- The AMCA will have stealth and non-stealth configurations, and would be developed in two phases — an AMCA MK1, and an AMCA Mk2.
- Simultaneously, the project for the development of a twin engine deck-based fighter jet meant to fly from the Navy's aircraft carriers is also making progress.
- The AMCA is intended to perform a multitude of missions including air superiority, ground-strike, Suppression of Enemy Air Defenses (SEAD) and electronic warfare (EW) missions.
- The AMCA design is optimised for low radar cross section and super-cruise capability.



## MCQs Based on Environment and Ecology

- Q1. Eutrophication causes decrease in
- Dissolved nitrogen
  - Dissolved salts
  - Dissolved oxygen
  - All of these
- Q2. A high BOD value in aquatic environment is indicative of-
- A pollution free system
  - A highly polluted system due to excess of nutrients
  - A highly polluted system due to abundant heterotrophs
  - A highly pure water with abundance of autotrophs
- Q3. The Ecological pyramid that is always upright
- Pyramid of energy
  - Pyramid of biomass
  - Pyramid of number
  - Population Pyramid
- Q4. "Green house effect" with respect to global warming refers to-
- Cooling & moist condition
  - Warming effect
  - Increased rainfall & greenery
  - Increase of desertification of Sahara
- Q5. In India, tropical rain forest occurs in-
- Punjab
  - Andaman & Nicobar
  - Uttar Pradesh
  - Haryana
- Q6. Atmospheric ozone layer which protect us from UV-B & C is getting depleted most by addition of-
- Chlorofluorocarbon
  - Carbon monoxide
  - Carbon dioxide
  - Sulphur dioxide
- Q7. In which of the following biome the maximum plant diversity is found ?
- Tropical evergreen forests
  - Tropical moist deciduous forests
  - Tropical dry deciduous forests
  - Temperate moist forests
- Q8. Which among the following is a water borne disease?
- Smallpox
  - Meningitis
  - Malaria
  - Cholera
- Q9. The term 'dead' with respect to a water body refers to:
- The inability of a water body to sustain aquatic life
  - The ability of a water body to sustain aquatic life
  - The inability of a water body to flow
  - The heating or cooling of a water body
- Q10. Which one of the following is not normally a pollutant?
- Carbon monoxide
  - Carbon dioxide
  - Hydrocarbons
  - Sulphur dioxide
- Q11. Ultraviolet radiation from sunlight causes the reaction that produces
- Fluorides
  - Ozone
  - Carbon monoxide
  - Sulphur dioxide
- Q12. DDT is a
- Green house gas
  - Persistent Organic Pollutant
  - Degradable pollutant
  - None of these
- Q13. Decomposition of domestic wastes under natural processes is called
- Industrial pollution
  - Thermal pollution
  - Biodegradable pollution
  - Nonbiodegradable pollution
- Q14. Eutrophication is often seen in
- Mountains
  - Deserts
  - Fresh water lakes
  - Ocean

Q15. Fish die in water polluted by sewage due to

- (a) Pathogens
- (b) Reduction in O<sub>2</sub>
- (c) Clogging of gills by silt
- (d) Foul smell

Q16. Fluoride pollution mainly affects

- (a) Brain
- (b) Teeth
- (c) Heart
- (d) Kidney

Q17. Gas leaked during Bhopal tragedy was

- (a) Ethyl isothiocyanate
- (b) Sodium isothiocyanate
- (c) Potassium isothiocyanate
- (d) Methyl isocyanate

Q18. The best way to dispose plant waste is-

- (a) Burning
- (b) Composting
- (c) Dumping in a water body
- (d) Incineration

Q19. Which of the following is a major pollutant causing acid rain?

- (a) Carbon dioxide
- (b) Sulphur dioxide
- (c) Hydrogen peroxide
- (d) Carbon monoxide

Q20. Increase in the concentration of pollutants in higher trophic levels is known as

- (a) Biomagnification
- (b) Biodegradation
- (c) Eutrophication
- (d) Recycling

### Answers

- |         |         |
|---------|---------|
| 1. (c)  | 12. (b) |
| 2. (b)  | 13. (c) |
| 3. (a)  | 14. (c) |
| 4. (b)  | 15. (b) |
| 5. (b)  | 16. (b) |
| 6. (a)  | 17. (d) |
| 7. (a)  | 18. (b) |
| 8. (d)  | 19. (b) |
| 9. (a)  | 20. (b) |
| 10. (b) |         |
| 11. (b) |         |

### NOTES

## MCQs Based on Current Affairs

Q1. Which of the following organization have been launched Initiatives named 'UPI123Pay' and 'DigiSathi'?

- a) Ministry of Agriculture and Farmers Welfare
- b) Reserve Bank of India
- c) Ministry of Finance
- d) Ministry of Commerce and Industry

**Ans- a**

Q2. What is the objective of the recently launched 'Samarth' campaign?

