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## Current Affairs August 2022

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**This Document was prepared under the supervision of Mr. Pramod Singh, Director, Edge IAS.**

**Current Affairs, August 2022**

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# 1. Polity and Governance

## 1.1 The need for a distinction between blasphemy and hate speech

### What is Blasphemy and Hate Speech?

- Blasphemy is the act of insulting or showing contempt or lack of reverence for God.
- Hate Speech is an abusive or threatening speech or writing that expresses prejudice against a particular group or an individual, especially on the basis of race, religion, or sexual orientation.
- Laws in India

### Section 295 (A) of IPC

- As far as laws in India go, there isn't formal legislation against blasphemy.
- The closest equivalent to a blasphemy law is Section 295(A) of the Indian Penal Code (IPC), which punishes any speech, writings, or signs that with premeditated and malicious intent insult citizens' religion or religious beliefs with a fine and imprisonment for up to three years.
- The legality of Section 295(A), which had been challenged in the Ramji Lal Modi case (1957), was affirmed by a five-judge Bench of the Supreme Court.
- The apex court reasoned that while Article 19(2) allows reasonable limits on freedom of speech and expression for the sake of public order, the punishment under Section 295(A) deals with aggravated form of blasphemy which is committed with the malicious aim of offending the religious sensibilities of any class.

### How has the legislation been interpreted?

- In the case of Superintendent, Central Prison, Fatehgarh vs Ram Manohar Lohia the Supreme Court stated that the link between the speech spoken and any public disorder caused as a result of it should have a close relationship for retrieving Section 295(A) of IPC.
- By 2011, it concluded that only speech that amounts to "incitement to impending unlawful action" can be punished.
- That is, the state must meet a very high bar before using public disturbance as a justification for suppressing expression.

### Should there be a difference between blasphemy laws and hate speech laws?

- The wording of Section 295(A) is considerably too wide.
- The Supreme Court has said on several occasions that perhaps the goal of hate speech statutes in Section 295(A) is to prevent prejudice and ensure equality.
- Unfortunately, there is a huge disparity between this interpretation and the actual wording due to which the law is still being exploited at all levels of administration.

### Are hate speech cases rising?

- As per the data given by the National Crime Records Bureau (NCRB), there has been a huge increase in cases registered promoting hate speech and fostering animosity in society.
- The data reads that while there were only 323 cases registered in 2014, it had increased to 1,804 cases in 2020.
- This is because section 295(A) is now usually used to penalise religious dissent, satire, and any comedic content with religious references.
- Many cases show how regulations don't draw a line between criticism and premeditated hate speech.
- Failing to articulate these distinctions diminishes fair use of the Section and makes it more difficult to define and penalise the actual crime of hate speech.

## 1.2PM and President's photos in govt ads

- The on Madras High Court directed the Tamil Nadu government to include the photographs of the President of India and Prime Minister in advertisements on the 44th Chess Olympiad underway in Chennai.
- The HC relied on a 2015 Supreme Court ruling that issued guidelines on government spending on advertisements.

### What was the 2015 ruling?

- In Common Cause v Union of India, the SC sought to regulate the way the government spends on advertisements.
- It essentially regulated the 2007 New Advertisement Policy of the Government of India.
- The petitioners had argued that there is arbitrary spending on advertisements by the government.
- The allegations ranged from wastage of public money for political mileage to using advertisements as a tool to manipulate media.

### The court ruled that

- Since the primary cause of government advertisement is to use public funds to inform the public of their rights, obligations, and entitlements as well as to explain Government policies, programs, services and initiatives, however, when these requisites are not fulfilled in a government advertisement then the whole purpose would be frustrated
- Patronization of any particular media house(s) must be avoided and award of advertisements must be on an equal basis to all newspapers who may, however, be categorized depending upon their circulation.
- The DAVP (Directorate of Advertising and Visual Publicity) guidelines do not deal with the said aspect of the matter and hence the necessity of incorporating the same in the present directions to ensure the independence, impartiality and the neutrality of the fourth estate which is vital to the growth and sustenance of democracy will have to be weighed and considered by us
- The bench also had set up a committee to suggest a better policy.

### What did the committee suggest?

The three-member committee — comprising Prof N R Madhava Menon, T K Viswanathan, and senior advocate Ranjit Kumar — suggested a fresh policy — the Government Advertisements (Content Regulation) Guidelines 2014 with five broad principles:

- Advertising campaigns are to be related to government responsibilities
- Materials should be presented in an objective, fair manner and designed to meet objectives of the campaign
- Advertisements must not directed at promoting political interests of a party
- campaigns must be justified and undertaken in a cost-effective manner
- Advertisements must comply with legal requirements and financial regulations

### What did the Supreme Court rule?

- It largely accepted the committee report except on a few issues.
- The ruling mandated that government advertisements will not contain a political party's symbol, logo or flag and are required to be politically neutral and must refrain from glorifying political personalities.

### What about photographs in advertisements?

- The SC agreed with the committee's suggestion that photographs of leaders should be avoided and only the photographs of the President/ Prime Minister or Governor/ Chief Minister shall be used for effective government messaging.
- Then Attorney General Mukul Rohatgi had opposed the recommendation arguing that if the PM's photograph is allowed in the advertisement, then the same right should be available to his cabinet colleagues as the PM is the "first among the equals".

- The court, while restricting the recommendation to the photos of the President and Prime Minister, added the photograph of the Chief Justice of India to that list of exceptions.
- In 2018, the Centre and some states sought a review of the verdict on the ground that not permitting the publication of the CM's photograph would violate the federal structure.
- An SC Bench relaxed the bar, allowing pictures of Union ministers, Chief Ministers, Governors and State ministers in government advertisements.

### What are the takeaways from the SC ruling?

The SC ruling did not mandate publication of the photograph of the PM and President, but only restricts publication of photos of government officials other than the President, PM, CJI, CM and the Governor.

## 1.3 Withdrawal of Personal Data Protection Bill

After nearly four years of being in the works, the Personal Data Protection Bill was withdrawn from Parliament by the government, after stating that the government will come out with a "set of fresh legislations" that will fit into the comprehensive legal framework for the digital economy.

### Genesis of the Bill

- The genesis of this Bill lies in the report prepared by a Committee of Experts headed by Justice B.N. Srikrishna.
- The committee was constituted by the government in the course of hearings before the Supreme Court in the right to privacy case (Justice K. S. Puttaswamy v. Union of India).

### Personal Data Protection Bill, 2019 proposed

- The withdrawn Bill had proposed restrictions on the use of personal data without the explicit consent of citizens.
- It had also sought to provide the government with powers to give exemptions to its probe agencies from the provisions of the Act, a move that was strongly opposed by the opposition MPs who had filed their dissent notes.
- Also proposed to specify the flow and usage of personal data, protect the rights of individuals whose personal data are processed, as it works out the framework for the cross-border transfer, accountability of entities processing data, and moots remedies for unauthorised and harmful processing.
- The Bill sets out certain rights of the individual (or data principal). These include the right to:
  - Obtain confirmation from the fiduciary on whether their personal data has been processed
  - Seek correction of inaccurate, incomplete, or out-of-date personal data
  - Have personal data transferred to any other data fiduciary in certain circumstance
  - Restrict continuing disclosure of their personal data by a fiduciary, if it is no longer necessary or consent is withdrawn.
- The original Bill, which was first tabled in 2019, included exemptions for processing data without an individual's consent for "reasonable purposes", including security of the state, detection of any unlawful activity or fraud, whistle-blowing, medical emergencies, credit scoring, operation of search engines and processing of publicly available data.

### Contentious Section 35 & Article 12(a)

- According to Article 35, the central government could exempt any government agency from the law's provisions "in the interest of India's sovereignty and integrity, the state's security, friendly relations with foreign states, public order, and if it is satisfied that it is necessary or expedient to do so, subject to procedures, safeguards, and oversight mechanisms to be prescribed by the Government."
- Article 12(a), meanwhile, eliminated the need for the data principal's informed consent for the processing of their data, when it is required "for the performance of any function of the state authorised by law for the provision of any service or benefit to the data principal from the state; or (ii) the issuance of any



certification, licence, or permit by the state for any action or activity of the data principal by the state.”

## Conclusion

Members of the erstwhile Joint Committee on Personal Data Protection Bill as well as industry leaders have welcomed the government’s move to withdraw the legislation, saying it was better to bring a new legislation after more than 80 amendments suggested by the panel.

## 1.4 Freebies

- The Supreme Court has taken a decision to form a body of stakeholders to examine ‘the distribution or promise of ‘freebies’ ahead of elections’ issue. But this move raises the question of whether the legislature can be bypassed on such a far-reaching exercise.
- The Court is not going to issue guidelines, but only ensure that suggestions are taken from stakeholders such as the NITI Aayog, Finance Commission, Law Commission, RBI and political parties. All these institutions can submit a report to the Election Commission of India (ECI) and the Government.
- A suggestion that Parliament could discuss this issue was met with scepticism by the Bench, which felt that no party would want a debate on this, as all of them support such sops.
- The Bench also disfavoured the ECI preparing a ‘model manifesto’ as it would be an empty formality.
- The Court’s concern over populist measures seems to resonate with the Government too, as the Solicitor-General submitted that these distorted the voter’s informed decision-making; and that unregulated populism may lead to an economic disaster.

### Subramaniam Balaji vs Government of Tamil Nadu (2013)

- The Supreme Court addressed these questions and took the position that these concerned law and policy.
- Upheld the distribution of television sets or consumer goods on the ground that schemes targeted at women, farmers and the poorer sections were in furtherance of Directive Principles; and as long as public funds were spent based on appropriations cleared by the legislature, they could neither be declared illegal, nor the promise of such items be termed a ‘corrupt practice’.
- It had, however, directed the ECI to frame guidelines to regulate the content of manifestos.
- The ECI subsequently included in its Model Code of Conduct a stipulation that parties should avoid promises “that vitiate the purity of the election process or exert undue influence on the voters”.
- It added that only promises which were possible to be fulfilled should be made and that manifestos should contain the rationale for a promised welfare measure and indicate the means of funding it.
- Any further step, such as distinguishing welfare measures from populist sops and pre-election inducements, or adding to the obligations of fiscal responsibility and fiscal prudence ought to come from the legislature.

### What are the criticisms of Freebie Culture?

- Creates Private Benefits: Freebies violate the constitutional mandate of extending benefits for public purpose and instead create private benefits. The main beneficiaries of the freebies provided by government were the ruling party’s core supporters and swing voters who could be influenced easily.
- Depoliticises Poor: Freebies will not only depoliticise the poor and marginalised communities but also indirectly deny them their due share of state resources.
- Erases Rational Thinking: Freebie encourage personality cults in a democratic polity. Populism encourages mediocre political critics and erases critical and rational thinking, which are important to raise questions to people in power.
- Patron-Client Syndrome: Unsolicited freebies cultivate a patron-client syndrome. Providing freebies is to treat people like subjects, whereas citizens are entitled to constitutional guarantees.
- Clientelism is a political or social system based on the relation of client to patron with the client giving political support to a patron (as in the form of votes) in exchange for some special privilege or benefit (freebies).

- Against Welfare Politics: Welfare initiatives are an embodiment of civil rights, whereas unsolicited freebies show benevolence at best and apathy at worst towards the poor by the ruling parties.
- Doesn't enhance Productivity: It was observed that distributing free laptops does not serve the purpose of increasing the quality of education. Also, free electricity, free water, farm loan waivers, etc. have not contributed to increased productivity.
- Fiscal Burden: Freebies imposes burden on the state's financial status contributing to huge fiscal debt.
- Vulnerable to Corruption: Freebies culture paves way to corrupt practice because of the involvement of middle man.
- Not Sustainable in Long Run: The social, political and economic consequences of freebies are very short-lived in nature. Also, they cannot be provided free forever, at some point these goods have to be rationalised.

### 1.5 No immunity from arrest in criminal cases for MPs during session

Rajya Sabha Chairman M Venkaiah Naidu said in the Upper House that MPs did not have immunity from being arrested in criminal cases — when the House is in session or otherwise.

He said MPs could not avoid summons from law enforcement agencies.

#### What happened?

- Leader of Opposition in the Rajya Sabha has claimed he was “insulted” as he was summoned by the Enforcement Directorate during the working hours of Parliament.
- For this Chairman said, it was “a wrong notion” among members that they have privilege from action by agencies while Parliament is in session.
- He cited Article 105 of the Constitution, Section 135A of the Civil Procedure Code and Supreme Court Judgments.
- He stated that in criminal matters, MPs are not on a different footing than a common citizen. That means MPs do not enjoy any immunity from being arrested in a criminal case during the Session or otherwise.
- Article 105 of the Constitution, it says:
  - Subject to the provisions of the Constitution and rules and standing orders regulating the procedure of Parliament, there shall be freedom of speech in Parliament;
  - No member shall be liable to any proceedings in any court in respect of any thing said or any vote given by him in Parliament or any committee thereof;
  - The powers, privileges and immunities of each House of Parliament, and of the members and the committees of each House, may from time to time be defined.

#### Section 135A of Civil Procedure Code

- It exempts from arrest and detention under civil process members of Parliament, Legislative Assemblies and Councils, those part of an ongoing meeting or committee of such a House, and during 40 days before and after such meeting, sitting or conference.
- It also says that no member shall be arrested in a civil case 40 days before and after the adjournment of the House and also when the House is in session.
- No member can be arrested within the precincts of Parliament without the permission of the House to which he/she belongs.

#### The Supreme Court view

- In July 2021, the SC rejected a plea by the Kerala government to withdraw criminal cases against its MLAs, who destroyed public property and disrupted a Budget speech in the Assembly in 2015.
- The state had claimed parliamentary privilege and immunity from criminal prosecution, arguing that the incident occurred inside the Assembly hall. They also said that prior sanction of the Speaker was necessary before the registration of an FIR by the police.

- But the SC held that legislators who indulge in vandalism and general mayhem cannot claim parliamentary privilege and immunity from criminal prosecution, and that this could not be called “essential legislative action”.
- The Court also held that vandalism on the floor of the Assembly could not be equated with the right to protest by Opposition legislators.

## 1.6 Cabinet Secretary

- The centre has given a one-year extension to Cabinet Secretary Rajiv Gauba.
- Gauba, former Union Home Secretary, was in 2019 appointed to the country’s top bureaucratic post for two years.
- This is his second extension on the post. He was given a one-year extension in August last year.

### Cabinet Secretary

- The Cabinet Secretary is the top-most executive official and senior-most civil servant of the Government of India.
- She/he is the ex-officio head of the Civil Services Board, the Cabinet Secretariat, the IAS, and all civil services under the rules of business of the government.
- She/he ranks eleventh on the Indian order of precedence.
- She/he is under the direct charge of the PM and is appointed for a fixed tenure of two years.
- The Cabinet Secretariat is responsible for the administration of the Transaction of Business and the Allocation of Business Rules 1961.

### Functions

She/he facilitates smooth transaction of business in Ministries/ Departments of the Government.

This Secretariat provides:

- Secretarial assistance to the Cabinet and its Committees
- Assists in decision-making in Government by ensuring Inter-Ministerial coordination ,
- Ironing out differences amongst Ministries/ Departments
- Evolving consensus through the instrumentality of the standing/ adhoc Committees of Secretaries

### Extension

- In 2019 All India Services (Death-Cum-Retirement-Benefits) Rules, 1958, was amended by Government to provide extension.
- According to All India Services (Death-Cum-Retirement-Benefits) Rules, 1958, the government can give extension in service to a cabinet secretary provided the total tenure does not exceed four years.
- As per the modified rules, the central government may give an extension in service for a further period not exceeding three months, beyond the period of four years to a cabinet secretary.

## 1.7 Ordinance

- Kerala Governor objects to repromulgation of ordinances.
- Governor took exception to the State government’s move to reissue ordinances instead of getting the executive orders ratified by the Assembly.
- The government had sent 11 ordinances for repromulgation.
- Governor says SC had deemed it a subversion of legislative process.
- The Supreme Court had ruled (in 2017) that re-promulgation of ordinances tantamount to subversion of the democratic legislative process.

## **Ordinance**

- An ordinance is any law promulgated by the President when the Indian parliament is not in session.
- These ordinances have the same legal force and effect as an Act of Parliament, but they are only temporary in nature.

## **Ordinance Making Power of President**

Article 123 grants the President certain law-making powers, including the authority to issue ordinances during Parliament's recess and hence it is not possible to enact laws in the Parliament.

### **Following limitations exist with regards to the president's ordinance making powers:**

- When one or either of the two Houses of Parliament is not in session, the President may promulgate an Ordinance.
- The President cannot issue an Ordinance unless he is satisfied that the situation necessitates 'immediate action.'
- The President's authority to issue ordinances is justiciable if intentions are proved mala fide.

## **Ordinance Making Power of Governor**

- Article 213 states that the Governor of the state may issue ordinances when the state legislative assembly (or either of the two Houses in states with bicameral legislatures) is not in session.

## **Properties of the Ordinance**

- An ordinance can be retrospective, which means that it can be enacted prior to its approval.
- An ordinance passed while Parliament is in session is deemed null and void.
- To stay a law, the Ordinance must be approved by Parliament within six weeks of its reassembly. Its existence is terminated if the parliament does not act within six weeks of its reassembly.
- Acts, laws, and events that occurred as a result of the ordinance remain in effect until it expires.
- Ordinance promulgation cannot be regarded as a substitute for the President's legislative authority.
- Ordinances can only be passed on subjects where the Indian Parliament has the authority to pass laws.
- Ordinances cannot be used to revoke the fundamental rights of the citizens guaranteed by the Indian Constitution.
- The ordinance would also be declared null and void if both houses passed a resolution opposing it.
- Misuse of the Ordinance making power

## **Deliberate bypassing of the legislature:**

- At times there are instances that legislature is being deliberately bypassed to avoid debate and deliberations on contentious legislative proposals.
- This is against the ethos and spirit of democracy.

## **Repromulgation of ordinances:**

- As observed by the Supreme Court, re-promulgation of ordinances is a "fraud" on the Constitution and a subversion of democratic legislative processes, especially when the government persistently avoids placing the ordinances before the legislature.

## **Undermining the Doctrine of Separation of Powers:**

- In the Kesavananda Bharati vs. State of Kerala case 1973, the Supreme Court listed the separation of powers as a "basic feature" of the Constitution.
- The repromulgation undermines the separation of powers, as it effectively allows the executive to make permanent legislation without legislative input or approval.

## **The satisfaction of President:**

- Ordinance can be promulgated only when the President is satisfied that circumstances exist for the same thus providing the scope of misuse of the power.

## Ignoring Supreme Court's Judgements:

### SC judgments

- It was argued in *DC Wadhwa vs. the State of Bihar (1987)* that the legislative power of the executive to promulgate ordinances is to be used in exceptional circumstances and not as a substitute for the law-making power of the legislature.
- Supreme Court in *Krishna Kumar Singh v. the State of Bihar* held that the authority to issue ordinances is not an absolute entrustment, but is "conditional upon satisfaction that circumstances exist rendering it necessary to take immediate action".
- Even after tough judgments on the use of ordinances, both the Centre and state governments have ignored the Supreme Court's observations.
- For example, in 2013 and 2014, the Securities Laws (Amendment) Ordinance was promulgated three times.
- Our Constitution has provided for the separation of powers among the legislature, executive and judiciary where enacting laws is the function of the legislature. The executive must show self-restraint and should use ordinance making power only in unforeseen or urgent matters and not to evade legislative scrutiny and debates.

## 1.8 NITI Aayog Governing Council meeting

- Prime Minister announced the 7th meeting of the NITI Aayog Governing Council.
- This was the first physical meeting of the Governing Council since the onset of the pandemic, with the 2021 meeting held via video conferencing.
- Meeting was attended by 23 Chief Ministers, three Lieutenant Governors and two Administrators, and Union Ministers.
- Addressing the meeting of the NITI Aayog Governing Council, the Prime Minister said that during the pandemic every State played a crucial role by focussing on the grassroots delivery of public services through cooperation across political lines.
- In that process, India emerged as an example for the developing nations to look up to as a global leader.

### Four key issues

This year, the Governing Council discussed four key issues:

- Crop diversification and achieving self-sufficiency in pulses, oilseeds and other agri-commodities;
- Implementation of the National Education Policy (NEP) in school education;
- Implementation of the NEP in higher education; and
- Urban governance
- Describing India's G20 presidency in 2023 as a unique opportunity to show to the world that India was not just confined to Delhi, but included every State and Union Territory, PM called for a mass movement for identification of the best talent available in the country.
- During the meeting, a key demand from the States was to make the Minimum Support Price (MSP) for pulses and oil seeds more effective.

### NITI Aayog

- The National Institution for Transforming India, also called NITI Aayog, was formed via a resolution of Union Cabinet on Jan 1, 2015 and it replaced the Planning Commission.
- NITI Aayog is the premier policy 'Think Tank' of GoI to bring states to act together in national interest, and thereby foster Cooperative federalism.

### Composition

- Chairperson: Prime Minister
- Vice-Chairperson: To be appointed by Prime-Minister

- Governing Council: Chief Ministers of all states and Lt. Governors of Union Territories.
- Regional Council: To address specific regional issues, Comprising Chief Ministers and Lt. Governors Chaired by Prime Minister or his nominee.
- Adhoc Membership: 2 members in ex-officio capacity from leading Research institutions on rotational basis.
- Ex-Officio membership: Maximum four from Union council of ministers to be nominated by Prime minister.
- Chief Executive Officer: Appointed by Prime-minister for a fixed tenure, in rank of Secretary to Government of India.
- Special Invitees: Experts, Specialists with domain knowledge nominated by Prime-minister.