- a) Promoting Women Entrepreneurship
- b) Arranging livelihood for the disabled
- c) Providing low rate loans to the urban poor
- d) To arrange free education and accommodation for the children of martyr soldiers

**Ans- a**

Q3. What is the name of India's indigenous 'Automat-ic Train Protection System'?

- a) Kavach
- b) B. Armor
- c) C. Brahmastra
- d) D. shield

**Ans-a**

Q4. Recently which of the following statement(s) is/are true regarding the 'Sambhav' and 'Swavalamban' initiatives?

- 1. It has been launched by the Ministry of Environment to tackle the issue of plastic waste in India.
  - 2. Their aim is to encourage young entrepreneurs, especially from the aspirational districts of India.
- a) only 1
  - b) 2 only
  - c) Both 1 and 2
  - d) none of these

**Ans b**

Q5. Which of the following organization publishes the report titled 'World Employment and Social Outlook'?

- a) World Economic Forum
- b) United Nations
- c) World Bank

d) International Labor Organization

**Ans-d**

Q6. Which of the following statement(s) is/are true regarding 'Convention on Cluster Munitions'?

- 1. Under this, cluster weapons have been banned.
  - 2. It has been signed by 152 countries.
  - 3. In the year 2014, India also signed this treaty.
- a) only 1
  - b) only 3
  - c) 2 and 3 only
  - d) 1, 2 and 3

**Ans- a**

Q7. Recently Article 5 of the NATO Charter has been in the news. Which of the following is it related to?

- a) By supplying logistics to member countries during natural calamities
- b) The process of adding new members to the NATO group
- c) from the collective security of the member countries
- d) from the process of expulsion of a member country in case of violation of the NATO Charter

**Ans -c**

Q8. Swadesh Darshan Puraskar has been instituted by which of the following ministry?

- a) Ministry of Agriculture and Farmers Welfare
- b) Ministry of Tourism
- c) Ministry of Development of North Eastern Region
- d) Ministry of Panchayati Raj

**Ans b**

Q9. Consider the following statements about Govind Ballabh Pant.

- 1. In the year 1921, he was elected to the Legislative Assembly of the United Provinces of Agra and Oudh.
- 2. He was arrested in 1942 for signing the Quit India Resolution.
- 3. The Happy Club was founded by Bharat Ratna Govind Ballabh Pant in 1903.



Which of the above statements are true?

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) 1, 2 and 3

**Ans-d**

Q10. Who among the following is related to the reforms in the Indian Police?

- 1. Ribeiro Committee, 1998
- 2. Padmanabhaiah Committee, 2000
- 3. Malimath Committee, 2005
- 4. Prakash Singh Case, 2007

Choose from the options below:

- a) 1 and 2 only
- b) 1, 2 and 3 only
- c) 2, 3 and 4 only
- d) all of the above

**Ans-d**

Q11. Which of the following field is related to stack e-portal?

- a) Defense
- b) Education
- c) Skilling
- d) Health

**Ans c**

Q12. Which statement related to SWIFT is false?

- a) The full name of SWIFT is Society for World-wide Interbank Financial Telecommunication.
- b) SWIFT is a messaging network, which sends messages to banks in a special code form.
- c) It works to manage global transactions.
- d) SWIFT is headquartered in Switzerland.

**Ans-d**

Q13. Which of the following options is most likely to increase inflation?

- a) Repayment of public debt
- b) Borrowing from the public to finance the budget deficit
- c) Borrowing from banks to meet the budget deficit
- d) Creating new money to finance the budget deficit

**Ans:- d**

Q14. According to the Economic Survey 2021-22, which country has the largest imports into India?

- a) United States of America
- b) UAE
- c) China
- d) Britain

**Ans: c**

Q15. With reference to the recently passed GNCTD Amendment Act, consider the following sentences:

- 1. The Act makes it necessary for the Government of Delhi to seek the opinion of the Lieutenant Governor.
- 2. The Act provides that the word "Government" in any law made by the Legislative Assembly shall mean the Cabinet.
- 3. The Act confers wide powers on the Lieutenant Governor of Delhi by declaring him to be the "Government of Delhi".
- 4. The Act gives full statehood to Delhi.

Which of the above option(s) is/are correct?

- a) only 1
- b) 1 and 2 only
- c) 1 and 3 only
- d) All of the above

**Ans :- c**

Q16. Consider the following statements about BRICS:

- 1. The BRICS countries signed a Contingency Reserve Arrangement (CRA) in 2014 as part of the Fortaleza Declaration at the 6th BRICS Summit.
- 2. The New Development Bank (NDB) was set up during the 6th BRICS Summit in Fortaleza (2014).
- 3. The headquarter of New Development Bank is in Beijing.