### **Hubs of NITI Aayog**

- Team India Hub acts as interface between States and Centre.
- Knowledge and Innovation Hub builds the think-tank acumen of NITI Aayog.
- The Aayog planned to come out with three documents — 3-year action agenda, 7-year medium-term strategy paper and 15-year vision document.

## **1.9 Minorities at district level**

- The Supreme Court ruled that to recognise minorities at district level is contrary to law.
- The Court was hearing a petition, claiming that Hindus do not get minority status in States where they are “socially-, economically-, politically non-dominant and numerically inferior”.
- The petition had also sought a declaration from the Court to identify minorities district wise.
- The Supreme Court referred to 11-judge Bench judgment which holds that recognition of minorities should be done at the State level.
- The judge was referring to the majority verdict given by the 11-judge Bench in the T. M. A Pai versus State of Karnataka case in 2002.

### **Judgements related to determination on minority status**

#### **TMA Pai Case:**

- The SC had said that for the purposes of Article 30 that deals with the rights of minorities to establish and administer educational institutions, religious and linguistic minorities have to be considered state-wise.

#### **Bal Patil Case:**

- In 2005, the SC in its judgement in ‘Bal Patil’ referred to the TMA Pai ruling.
- The legal position clarifies that henceforth the unit for determining status of both linguistic and religious minorities would be ‘state’.

### **Constitutional Provisions for Minorities**

#### **Article 29**

- It provides that any section of the citizens residing in any part of India having a distinct language, script or culture of its own, shall have the right to conserve the same.
- It grants protection to both religious minorities as well as linguistic minorities

#### **Article 30:**

- All minorities shall have the right to establish and administer educational institutions of their choice.
- The protection under Article 30 is confined only to minorities (religious or linguistic) and does not extend to any section of citizens (as under Article 29).

#### **Article 350-B:**

- The 7th Constitutional (Amendment) Act 1956 inserted this article which provides for a Special Officer for

Linguistic Minorities appointed by the President of India.

- It would be the duty of the Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities under the Constitution.

### 1.10 Supreme Court to take up plea to ban convicts from polls for life

- The Supreme Court said it will consider a plea seeking a lifetime ban on people convicted of offences from contesting elections and becoming Members of Parliament and State Legislative Assemblies.
- The Centre had, in an affidavit filed in 2020, maintained in court that disqualification under the Representation of the People Act of 1951 for the period of prison sentence and six years thereafter was enough for legislators.
- In its affidavit in December 2020, the Ministry had rejected the idea of a lifetime ban on convicted persons contesting elections or forming or becoming an office-bearer of a political party.
- The Ministry had reasoned that MPs and MLAs were not bound by specific “service conditions”. They are bound by their oath to serve citizens and country. They are bound by propriety, good conscience and interest of the nation,”
- But the Centre’s stand in 2020 contradicted that of the Election Commission of India (ECI).
- In 2017, the poll body endorsed the call for a lifetime ban in the apex court.
- It had argued that such a move would “champion the cause of decriminalisation of politics”.
- The ECI had then agreed in the Supreme Court that a ban would be in the spirit of fundamental rights of the Constitution, including the right to equality.

#### Criteria for disqualifications under RPA, 1951:

- Is found guilty of certain election offences or corrupt practices in the elections
- Is convicted for any offence resulting in imprisonment for two or more years (except for the detention under a preventive detention law)
- Has failed to lodge an account of his/her election expenses within the time
- Has any interest in government contracts, works or services.
- Is a director or managing agent or holds an office of profit in a corporation in which the government has at least 25% share.
- Has been dismissed from government service for corruption or disloyalty to the State
- Has been convicted for promoting enmity between different groups or for the offence of bribery
- Has been punished for preaching and practising social crimes such as untouchability, dowry and sati.
- Section 8 (3) of the Act states that if an MP or MLA is convicted for any other crime and is sent to jail for 2 years or more, he/ she will be disqualified for 6 years from the time of release.
- Even if a person is on bail after the conviction and his appeal is pending for disposal, he is disqualified from contesting an election.
- Section 8(4) allowed convicted MPs, MLAs and MLCs to continue in their posts, provided they appealed against their conviction/sentence in higher courts within 3 months of the date of judgment by the trial court.
- The Supreme Court in July 2013 in Lily Thomas vs. union of India struck down section 8(4) of the RPA, 1951 and declared it ultra vires and held that the disqualification takes place from the date of conviction.

### 1.11 Asymmetrical federalism

- In a system of asymmetrical federalism, India must remain a strong
- As India completes 75 years of Independence, the time is apt for us to look at the constitutional, institutional, political and fiscal arrangements that take into account the plurality of our country.
- It is a nation where four major religions of the world find abode; its Muslim population is the third largest in the world; and Indians speak languages belonging to five different families.
- Such diversity and plurality call for an arrangement that can pave the way for accommodation and

integration reflected in the existing system of asymmetrical federalism.

- If one looks clinically at the Indian model of asymmetrical federalism, one can gauge it based on the principle of weighted and differentiated equality.
- This principle calls for equal treatment of all States while being mindful that some States are more equal and unequal than others.
- So, the capacity to accommodate various social groups and their interests makes India a thriving federal democracy as it displays enormous asymmetric characteristics.

### **Asymmetric Federalism**

- Asymmetric federalism means federalism based on unequal powers and relationships in political, administrative, and fiscal arrangements between the units constituting a federation.
- Asymmetry in the arrangements in a federation can be viewed in both vertical (between Centre and states) and horizontal (among the states) senses.

### **Political and Constitutional Asymmetry**

- Recognising the distinctive cultural differences in the country and permitting self-rule within the scheme of a shared rule to territorially concentrated minorities is how asymmetrical federalism works in India.
- Such functioning pertains to de facto and de jure asymmetry, where the former is abundant while the latter is limited.
- Furthermore, such an arrangement only proves that an asymmetrical constitutional setup is indisputably necessary for a multicultural and multinational country such as India to protect the rights of the community and the minorities.
- This setup facilitates the accommodation of multiple yet complementary identities.
- In this regard, it is necessary to understand the distinction made by Ronald Watts between political and constitutional asymmetry, both of which exist in our country.
- While in every federal nation the former is based on the territorial and demographic sizes of the constituent units, the latter characterises the Constitution's extension of legislative and executive powers to the constituent units.
- So when we find representation of States in the Rajya Sabha based on their population, it is a political asymmetry.
- That is why States such as Uttar Pradesh have 31 seats in the Rajya Sabha, whereas Meghalaya and Mizoram have just one each.

### **Constitutional Asymmetry – Self-rule within shared rule**

- We find constitutional asymmetry in Article 370 and in the special provisions and powers extended to Nagaland, Mizoram and others in the omnibus Article 371.
- The parliamentary statute cannot be implemented in the northeast States mentioned above without the consent of the legislatures of these States.
- In addition, creation of the Autonomous District Council as per the Sixth Schedule also acknowledges the socio-cultural, political and historical rights of the tribes of the Northeast, thereby facilitating the provisions of self-rule within the scheme of shared rule.

### **Union Territories**

- Furthermore, the Indian asymmetrical setup has evolved to include another type of asymmetry, i.e. Union Territories (UTs).
- Their establishment is in line with the spirit of federal asymmetry.
- These are special federating units that have been created multiple times.
- Delhi's case is in itself a remarkable example of asymmetrical federalism where we witness the appointment of the Chief Minister of Delhi by the President of India on the recommendation of the Lieutenant Governor (LG).
- This provision is in line with the special status of Delhi as the NCT.



## On fiscal arrangements

- Another significant asymmetry is the fiscal arrangements enshrined in the Constitution.
- When transferring funds from the Centre to States, statutory transfers are made based on the recommendations of the Finance Commission.
- The cost of implementing Centrally sponsored schemes to bring about welfare is co-shared by both the Centre and sub-national units. In the NITI Aayog era, the Centre has considerably reduced the share of its revenue to implement the Centrally sponsored schemes.
- These provisions in our Constitution and administration are special arrangements reflective of asymmetrical features.
- We must remember that the idea and arrangement of asymmetrical power-sharing can be unsettling if not utilised properly. Such features in our Constitution are neither marginal nor merely provisional. These features touch upon a considerably large number of States. And without these features and provisions, it would not have been possible to undermine the secessionist tendencies of a highly diverse society.
- Asymmetrical federalism will continue to have its relevance in the future because to pave the way for cooperative federalism we must be able to accommodate various groups and provide them with a share in the governance of the country at the same time.

## 1.12 Recife Political Declaration

- In line with the World Health Organisation's (WHO's) global strategy on "Human Resources for Health: Workforce 2030", the Ministry of Health and Family Welfare issued draft guidelines to improve the working conditions of all categories of nurses in all healthcare institutions across India.
- The Global Strategy on Human Resources for Health: Workforce 2030
- In May 2014, the 67th World Health Assembly, adopted this resolution as a follow-up of the Recife Political Declaration on Human Resources for Health.
- Member States requested the Director-General of the World Health Organization (WHO) to develop and submit a new global strategy for human resources for health (HRH) for consideration by the 69th World Health Assembly.
- The Global Strategy on Human Resources for Health: Workforce 2030 is primarily aimed at planners and policy-makers of Member States.
- However, its contents are of value to all relevant stakeholders in the health workforce area.
- Which includes public and private sector employers, professional associations, education and training institutions, labour unions, bilateral and multilateral development partners, international organizations, and civil society
- This framework identifies the health worker competencies needed to provide quality, integrated, people-centred, health-promotive, preventive, curative, rehabilitative and palliative care services
- This provides key principles required for effective interprofessional collaborative practice, including recommendations for policy and governance structures, health system infrastructures, and education programmes and opportunities.

## 1.13 Armed Forces Tribunal (AFT)

- Defence Minister said that the Government is committed to make the Armed Forces Tribunal (AFT) more empowered and responsive and implement measures that were required in this direction.

### Armed Forces Tribunal

- It was established in August 2009 by the Armed Forces Tribunal Act 2007.
- The Law Commission's 169th report stated that disciplinary and service matters required quick resolutions and proposed a special tribunal for the military forces.
- It is a military tribunal with the power of adjudication or trial of disputes and complaints related to commission, appointments, enrolments and conditions of service.

- Besides the Principal Bench in New Delhi, AFT has 10 Regional Benches.

### Composition

- The Tribunal is composed of Judicial Members as well as Administrative Members.
- The Judicial Members are retired High Court Judges.
- Administrative Members are retired Members of
- the Armed Forces who have held rank of Major General/ equivalent or above for a period of three years or more; or
- The Judge Advocate General (JAG) who have experience in the post for at least one year.

### Power/Jurisdiction

- The Tribunal is empowered to adjudicate appeals against any order, decision, finding or sentence passed by a court-martial or any related matter.
- It is also empowered to grant bail to an accused who is in military custody.
- The Tribunal may have the powers to substitute for the findings of the court martial. It may:
- remit the whole or any part of the sentence, with or without conditions;
- mitigate the punishment awarded
- commute such punishment to any lesser punishment or enhance the sentence awarded by a court martial.
- Armed Forces Tribunal has both Original and Appellate Jurisdiction

### Jurisdiction of other courts

- In 2015, a Supreme Court bench had held that AFT verdicts could not be challenged before the high courts.
- It had also said that an appeal against the AFT orders would lie before the apex court but only if a point of law of general public importance is involved.
- In January 2020, the Supreme Court made it clear that the verdicts of the Armed Forces Tribunals (AFT) can be challenged before the high courts.
- In March 2022, Delhi High Court held that the Armed Forces Tribunal Act, 2007 excludes the administrative supervision of the High Court under Article 227(4) of the Constitution.
- However, it does not exclude the judicial superintendence and jurisdiction under Article 226.

## 1.14 Centre-State relations

Relations between the Centre and the States ruled by Opposition parties are strained due to various factors.

### This includes

- Questions related to GST (Compensation), the partisan behaviour of central agencies, the Centre's move to give itself absolute powers in the transfer of IAS, IPS and IFS officers and the overbearing attitude of several Governors.
- The relations among States are also fraying in many instances even as the Centre's moral authority to be a neutral arbiter is at a low. The tendency to mobilise political support in one State by berating other States.

### Recommendations to improve Centre-State Relations

#### Administrative reforms commission

- Establishment of an Inter-state council under Article 263 of the constitution.
- Appointment of persons having long-experiences in public life and non-partisan attitudes as governors.
- Delegated maximum powers to the states.
- Transferring of more financial resources to the states to reduce their dependency upon the centre.

#### Sarkaria commission recommendation:

- Setting up a permanent inter-state council.

- Article 356 should be used sparingly.
- Institution of all-India service should be strengthened.
- Reasons should be communicated to the state when state bills are vetoed by the President.
- Centre should have powers to deploy its armed forces, even without the consent of states. However, it is desirable that the states should be consulted.
- Procedure of consulting the chief minister in the appointment of the state governor should be prescribed in the constitution itself
- Commissioner for linguistic minorities should be activated.

### **Punchhi commission**

- Union should be extremely restrained in asserting Parliamentary supremacy in matters assigned to the states
- It prescribed certain conditions that one should keep in mind while appointing governors:
  - He should be eminent in some walk of life.
  - He should be a person from outside the state.
  - He should be a detached figure and not connected with the local politics.
  - Government should be given a fixed tenure of five years.
- Procedure given for the impeachment of the President could be made applicable to governor as well.
- Bommai case guidelines should be kept in mind while deciding cases related to President's rule
- Inter-state council should be made more use of to further centre-state relations.

## **1.15 Disqualification of MLAs**

Recently, Election Commission (EC) recommended the disqualification of Jharkhand Chief Minister Hemant Soren as MLA under the Representation of the People Act, 1951.

### **Constitutional provisions:**

- Disqualifications under the Constitution, a person shall be disqualified for being chosen as and for being a member of the legislative assembly or legislative council of a state:
- If he/she holds any office of profit under the Union or state government (except that of a minister or any other office exempted by state legislature),
- If he/she is of unsound mind and stands so declared by a court,
- If he/she is an undischarged insolvent,
- If he/she is not a citizen of India or has voluntarily acquired the citizenship of a foreign state or is under any acknowledgement of allegiance to a foreign state, and
- If he/she is so disqualified under any law made by Parliament.
- Article 327 and 328 of the Constitution confers the power on parliament and state legislature respectively to make rules for election to Parliament and state legislature.
- Apart from these, the Parliament has prescribed several additional disqualifications in the Representation of People Act (1951). These include,
  - He/she must not have been found guilty of certain election offences or corrupt practices in the elections.
  - He/she must not have been convicted for any offence resulting in imprisonment for two or more years. But, the detention of a person under a preventive detention law is not a disqualification.
  - He/she must not have failed to lodge an account of his election expenses within the time.
  - He/she must not have any interest in government contracts, works, or services.
  - He/she must not have been dismissed from government service for corruption or disloyalty to the state.
- In such case of Disqualification, it is decided by the President/ governor for MP and MLA respectively and his decision is final. However, he/she should obtain the opinion of the Election Commission and act accordingly.

## 1.16 S.Subramaniam Balaji vs Tamil Nadu judgment

- Recently, the Supreme Court referred to a three-judge Bench a series of petitions seeking a judicial direction that political parties who make “wild” promises of largesse should also reveal in their poll manifestos where they will get the money to pay for them.
- The reference is a shift from the court’s own stand in the S. Subramaniam Balaji vs Tamil Nadu judgment of 2013.

### What happened?

- In the Balaji case judgment, the SC had held that making promises in election manifestos do not amount to a ‘corrupt practice’ under Section 123 of the Representation of People Act (RP).
- The Courts’ recent stand is that parties who form the government riding the wave created by their pre-poll promises of “free gifts” are bleeding the State finances dry by actually trying to fulfil their outlandish promises using public money.
- The Supreme Court has therefore decided to revisit the Balaji verdict.

### What triggered the Balaji case?

- During the run-up to the Tamil Nadu Assembly elections in 2006 and 2011.
- Few political parties released their election manifesto announcing a scheme of free distribution of colour television sets (CTVs) grinders, mixies, electric fans, laptop computers, four gram gold thalis, etc.
- Balaji, a resident of Tamil Nadu, challenged the schemes in the Madras High Court stating that the expenditure to be incurred by the State from the exchequer was “unauthorised, impermissible and ultra vires the constitutional mandates”.

### How did the case play out?

- Mr. Balaji’s arguments
- He argued that the State cannot act in furtherance of “eccentric principles of socialistic philanthropy”.
- He argued that the promises of free distribution of non-essential commodities in an election manifesto amounts to electoral bribe under Section 123 of the RP Act.
- The distribution of goods to certain sections of people was violative of Article 14 of the Constitution.
- The State of Tamil Nadu’s arguments
- It countered that promises of political parties do not constitute corrupt practice.
- Political parties are not the State and ‘freebies’ is a nebulous term which has no legal status.
- The promises implemented by the party after forming the government are an obligation under the Directives Principles of State Policy.
- The State is only doing its duty to promote the welfare of its people.
- The promises are implemented by framing various schemes/guidelines/eligibility criteria etc. as well as with the approval of the legislature.
- Thus, it cannot be construed as a waste of public money or be prohibited by any statute or scheme.

### Judgement

- The court’s judgment held that promises by a political party cannot constitute a ‘corrupt practice’ on its part.
- It would be “misleading” to construe that all promises in the election manifesto would amount to corrupt practice.
- The manifesto of a political party is a statement of its policy. The question of implementing the manifesto arises only if the political party forms a government
- However, the court agreed that freebies create an “uneven playing field”. It had asked the Election Commission of India to consult political parties and issue guidelines on the election manifesto and make it a part of the Model Code of Conduct.

### **Why is the Court's move to review the Balaji judgment significant?**

- The court foresees that freebies may create a situation wherein the State government cannot provide basic amenities due to lack of funds and the States are pushed towards imminent bankruptcy.
- The court wants a transparent debate on whether an “enforceable” judicial order can stop political parties from promising and distributing ‘irrational freebies’.

### **Note:**

#### Reviewing its own judgements

- Constitutional Provision: Under Article 137 of the Constitution, the Supreme Court has the power to review any of its judgments or orders.
- The Court has the power to review its rulings to correct a “patent error” and not “minor mistakes of inconsequential import”.
- A review is by no means an appeal in disguise.
- That means the Court is allowed not to take fresh stock of the case but to correct grave errors that have resulted in the miscarriage of justice.

## 2. International Relations

### 2.1 Commonwealth & Commonwealth Advantage

- The Commonwealth brings together a third of the world's population, including some of its fastest-growing economies and cities. Investment is already 27 percent higher between Commonwealth countries and bilateral trading costs are on average a fifth lower due to shared language and legal and economic systems – known as the 'Commonwealth Advantage'.
- Rooted in the historical fabric of shared history, values, language, legal, institutional and government ties that influence commerce, trade and investment.
- Traders and investors benefit from familiar legal and administrative systems, as well as similarities in business, commercial and legislative practice.
- This cultural congruence extends to sporting rivalry and even to the family ties that have resulted from generations of intra-Commonwealth immigration.

#### Commonwealth Facts:

- Founded: 1949
- Head of the Commonwealth: Her Majesty Queen Elizabeth II
- Member-states: 53 (31 small states, many of them islands)
- Population: 4 billion (60% under the age of 30)
- Smallest country: Tuvalu (11,000); largest: India (1.3 billion)
- GDP: \$13 trillion by 2021
- Commonwealth secretariat: Marlborough House, London
- Since the London Declaration of 1949, which established the modern Commonwealth, India has held a pivotal position in this voluntary association of 54 independent sovereign states. It was India's decision in 1948, as a newly independent Republic, to remain in the Commonwealth which influenced other Asian and African countries to join the organisation and which opened the era of the modern Commonwealth.
- Since then, it was firmly established that joining the Commonwealth no longer necessarily involved continued allegiance to the British Crown. At the same time the word 'British' was dropped from the association's title to reflect the Commonwealth's changing character.

### 2.2 The One-China Policy

China views Taiwan as a breakaway province that will one day unite with it. Beijing has not ruled out the possible use of force to reunify the self-ruled island with the mainland. It routinely protests any foreign dignitaries' visits to Taiwan, insisting that all countries follow the One-China Policy.

#### History

- In 1949, at the end of the Chinese civil war, Mao Zedong's communist forces ousted Chiang Kai-shek's Kuomintang (KMT)-led government of the Republic of China (ROC).
- The defeated ROC forces escaped to Taiwan where they established their government, while the victorious Communists began ruling the mainland as the People's Republic of China (PRC).
- The two sides have been governed separately since, though a shared cultural and linguistic heritage mostly endures — with Mandarin spoken as the official language in both places.
- For over seven decades, Beijing has continued to view Taiwan as a Chinese province and vows to "unify" it with the mainland. Beijing's stance is that there is only "one China" and that Taiwan is part of it, a view that is not held by all within the island nation.

#### Where do other countries stand?

International inter-governmental bodies like the United Nations and the World Trade Organization don't officially

recognise the ROC. Only 15 countries recognise it.