Select the correct statements:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) All are wrong

**Ans: a**

Q17 With reference to the India State of Forest Report, consider the following statements:

- 1. It was first published in 1952.
- 2. It is issued by the Forest Survey of India.
- 3. ISFR-2021 reflects an increase of 16 million hect

-ares in forest area between 2019 and 2021.  
Which of the above statement(s) is/are true?

- a) only 1
- b) only 2
- c) 2 and 3 only
- d) only 3

**Ans: b**

Q18 'Freedom in the World' report is published by which of the following organization?

- a) Transparency International
- b) Reporter without border
- c) Freedom House
- d) Greenpeace International

**Ans: c**

Q19. Which of the following organization established the Technology Development Fund?

- a) Ministry of Micro, Small and Medium Enterprises
- b) DRDO
- c) ISRO
- d) Ministry of Textiles

**Ans: b**

Q20. With reference to the draft 'India Data Accessibility and Use Policy', consider the following statements:

1. It is issued by the Ministry of Communications.
2. It proposes to monetize user's personal data.
3. It suggests setting up of Central India Data Office.

Which of the above statements is/are correct?

- a) 1 and 2 only
- b) only 2
- c) 3 only
- d) 2 and 3 only

**Ans: c**

NOTES

## Case Study

You are the Chief Secretary of an important state of India. You are continuously receiving complaints from Cabinet Ministers of your state, that their secretary does not counsel them most appropriate advice and also lack proper knowledge of the laws and rules of their departments. They counsel them on the basis of the information, they receive from junior officers of their department some officers also seem influenced by the ideology of any political party.

In initial enquiry you find, that many laws and rules, formed by British Government are still prevalent in each department. Out of these laws and rules most are redundant but they have not been repealed. So officers need to ensure compliance with these laws and rules in the process of decision making.

With your personal experience, you know that it is very difficult to memorise these laws and rules. It requires the investment of a lot of time and energy.

Transfer policy of the Government is also responsible for it. Due to continuous transfer in different departments and short tenures they do not get enough motivation to learn these laws and rules. It exercises a negative impact on administrative efficiency.

(a) Bring out and discuss different issues involved in the above case.

(b) What would you do to solve this problem?

### Answer

In the case study, I am Chief Secretary of a particular state and I am supposed to take action on the complaint received from the cabinet minister of the state after finding out the issues involved in it.

#### Following are the issues involved:

- Issue of inappropriate advice given to the Cabinet Minister.
- Lack of proper knowledge among the officials about the laws and rules of the department.
- Issue of partiality and partisanship due to some employees being influenced by a particular political ideology.
- Prevalence of redundant rules and laws of the colonial era.
- Issue of frequent transfer of officials.

#### Steps to solve the above-mentioned issues:

- To ensure that the cabinet minister is counseled with

the right advice, I will call an urgent meeting with the concerned secretary and discuss the matter in detail so that for the time being the cabinet minister gets the right advice.

- I will make arrangements for the short and brief training sessions in which the rules and laws of the concerned department are discussed and explained in a way that the members can easily comprehend and remember the rules and laws.
- A small team of members with impartial and non-partisanship behavior will be formed to ensure that any advice rendered to the cabinet minister is not influenced by any political ideology.
- The issue of the prevalence of redundant rules and laws will be raised to the higher authorities and to those who hold the power to change or strike down such rules and laws and will suggest discontinuing them.
- Will ensure that the transfer of officials is not done frequently based on any irrational reasons.

### NOTES

## Eminent Personality- Govind Ballabh Pant



Bharat Ratna Govind Ballabh Pant's death anniversary was March 7, 2022. Govind Ballabh Pant was born on 10 September 1887 in Khoont village, Almora, Uttarakhand. He joined Allahabad University in the year 1905 and passed the law examination in 1909. Prior to this, he had formed Happy Club in Almora. Govind Ballabh Pant's father's name was Shri 'Manorath Pant' and his mother's name was Govindi Bai.

Shri Manorath Pant moved to Pauri Garhwal with his wife within three years from the birth of Govind. He stayed in Almora permanently. He was brought up by his aunt 'Dhani Devi'. Govind took education at home till the age of 10 years. In 1897, Govind was admitted to the primary school in the local 'Ramje College'. In 1899, at the age of 12, he was married to 'Ganga Devi', the daughter of 'Pt Baladutt Joshi', at that time he was in class seven. Govind passed the lower middle examination with Sanskrit, Mathematics, English with distinction in the first division. Govind also passed the Inter examination from this school. After this, he took admission in B.A. at Allahabad University with Mathematics, Politics and English Literature as subjects.

He started his career as a lawyer from Kashipur. The Kakori case gave him recognition and prestige. He entered politics in the year 1921 and in the same year he was elected to the Legislative Assembly of the United Provinces of Agra and Oudh. In 1914, 'Prem Sabha' and 'Udayraj Hindu High School' was established in Kashipur by Pant with his efforts.