#### USA:

- Initially, the United States recognised Taiwan as they shied away from Communist China. However, diplomatic winds shifted and the US seeing a need to develop relations with China, recognised the People's Republic of China (PRC) and derecognised the Republic of China (ROC) in 1979 under President Jimmy Carter. The US also moved its embassy to Beijing from Taipei.
- However, the US Congress passed the Taiwan Relations Act in 1979 to protect the significant US security and commercial interest in Taiwan.
- To this day, the US "One China" position stands: the United States recognises the People's Republic of China as "the sole legal government" of China but only acknowledges the Chinese position that Taiwan is part of China.

#### India's Stand

- India, which was one of the first non-communist countries to recognise Zedong's PRC in 1950, has also stuck by the One-China Policy. However, for New Delhi, the One-China Policy doesn't just govern Taiwan but also Tibet. While India doesn't recognise Taiwan or any Tibetan authority as independent of China, there has been a clamour for India to revisit its stance over China's continuing aggression at Indian borders.
- 2010: Over the years, meetings between leaders of India and China routinely reaffirmed the One-China Policy, However, India stopped doing so in 2010 after then Chinese Premier Wen Jiabao's visit.
- But India declined to reaffirm the policy after Beijing issued "stapled visas" instead of normal visas to Jammu and Kashmir residents travelling to China.
- 2014: When Narendra Modi became the Prime Minister in 2014, he invited Taiwanese Ambassador Chung-Kwang Tien and Lobsang Sangay, the president of Central Tibetan Administration to his swearing-in ceremony.
- 2020: BJP's Meenakshi Lekhi and Rahul Kaswan attended the swearing-in of Taiwan president Tsai Ing-wen through virtual mode.
- India's relations with China strained after the Galwan clashes in 2020, and New Delhi picked Gourangalal Das – then joint secretary (Americas) in the Ministry of External Affairs – as the ambassador to Taipei.
- Indian Government facilitates and promotes interactions in areas of trade, investment and tourism, culture and education, and people-to-people exchanges. India has one office in Taipei for diplomatic functions. The India-Taipei Association (ITA) and the Taipei Economic and Cultural Center in New Delhi were both established in 1995.

## 2.3 India-Afghanistan

- Taliban asked India to complete its development projects in Afghanistan.
- The statement said: "We are hopeful that with the upgrading of the diplomatic mission, we will move forward from the humanitarian aspect to development aspects. And in that area, our priority that we've also conveyed to the Indian side is that of the completion of some of the incomplete projects that India has done, as a first step".
- Shahtoot Dam in Kabul as one of the projects that the Taliban wanted India to complete.
- The statement also included reviving connectivity through Iran's Chabahar port. The Taliban regime is also keen to revive the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline

#### Background

- India recently reopened its embassy in Kabul, a year after it was shut down and all personnel evacuated in the wake of the August 15, 2021 Taliban takeover of Afghanistan
- India's development assistance to Afghanistan is estimated to be worth well over \$3 billion across 20 years, including key roads, dams, electricity transmission lines and substations, and schools and hospitals.

## 2.4 The return of nuclear weapons on the global platform

- An international conference to review the Nuclear Nonproliferation Treaty (NPT) concluded at the United Nations in New York without a consensus document.
- India, one of the world's nuclear weapon powers, ought to be paying a lot more attention to the international nuclear discourse that is acquiring new dimensions and taking a fresh look at its own civilian and military nuclear programmes.
- The parties to the NPT, which came into force in 1970, undertake a review of the treaty's implementation every five years.
- The failure of the Tenth Review Conference, however, does reveal many of the new challenges facing the global nuclear order today and their implications for India.
- First, is the deepening divide between the main sponsors of the NPT back in 1970 – America and Russia.
- Even at the height of the Cold War, there was always one major area of cooperation between the US and the Soviet Union — strong support for the NPT.
- Second, the lack of progress in implementing the disarmament provisions of the NPT.
- The situation today is worsened by the absence of any dialogue between the nuclear powers on arms control.
- Third, the invasion of a non-nuclear weapon state, Ukraine, by a nuclear weapon power, Russia, has generated a whole series of new questions.
- Russia's decision to put his nuclear forces on alert and threaten the use of nuclear weapons has sent a shiver down the spine of those who are on the periphery of nuclear weapon states.
- Fourth, China's political campaign against the AUKUS arrangement has found some resonance in South East Asia. When the US and UK announced their plans to help Australia acquire nuclear-powered attack submarines in September 2021, China argued that the agreement violates the provisions of the NPT
- Fifth, nuclear power is coming back into reckoning around the world amidst the growing challenge of climate change.
- The draft final statement noted that “nuclear technologies can contribute to addressing climate change, mitigating and adapting to its consequences, and monitoring its impact”.

### What kind of implications does the unfolding global nuclear discourse present for India?

- One, India must find ways to end the current stasis in its civilian nuclear power generation, especially to meet its clean energy target.
- India, which commissioned Asia's first nuclear power station more than 50 years ago, is stuck today with a total generating capacity of barely 7,000 MW.
- The enormous political and diplomatic energy that went into ending India's nuclear isolation was squandered by the disastrous 2010 Civil Nuclear Liability Act which has made it impossible for private players — internal and external — to contribute to the programme.
- Revisiting that law is now an urgent imperative for any Indian strategy to rapidly raise the contribution of nuclear power to India's energy mix.
- India must also recognise and adapt to the return of nuclear weapons as major instruments of great power military strategy. Delhi must ask itself if its nuclear weapons can deter China's expanding atomic arsenal. After 1998, India premised its strategy on building “credible minimum deterrence”. The time has come to reflect on the “credible” side of that strategy and redefine what the ‘minimum’ might be.

### Timeline of India's Nuclear Policy

- 1944 – Homi Jehangir Bhabha established Tata Institute of Fundamental Research, a nuclear research center.
- 1962 – Chinese attack on India gave impetus for the development of Nuclear Weapons.
- 1968 – India refused to sign Nuclear Non-Proliferation Treaty (NPT).
- 1974 – Operation Smiling Buddha or Pokhran I nuclear test.
- 1998 – Pokhran II nuclear test.
- 1999 – Announcement of India's Nuclear Doctrine and NFU



- 2003 – Establishment of Nuclear Command Authority

### **India's Nuclear Doctrine**

- India's Nuclear Doctrine is founded on the idea that it will only use nuclear weapons in reprisal for a country's effort to use nuclear weapons against India, its states, or its army.
- India became the first country to achieve nuclear power without signing the Non-Proliferation Treaty.

### **The following are the pillars of India's Doctrine Treaty:**

- Building and maintaining a credible minimum deterrent;
- A posture of "No First Use" nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or on Indian forces anywhere;
- Nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage.
- Nuclear retaliatory attacks can only be authorized by the civilian political leadership through the Nuclear Command Authority.
- Non-use of nuclear weapons against non-nuclear-weapon states;
- However, in the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons, India will retain the option of retaliating with nuclear weapons;
- A continuance of strict controls on the export of nuclear and missile-related materials and technologies, participation in the Fissile Material Cutoff Treaty negotiations, and continued observance of the moratorium on nuclear tests.
- Continued commitment to the goal of a nuclear-weapon-free world, through global, verifiable and non-discriminatory nuclear disarmament.
- Nuclear Command Authority (NCA) – India established a three-tier Nuclear Command Authority (NCA) to oversee its nuclear weapons on January 4, 2003.

### **Nuclear Command Authority (NCA)**

- The NCA is made up of the following members:
  - political council
  - executive council
  - strategic forces command
- The Prime Minister heads the political council. It is the body that gives the go-ahead to use nuclear weapons.
- The prime minister's National Security Adviser leads the executive council. Its job is to provide input to the NCA's decision-making process and to carry out the political council's directions.
- The strategic forces command (SFC) would be in charge of the nuclear forces' administration and would be in charge of firing nuclear weapons.
- The establishment of the NCA will give India's nuclear posture more credibility. The NCA stands out for its unwavering commitment to nuclear deterrence through civilian management of nuclear weapons.

### **Nuclear Non-Proliferation Treaty (NPT)**

- Signed in 1968, the treaty entered into force in 1970, now has 190 member states. It requires countries to give up any present or future plans to build nuclear weapons in return for access to peaceful uses of nuclear energy.
- Three main objectives of the treaty are non-proliferation, disarmament, and the right to peacefully use nuclear technology.
- India is one of the only five countries that either did not sign the NPT or signed but withdrew, thus becoming part of a list that includes Pakistan, Israel, North Korea, and South Sudan.
- India always considered the NPT as discriminatory and had refused to sign it.
- India has opposed the international treaties aimed at non-proliferation since they were selectively applicable to the non-nuclear powers and legitimised the monopoly of the five nuclear weapons powers (United States, the Soviet Union, the United Kingdom, France, and China).

## 2.5 India's NATO Engagement

- New Delhi held its first political dialogue with the North Atlantic Treaty Organisation (NATO) in Brussels on December 12, 2019.
- The Indian delegation attempted to assess cooperation on regional and global issues of mutual interest.

### What is the significance of India's talks with NATO?

- India's talks with NATO hold significance given that the North Atlantic alliance has been engaging both China and Pakistan in bilateral dialogue.
- Given the role of Beijing and Islamabad in New Delhi's strategic imperatives, reaching out to NATO would add a key dimension to India's growing engagement with US and Europe.
- Until December 2019, NATO had held nine rounds of talks with Beijing.
- NATO had also been in political dialogue and military cooperation with Pakistan; it opened selective training for Pakistani officers and its military delegation visited Pakistan in November 2019 for military staff talks.
- The first round of dialogue was finalised for December 12, 2019 by the Indian mission in Brussels after it received a draft agenda for the meeting from NATO.
- Engaging with NATO in a political dialogue would provide New Delhi an opportunity to bring about a balance in NATO's perceptions about the situation in regions and issues of concerns to India.

### Was there any common ground?

- In New Delhi's assessment, there was a convergence in the perspectives of both India and NATO on China, terrorism, and Afghanistan, including Pakistan's role in Afghanistan.
- The first dialogue, it is learnt, revealed three critical issues on which India expected only limited common ground with NATO:
- From NATO's perspective, it was not China, but Russia whose aggressive actions continued to be the main threat to Euro-Atlantic security, and that NATO had faced difficulties to convene meetings of NATO-Russia Council due to Russian refusal to place issues such as Ukraine and Intermediate-Range Nuclear Forces Treaty on the agenda.
- Given the divergence among NATO countries, its view on China was seen as mixed; while it did deliberate on China's rise, the conclusion was that China presented both a challenge and an opportunity.
- In Afghanistan, NATO saw the Taliban as a political entity, which was not in line with India's stance.
- However, the Indian side felt maritime security was a principal area of conversation in the future, given a substantial common ground with NATO.

### What are the next steps?

- On its part, the NATO delegation have expressed keenness to continue engagement with India on a mutually agreed agenda.
- In NATO's view, India, given its geo-strategic position and unique perspectives on various issues, was relevant to international security and could be an important partner in informing the alliance about India's own region and beyond.
- As far as India is concerned, it was felt New Delhi may consider proposals emanating from NATO, if any, on bilateral cooperation in areas of
- interest to India, based on the progress achieved in the initial rounds.

## 2.6 India-EU ties

While India celebrates its 75th year of Independence, it also celebrates 60 years of diplomatic relations with the European Union (EU).

### Evolution

- A cooperation agreement signed in 1994 took the bilateral relationship beyond trade and economic

cooperation.

- The first India-EU Summit, in June 2000, marked a watershed in the evolution of the relationship.
- At the fifth India-EU Summit in 2004, the relationship was upgraded to a 'Strategic Partnership'.
- The two sides adopted a Joint Action Plan in 2005 towards strengthening dialogue and consultation mechanisms in the political and economic spheres, enhancing trade and investment, and bringing peoples and cultures together.
- The 15th India-EU Summit, in July 2020, provided a common road map to guide joint action and further strengthen the partnership over the next five years.
- The road map highlights engagement across five domains: foreign policy and security cooperation; trade and economy; sustainable modernisation partnership; global governance; and people-to-people relations.

### **Areas of cooperation**

The India-EU partnership has grown rapidly ever since.

#### **Economic Partnership**

- Bilateral trade between the two surpassed \$116 billion in 2021-22.
- The EU is India's second largest trading partner after the U.S., and the second largest destination for Indian exports.
- There are 6,000 European companies in the country that directly and indirectly create 6.7 million jobs.

#### **Climate Partnership**

- India and the EU have several avenues of collaboration.
- For example, the 'green strategic partnership' between India and Denmark aims to address climate change, biodiversity loss and pollution, and the India-Nordic Summit in May focused on green technologies and industry transformation that are vital for sustainable and inclusive growth.
- All this will act as a catalyst for enhanced cooperation between the two regions.

#### **Defence Partnership**

- Cooperation with the EU in the defence sector has also increased substantially.
- India and the EU regularly conduct joint military and naval exercises which reflects on their commitment to a free, open, inclusive and rules-based order in the Indo-Pacific.
- The first maritime security dialogue between the two in 2021 focused on cooperation in maritime domain awareness, capacity-building, and joint naval activities.
- France's on-time delivery of 36 Rafale fighter jets and willingness to offer Barracuda nuclear attack submarines to the Indian Navy reflects the growing level of trust in their relationships.
- Leading European defence equipment manufacturers are willing to partner with Indian companies for defence projects aligned with the 'Make in India' programme.

#### **Innovation Ecosystem**

- Another rapidly growing area of engagement is the start-up and innovation ecosystem across India and Europe.
- Furthermore, the Science and Technology Joint Steering Committee between the two focus on areas such as healthcare, Artificial Intelligence, and earth sciences.
- In 2020, there was an agreement for research and development cooperation in the peaceful uses of nuclear energy between the European Atomic Energy Community and the Government of India.

#### **Challenges**

- Both have differing opinions and divergent interests in some areas.
- India's reluctance to explicitly condemn Russia's intervention in Ukraine, and the country's increasing economic cooperation with Russia, has been one area of disagreement.
- India has called out the EU's double standards on the same, for the EU purchases 45% of its gas imports from Russia in 2021.

- There is also ambiguity on the EU's strategy in tackling the rise of China.
- Its muted response during the Galwan clash is a case in point.
- India's economic, political and demographic weight could be deftly leveraged by the EU to counterbalance China's influence across the region. But there seems to be some hesitancy about this.

### Way forward

- India and the EU should not let such divergences of views overwhelm the many areas of convergence among them.
- The proactive resumption of the ambitious India-EU free trade and investment agreement in 2021 is a step in the right direction.
- European partners acknowledge India as an important pillar in ensuring stability in the Indo-Pacific region.
- The EU wants to be more than just a trading bloc and is seeking alliances with like-minded countries like India.
- India and the EU are political and economic poles in an increasingly multi-polar world. Our ability to work together, therefore, can shape global outcomes.

## 2.7 India's policy on the Rohingya

- Recently the Ministry of Home Affairs (MHA) declared that Rohingyas are illegal foreigners.
- Rohingya, an ethnic group, mostly Muslim, hail from the Rakhine province of west Myanmar, and speak a Bengali dialect.
- Myanmar has classified them as "resident foreigners" or "associate citizens".
- They were forced to leave Myanmar in large numbers after several waves of violence, which first began in 2012.
- The Myanmar army revived the attacks in 2017 and lakhs took shelter in Bangladesh.

### What is the process of deportation?

- According to the MHA, illegal immigrants are detected, detained and deported under provisions of the Passport Act, 1920 or the Foreigners Act, 1946.
- The powers to identify and deport them have also been delegated to State governments and Union Territories.
- Once a 'foreigner' has been apprehended by the police for staying illegally, without any document, he or she is produced before the local court.
- If the accused is found guilty, they can be imprisoned for three months to eight years.
- After completing their sentence, the court orders deportation.
- The foreign inmates are moved to detention centres till the country of origin verifies and accepts them.

### Have any Rohingya been deported?

- In 2018, seven Rohingya were deported to Myanmar.
- It was the first time that Myanmar issued a certificate of identity to the seven Rohingya.
- According to advocacy group Human Rights Watch (HRW), since October 2018, India has deported 12 Rohingya to Myanmar, "claiming that they left voluntarily."
- In December 2017, the then Minister of State for Home informed Parliament that there are around 40,000 Rohingya in India,. Of these, only 16,000 are said to be registered with the UN refugee agency.

### India's Refugee Policy

- India lacks specific legislation to address the problem of refugees, in spite of their increasing inflow.
- The Foreigners Act, 1946, fails to address the peculiar problems faced by refugees as a class. It also gives unbridled power to the Central government to deport any foreign citizen.
- Further, the Citizenship Amendment Act, 2019 (CAA) strikingly excludes Muslims from its purview and seeks to provide citizenship only to Hindu, Christian, Jain, Parsi, Sikh, and Buddhist immigrants persecuted

in Bangladesh, Pakistan, and Afghanistan.

- Moreover, India is not a party to the 1951 Refugee Convention and its 1967 Protocol, the key legal documents pertaining to refugee protection.
- In spite of not being a party to the 1951 Refugee Convention and its 1967 Protocol, India has had a stellar record on the issue of refugee protection. India has a moral tradition for assimilating foreign people and culture.
- Further, the constitution of India also respects the life, liberty, and dignity of human beings.
- The Supreme Court in the National Human Rights Commission vs. State of Arunachal Pradesh (1996) held that “while all rights are available to citizens, persons including foreign citizens are entitled to the right to equality and the right to life, among others.”
- India’s Argument for Not Signing the 1951 Refugee Convention
- The definition of refugees in the 1951 convention only pertains to the violation of civil and political rights, but not economic rights, of individuals.
- If the violation of economic rights were to be included in the definition of a refugee, it would clearly pose a major burden on the developed world.
- On the other hand, this argument, if used in the South Asian context, could be a problematic proposition for India too.

### **Why is there a Need for a law on Refugees?**

#### **Long-term Practical Solution:**

- India frequently experiences a large influx of refugees.
- Therefore, a long-term practical solution requires that India make a shift from its charitable approach to a rights-based approach by enacting a national refugee law.

#### **Adhering to Human Rights:**

- A national refugee law will streamline refugee- status determination procedures for all kinds of refugees and will guarantee them the rights they have under international law.

#### **Addressing Security Concerns:**

- It could sufficiently address India’s security concerns, while at the same time ensuring that there is no unlawful detention or deportation carried out in the garb of national-security concerns.

#### **Inconsistency in the Treatment of Refugees:**

- The bulk of the refugee population in India originates from Sri Lanka, Tibet, Myanmar and Afghanistan.
- However, only Tibetan and Sri Lankan refugees are recognized as such by the government.
- They are provided protection and assistance directly through specific policies and rules formulated by the government.
- The people demanding refuge are in a vulnerable situation and see a last ray of hope in an inclusive and tolerant country. Considering this, there should be an intake of refugees but not at the cost of the native population. So, It is high time for India to define a clear-cut refugee legislation and policy.

## **2.8 India-Thailand Relations**

The External Affairs Minister attended the ninth India-Thailand joint commission meeting.

### **India-Thailand**

- India’s bilateral relations with Thailand are rooted in history, age-old social and cultural interactions, and extensive people to people contacts.
- The classical Sanskrit and Pali texts from India carry references of the region using various names such as Kathakosha, Suvarnabhumi (the land of God) or Suvarnadvipa (the golden island).
- A French scholar named George Coedes coined the term ‘Farther India’ to refer to those states that

experienced “the civilising activity of India’. Geographically, it refers to Vietnam, Cambodia, Laos, Thailand, Myanmar, and the Malay states.

- In the past two decades, with regular political exchanges, growing trade and investment, India’s ties with Thailand have now evolved into a comprehensive partnership. India’s ‘Act East’ policy has been complemented by Thailand’s ‘Act West’ policy in bringing the two countries closer

### **India’s religious links to Thailand**

- The most important influence of India on Southeast Asia was in the field of religion and how Shivaism, Vaishnavism, Theravada Buddhism, Mahayana Buddhism, and later Sinhalese Buddhism came to be practised in the region.
- The Mon kings of Dvaravati and the Khmers had patronised Buddhism and built several Buddhist edifices, but at the same time had also adopted Brahmanical customs and practises.
- Apart from the popular Brahmanical deities of Ganesh, Brahma, Vishnu, and Shiva, those that are largely absent in Indian socio-religious landscape, such as Indra are also worshiped in Thailand.
- Although there is no archaeological evidence of the story of Rama in Thailand, but the Ayutthaya in Central Thailand, which emerged in the 10th century CE, is derived from Ayodhya, birthplace of Lord Rama.

### **Cultural Cooperation:**

- The nationalist historian RC Majumdar, for instance, noted that “the Hindu colonists brought with them the whole framework of their culture and civilisation and this was transplanted in its entirety among the people who had not emerged from their primitive barbarism”.
- Many local languages in the region, including Thai, Malay, and Javanese contain words of Sanskrit, Pali and Dravidian origin in significant proportions. The Thai language is written in script derived from Southern Indian Pallava alphabet.
- The Thai language translation of the Constitution of India was launched by the President of the National Assembly and Speaker of the House of Representatives of Thailand in March 2021 at an event organised by the Embassy under the banner of India@75.

### **Indian Diaspora in Thailand:**

- There are an estimated 250,000 people of Indian origin in Thailand, many of them having lived in the country for several generations.