In 1916, Pant was included in the 'Notified Area Com-

mittee' of Kashipur. In the freedom struggles of 1921, 1930, 1932 and 1934, Pant spent almost 7 years in jail. 29 November 1927, while protesting in Lucknow against the Simon Commission, Pant suffered several injuries in the lathi charge of the British, due to which his neck was bowed.

He fought against the coolie forced labour system in the Kumaon region of Uttarakhand. Under the Coolie Begar Act, the local people had to carry the goods of British officers for free. Pant was against it. He also fought the case of Bismil and Khan in the Kakori case.

He also mediated when there was a difference between Congress and Subhas Chandra Bose. He was arrested for signing the Quit India Resolution of 1942 and spent three years in jail with Nehru at Ahmednagar Fort. Earlier in 1932, Pant also stayed with Nehru in the jails of Bareilly and Dehradun. During that time they became friends. In the year 1937, Pant became the first Prime Minister of the United Provinces and in 1946 became the first Chief Minister of Uttar Pradesh. He won from Bareilly Municipality in the 1951 UP assembly elections. On January 10, 1955, he took over as the Home Minister of India. His main contribution as Home Minister was to divide the states on the basis of language and to establish Hindi as the official language of India.

In the year 1957, on Republic Day, the patriot, efficient administrator and speaker Pant ji was honoured with India's highest title 'Bharat Ratna'. Govind Vallabh Pant Ji has also contributed significantly in getting Hindi the status of the official language. Govind Ballabh Pant died on March 7, 1961.

# POLITY TERMINOLOGY

## Preamble of the Indian Constitution

### Background

American Constitution was the first to come up with a Preamble. The Preamble of the Indian Constitution is based on the 'Objectives Resolution', drafted and moved by J L Nehru, and adopted by the Constituent Assembly.

### The Preamble

"We, THE PEOPLE OF INDIA, having solemnly resolved to constitute

India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC

and to secure to all its citizens:

JUSTICE, Social, Economic and Political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity;

and to promote among them all;

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION".

### Elements of the Preamble

- Source of authority: The Preamble states that the Constitution derives its authority from the people of India.
- Nature of Indian State: It declares India to be of a sovereign, socialist, secular democratic and republican state.
- Objectives: It specifies justice, liberty, equality and fraternity as the objectives.
- Date of adoption of the Constitution: It stipulates November 26, 1949, as the date.

### Building blocks of the Preamble

- Sovereign :- Free from external control
- Socialist :- Welfare of all, i.e. All equitable distribution of wealth
- Secular :- State has no religion but citizen have.
- Democratic :- Government is representative of people
- Republic :- Head of the state is elected
- Justice :- Fairness
- Liberty :- Freedom
- Equality :- No Discrimination
- Fraternity :- Brotherhood
- Unity :- Oneness
- Integrity :- Emotional Oneness

### Preamble as a part of the Constitution

- In the Keshavananda Bharti Vs State of Kerala Case,

1973 Supreme Court (SC) Observed that Preamble is a part of the constitution.

- In the Harihar Yadav Vs State of Jharkhand Case, 2014 SC Observed that Constitution casts a responsibility on the State to sustain social & economic security, for the Preamble is the floodlight illuminating the path to be persuaded by the State to set up a sovereign, socialist, secular, democratic republic.

- Important notes

- a) The Preamble is neither a source of power to legislature nor a prohibition upon the powers of legislature.
- b) It is non-justiciable, i.e. its provisions are not enforceable in courts of law.

### Preamble as Basic Structure

- In the Keshavananda Bharti Case, 1973 & Excel Wear Case, 1979 SC Observed that Objectives specified in the Preamble contain the basic structure of the constitution.

- Basic Structure contains:-

- a) Supremacy of the Constitution.
- b) Republican & Democratic form of Government
- c) Secular character of the Constitution
- d) Separation of Powers between the Legislature, the Executive & the Judiciary
- e) Federal Character of the Constitution.

### Interpretation of Preamble

According to Keshvananda Bharti Case, 1973; Chandra Bhawan Boarding Case, 1973; the preamble may be invoked to determine the ambit of

- a) Fundamental Rights
- b) Directive Principles of State Policy

### Social Justice

- The policies that turn a blind eye to deliberate infliction of misery on large segment of population even in its weakest form and content can't be condoned in view of the promise for social, economic and political justice to citizens made by Constitution of India (Nandini Sundar case, 2011).

### Amendability of the Preamble

- In the Kesavananda Bharati case (1973) the SC held that the Preamble can be amended, subject to the condition that no amendment is done to the 'basic features'.

### Amendments of the Preamble

- The Preamble has been amended only once by the 42nd Constitutional Amendment Act, 1976. Three new words Socialist, Secular and Integrity were added to the Preamble.