### **Economic & Commercial Partnership:**

- The bilateral trade and investment between our countries is robust and growing.
- Our bilateral trade was US\$ 12.12 billion in 2019 and it reached US\$ 9.76 billion in 2020 despite the pandemic situation.

### **Connectivity:**

- The number of Thai tourists to India was close to 160,000 (mainly to Buddhist pilgrimage sites).
- India and Thailand are closely cooperating on improving regional connectivity through initiatives such as India- Myanmar-Thailand Trilateral Highway, Asian Highway Network (under UNESCAP), BTILS under BIMSTEC framework.

### **Defence Cooperation:**

- Since 2015, India is participating in Ex-Cobra Gold, the largest Asia Pacific Military exercise as ‘Observer Plus’s category.
- Bilateral exercises are held annually between the armed forces of both countries.
- Exercise MAITREE (Army).
- Exercise SIAM BHARAT (Air Force).
- Multilateral Forum Cooperation

- Both countries are important regional partners linking South and Southeast Asia.
- They cooperate closely in the ASEAN, East Asia Summit (EAS), Bay of Bengal Initiative for Multi- Sectoral Technical and Economic Cooperation (BIMSTEC) groupings , Mekong Gang Cooperation (MGC), and Asia Cooperation Dialogue (ACD),
- The Indo-Thai relation today is not just looked upon from the angle of socio-cultural ties. Since the relation in today's context has become very comprehensive in its scope. This bilateral engagement has the potential to foster growth not only restricted to the two nations but for the entire region.
- This is very much evident given the fact that cooperation in the areas of security, economic, and connectivity being interconnected, would also have the same level of impact on the neighbouring States and the region.

## 2.9 Combined Maritime Forces (CMF)

The Indian Navy has formally commenced its cooperation with the Bahrain-based multilateral partnership, Combined Maritime Forces (CMF), as an 'associate member'.

### About Combined Maritime Forces (CMF)

- CMF is a multi-national naval partnership to promote security, stability and prosperity across approximately 3.2 million square miles of international waters, which encompass some of the world's most important shipping lanes.
- CMF's main focus areas are counter-narcotics, counter-smuggling, suppressing piracy, encouraging regional cooperation, and engaging with regional and other partners to strengthen relevant capabilities in order to improve overall security and stability, and promoting a safe maritime environment free from illicit non-state actors.
- The 34 nation grouping is commanded by a U.S. Navy Vice Admiral, who also serves as Commander U.S. Naval Forces CENTCOM and U.S. Fifth Fleet.
- All three commands are co-located at U.S. Naval Support Activity Bahrain. In the immediate neighbourhood, Pakistan is a full member of CMF.
- When requested, CMF assets at sea will also respond to environmental and humanitarian incidents.

### CMF has four Combined Task Forces:

- CTF 150 (Maritime Security Operations outside the Arabian Gulf)
- CTF 151 (Counter-Piracy)
- CTF 152 (Maritime Security Operations inside the Arabian Gulf)
- CTF 153 (Red Sea Maritime Security)
- It is a flexible organisation and members are not bound by either a political or military mandate.
- Contributions can vary from the provision of a liaison officer at CMF HQ in Bahrain to the supply of warships or support vessels in task forces, and maritime reconnaissance aircraft based on land.
- India has in the past cooperated with CMF on various occasions.
- For instance, the CMF's CTF 151 has coordinated with Indian and Chinese warships deployed on anti-piracy duties to patrol the Maritime Security Transit Corridor.

### India and CMF

- At the India-US 2+2 in April this year, India had announced that it would join the CMF as an Associate Partner.
- Joining the CMF is the latest in a series of multilateral engagements by the Indian Navy as part of India's widening military diplomacy.
- Commitments to resources and personnel are limited for Associate membership and it will be cooperative engagement based on the needs and requirements.

## 3. Economy

### 3.1 New-age digital commerce

Addressing the challenges in new-age digital commerce

#### Growth of Digital Commerce

- India's consumer behaviour has experienced radical transformation at the most fundamental levels.
- The rise in smartphone use fuelled by affordable data plans has catalysed an online revolution in the country.
- The novel coronavirus pandemic has further accelerated the process of digital inclusion, and it is now not only routine to transact online and have food, personal care items delivered at the one's doorstep, but it is also common to learn online, have medical consultations online, and even resolve disputes online.
- These realisations have given India the opportunity to disrupt the status quo with its innovative abilities.
- Systems such as the Unique Identification Authority of India (UIDAI) and Aadhaar, the Unified Payments Interface (UPI) and the Ayushman Bharat Digital Mission have reengineered markets.

#### Left out

- Despite the rapid advancement of digital platforms on the one hand and the pervasiveness of the Internet-enabled phone on the other, small enterprises such as local kirana stores have not gained from this.
- Online purchases from "near and now" inventory from the local store remain in a digital vacuum.
- This is because, to sell on numerous platforms, sellers must maintain a separate infrastructure, which only adds costs and limits participation.
- The distinct terms and conditions of each platform further limit the sellers' flexibility.
- Consequently, small and medium-sized businesses have lost their freedom to choose and participate in the country's e-commerce system at their will and on their terms.
- Alarmingly, centralising digital commerce transactions on a single platform creates a single point of failure.

#### Wider choice and access

- The Department for Promotion of Industry and Internal Trade (DPIIT) of the Government of India established the Open Network for Digital Commerce (ONDC) to level the playing field by developing open e-commerce and enabling access to small businesses and dealers.
- The ONDC network makes it possible for products and services from all participating e-commerce platforms to be displayed in search results across all network apps.
- This achieves the dual objective of wider choice for consumers on the one hand and access to a wider consumer base for sellers on the other.
- The ONDC began its pilot in five cities in April 2022, i.e., New Delhi, Bengaluru, Coimbatore, Bhopal and Shillong. Currently, the pilot has expanded to 18 cities, and there are immediate plans to add more cities.
- With India's e-commerce industry set to reach \$200 billion by 2027, this shift from a platform-centric paradigm to democratisation of the nation's online market will catalyse the inclusion of millions of small business owners and kirana businesses.

#### Better outcomes

- Disputes will be the obvious by-product of this e-commerce revolution. Therefore, it is imperative to support this initiative with a modern-day, cost-effective, timely and high-speed dispute resolution system.
- The framework must adequately and efficiently cater to facets such as participants residing or operating in different geographic regions and the mass prevalence of low-value online transactions.
- Online Dispute Resolution, or ODR as it is popularly called has the propensity to work alongside the incumbent setup and deliver quick, affordable and enforceable outcomes.
- The ODR can be tailor-made for the specific use case keeping the participants in mind.



- ODR can also involve advanced automation, the use of technologies such as artificial intelligence and machine learning to enable resolutions at the same time as it would take to initiate a transaction over the network.
- Thus ODR can not only digitise the entire value chain but can also facilitate an enhanced user experience.
- Many e-commerce companies have turned to the ODR with the realisation that in order to maximise transactions it is important to ensure a positive dispute resolution experience.

#### **There is growing adoption**

- The ODR is no more a distant dream for India as well.
- Governments, regulators and private enterprises have been adopting and encouraging its use.
- For instance, the National Payments Corporation of India (NPCI) has mandated platforms in the UPI ecosystem to adopt the ODR for complaints and grievances connected to failed transactions.

#### **Significance**

- The ODR will help mitigate litigation risk and provide valuable insights into problems faced by consumers.
- The courts and consumer forums can do away with matters which do not warrant their intervention, thus easing the judicial logjam.
- Consumers are provided with another choice for effective redress of their grievances, thereby building trust, confidence and brand loyalty.

### **3.2 Jal Jeevan mission**

- Pimpalghar-Ranjnoli, a village situated in the industrial belt of Thane district has used funds under the Jal Jeevan Mission (JJM) to ensure that all 842 families in the village get tap water connection.
- In other words, each of the 5,644 residents of the village has access to 55 litres of water every day.
- Under the JJM, the central government, in partnership with states, aims to provide potable water in adequate quantity and prescribed quality on a long-term basis to every rural household, including in tribal areas of the country, through tap water connection by 2024.
- While Pimpalghar-Ranjnoli can stand out as a model for the rest of the country, it is part of a broader effort by the state government to implement JJM.
- Maharashtra is one of the leading states in the country in implementing the JJM.
- As per the data from the central government, almost 71 per cent of households in Maharashtra have access to a tap connection; the national average is just under 52 per cent.
- By this metric, Maharashtra ranks ninth after Goa, Telangana, Haryana, Andaman and Nicobar islands, Punjab, Bihar, Himachal Pradesh and Manipur.

#### **Jal Jeevan mission**

- Launched in 2019, it envisages supply of 55 litres of water per person per day to every rural household through Functional Household Tap Connections (FHTC) by 2024.
- It comes under Jal Shakti Ministry.
- JJM looks to create a jan andolan for water, thereby making it everyone's priority.
- The mission ensures functionality of existing water supply systems and water connections, water quality monitoring and testing as well as sustainable agriculture.

#### **Features:**

- JJM focuses on integrated demand and supply-side management of water at the local level.
- Creation of local infrastructure for source sustainability measures as mandatory elements, like rainwater harvesting, groundwater recharge and management of household wastewater for reuse, is undertaken in convergence with other government programmes/schemes.
- The Mission is based on a community approach to water and includes extensive Information, Education and Communication as a key component of the mission.

### Implementation:

- Paani Samitis plan, implements, manages, operate and maintain village water supply systems.
- These consist of 10-15 members, with at least 50% women members and other members from Self-Help Groups, Accredited Social and Health Workers, Anganwadi teachers, etc.
- The committees prepare a one-time village action plan, merging all available village resources.
- The plan is approved in a Gram Sabha before implementation.

### Funding Pattern:

The fund sharing pattern between the Centre and states is 90:10 for Himalayan and North-Eastern States, 50:50 for other states, and 100% for Union Territories.

## 3.3 Tax-GDP ratio

### What is tax-GDP ratio?

- It is used as a measure to determine how well the government controls a country's economic resources.
- The tax to GDP ratio measures the size of a country's tax revenue compared to its GDP.
- The higher the tax to GDP ratio, the better the country's financial position. The ratio denotes the government's ability to fund its expenditures.
- A greater tax to GDP ratio indicates that the government can cast a wider fiscal net. It helps a government become less reliant on borrowing.

### Tax to GDP of India

- India consists of one direct taxpayer for every 16 voters present. Income tax is paid by only 1% of India's population.
- India's Gross tax to GDP which was 11% in FY19, fell to 9.9% in FY20 and marginally improved to 10.2% in FY21 (partly due to decline in GDP) and is envisaged to be 10.8% in FY22, this is much lower than the emerging market economy average of 21 percent and OECD average of 34 percent.

### Reasons for Low Tax to GDP Ratio in India

- There is the presence of a large informal/unorganized sector in India which makes it vulnerable, causing greater tax evasion.
- There is greater dominance of the agriculture sector, for instance out of 25 crore households in India, 15 crores belong to the agricultural sector which is exempted from paying taxes.
- There are a high number of disputes between tax authorities and taxpayers, with one of the lowest proportions of recovery of tax arrears.
- The direct to indirect tax ratio in India is around 35:65, which is lower than most of the OECD economies where the ratio is 67:33 in favor of direct taxes.
- There have been a number of generous government policies which benefited the richer private sector by providing various tax exemptions.
- Another factor that contributes to the low tax to GDP ratio is low per capita income and high poverty.

### Implications

- Due to a decrease in tax revenues, the Indian State becomes incapable of spending on national security, welfare system, public goods, etc.
- There is heavy borrowing due to the low tax revenue of the government, this causes a persistent deficit bias in fiscal policy.
- Such a system creates political incentives for the government to borrow money to buy votes rather than work on building an effective tax system that will lead to economic growth and development.
- Widespread tax evasion goes unchecked which hampers growth and most of the tax burden falls on the high-productivity sectors that need growth.
- Lower tax collections decrease the capacity of the government to incur expenditure for welfare schemes.

- There is increased dependence on indirect taxes which are regressive in nature.
- There is an increase in social inequality due to the asymmetric distribution of economic resources in society.

#### Measures to be taken

- The individual taxpayer base should be widened to increase revenue collection.
- Exemptions provided under various provisions such as transfer pricing, base erosion and profit shifting (BEPS), etc should be re-assessed.
- Providing effective dispute settlement mechanisms.
- Citizens' attitudes must be changed by instilling a feeling of national responsibility.
- It is essential that in order to increase the tax to GDP ratio India's informal sector is brought into the formal fold and there should be progressive income taxes, complemented by indirect taxation, property taxes, and capital taxes, etc. Thus focus should be on widening the tax base rather than simply deepening it.

### 3.4 Electricity (Amendment) Bill 2022

- As the dues of power distribution companies (discoms) to power generators surge to unsustainable levels, with states holding back payments to be made to discoms for electricity supplies as well as against subsidies for free power schemes, the Centre is set to give distribution reforms a renewed push.
- The Electricity (Amendment) Bill 2022, to be introduced in the ongoing monsoon session of Parliament, is likely to push state electricity regulatory commissions to take up timely revision of tariffs and catalyse competition in the retail power distribution sector, among other provisions.

#### Stats

- This comes amid a renewed debate on the freebie culture and the focus on the mounting dues of power distribution companies.
- According to latest government data, discoms of three states — Tamil Nadu, Maharashtra and Telangana — owed about 57 per cent of total dues to power generating companies (gencos); followed by Uttar Pradesh and Madhya Pradesh and the UTs of Jammu & Kashmir, which account for another about 26 per cent of the total dues of Rs 1,14,222 crore owed to power generation companies.

#### Electricity (Amendment) Bill 2022

- The suggested amendments are to the Electricity Act, 2003 which was enacted to consolidate the laws relating to the generation, transmission, distribution, trading, and use of electricity and generally for taking measures conducive to the development of electricity.
- The Bill proposes that power distribution licensees will be allowed to use the networks of other licensees, which could boost competition and enhance efficiency.
- The government also hopes to insert a new section in the Act that will enable the management of power purchase and cross-subsidy in case of multiple distribution licensees in the same area of supply.
- These measures are expected to promote competition in the power distribution sector so that consumers benefit from competitive prices.
- The government also proposes to enable regulators to fix a minimum tariff ceiling to discourage unhealthy pricing wars among distributors and a maximum ceiling to ensure consumers are protected against price increase shock.
- Amendments are also being made in the Act to strengthen the functioning of the National Load Despatch Centre for ensuring the safety and security of the grid and for the economic and efficient operation of the power system in the country.
- The amendments to the act and other recent policy initiatives like the Ministry of Power's flagship Revamped Distribution Sector Scheme (RDSS) are aimed at resolving issues in the power sector by improving the performance of the distribution sectors which has been a drag on the industry.

### 3.5 Minor mineral plunder

- India has grossly underestimated the issue of illegal mining, which damages the environment and causes revenue loss.
- With the increase in the pace of development, the demand for minor minerals such as sand and gravel has crossed 60 million metric tons in India.
- This also makes it the second largest extractive industry on the planet, after water.
- However, while laws and monitoring have been made stringent for the mining of major minerals consequent to the unearthing of several related scams across the country, the fact is that rampant and illegal mining of minor minerals continues unabated.

#### Issue of regulation

- Unlike major minerals, the regulatory and administrative powers to frame rules, prescribe rates of royalty, mineral concessions, enforcement, etc. are entrusted exclusively to the State governments.
- The Environment Impact Assessment (EIA) Notifications of 1994 and 2006 made environmental clearance compulsory for mining in areas more than or equal to five hectares.
- However, the SC of India after taking cognisance of a report by the Ministry of Environment, on Environmental Aspects of Quarrying of Minor Minerals (2010) directed all State governments to make the requisite changes in the regulatory framework of minor minerals, requiring environmental clearance for mining in areas less than five hectares.
- Consequently, the EIA was amended in 2016 which made environmental clearance mandatory for mining in areas less than five hectares, including minor minerals.
- The amendment also provided for the setting up of a District Environment Impact Assessment Authority (EIAA) and a District Expert Appraisal Committee (EAC).
- However, a State-wise review of EACs and EIAs in key industrial States such as Gujarat, Uttar Pradesh, Karnataka and Tamil Nadu, shows that these authorities review over 50 project proposals in a day and the rejection rate at the State level has been a mere 1%.
- The situation now indicates that the problem is even more complex and widespread and that a robust technology-driven enforcement approach is required.

#### Observations by agencies

- The United Nations Environment Programme, in 2019, ranked India and China as the top two countries where illegal sand mining has led to sweeping environmental degradation.
- It is not just damage to the environment. Illegal mining causes copious losses to the state exchequer.
- As per an estimate, P. is losing revenue from 70% of mining activities as only 30% area is legally mined.
- Similarly, the absence of royalty has caused a loss of ₹700 crore in Bihar while non-payment of various cesses due to unregulated mining has resulted in a loss of ₹100 crore to Karnataka and ₹600 crore to Madhya Pradesh in 2016-17.

#### Judicial orders, state response

- Judicial orders are often neglected by State governments.
- A State-wide review of the reasons behind non-compliance suggests a malfunction of governance due to weak institutions, a scarcity of state resources to ensure enforcement, poorly drafted regulatory provisions, inadequate monitoring and evaluation mechanisms, and excessive litigation that dampens state administrative capacity.
- Protecting minor minerals requires investment in production and consumption measurement and also monitoring and planning tools.
- To this end, technology has to be used to provide a sustainable solution.

#### The power of technology

- Satellite imagery can be used to monitor the volume of extraction and also check the mining process.
- Even for past infractions, the NGT and administrative authorities can obtain satellite pictures for the past

10 to 15 years and uncontrovertibly show how small hillocks of earth, gravel or small stone dunes have disappeared in an area.

- Additionally, drones, the internet of things (IoT) and blockchain technology can be leveraged to monitor mechanisms by using Global Positioning System, radar and Radio Frequency (RF) Locator.

### 3.6 Pradhan Mantri Awas Yojana-Urban (PMAY-U)

- Cabinet approves continuation of Pradhan Mantri Awas Yojana-Urban (PMAY-U) – “Housing for All” Mission up to 31st December 2024.
- Govt of India has accepted the request of States/UTs for more time for completion of houses.
- PMAY-U: Housing for All is one of the major flagship programmes being implemented by GoI to provide all weather pucca houses to all eligible beneficiaries in the urban areas of the country through States/UTs/Central Nodal Agencies.
- During the period of 2004-2014, 8.04 lakh houses were completed under Urban Housing Scheme.
- The continuation of the scheme based on the request of States/UTs upto 31st December 2024 will help in completion of already sanctioned houses under BLC, AHP & ISSR verticals.

#### Pradhan Mantri Awas Yojana-Urban (PMAY-U)

- PMAY falls under the Government’s mission – Housing for All by 2022 for urban housing being implemented by the Ministry of Housing and Urban Affairs (MoHUA).
- It makes home loans affordable for the urban poor by providing a subsidy on the Interest Rate of a home loan during repayment by way of EMI

#### Beneficiaries:

- The Mission addresses urban housing shortage among the EWS/LIG and MIG categories including the slum dwellers.
- Economically Weaker Section (EWS) – with a maximum annual family income of Rs. 3,00,00.
- Low Income Group (LIG) – with maximum annual family income of Rs. 6,00,000) and
- Middle Income Groups (MIG I & II) – with a maximum annual family income of Rs. 18,00,000)

#### Four Verticals of PMAY-U:

##### In Situ Slum Redevelopment (ISSR):

This vertical will be implemented with the concept “Land as a resource” with private sector participation for providing houses to eligible slum dwellers.

##### Affordable Housing through Credit Linked Subsidy (CLSS):

Beneficiaries of EWS, LIG, MIG (I & II) seeking housing loans from Banks, Housing Finance Companies and other such institutions for acquiring, new construction or enhancement of houses are eligible for an interest subsidy of:

- 5% on loan amount up to Rs. 6 Lakh
- 4% on loan amount up to Rs. 9 Lakh
- 3% on loan amount up to Rs. 12 Lakh
- Affordable Housing Through Partnership (AHP):

An affordable housing project can be a mix of houses for different categories but it will be eligible for Central Assistance, if at least 35% of the houses in the project are in the EWS category.

Beneficiary-led individual house construction (BLC):

Central Assistance up to Rs. 1.5 lakh per EWS house is provided to eligible families belonging to EWS categories for individual house construction/ enhancement.

#### Demand-driven Approach:

- PMAY-U adopts a demand-driven approach strengthening the ethos of cooperative federalism, housing

shortage is decided based on demand assessment by States/Union Territories (UTs).

- The Mission is implemented as a Centrally Sponsored Scheme (CSS) except the CLSS vertical of the PMAY-U which is being implemented as a Central Sector Scheme.
- Under the PMAY-U guidelines, it is mandatory for the state government to ensure that all houses built under the scheme are geotagged to the Bhuvan HFA (housing for all) application.
- The Mission promotes Woman Empowerment by providing the ownership of houses in the name of a female member or in joint names.
- Preference is also given to women (with overriding preference to widows, single women), persons belonging to Scheduled Castes/Scheduled Tribes/Other Backward Classes, Minorities, Persons with disabilities and Transgender.

#### **Initiatives under PMAY-U:**

Affordable Rental Housing Complexes (ARHCs):

- It is a sub-scheme under PMAY-U.
- This will provide ease of living to urban migrants/ poor in the Industrial Sector as well as in non-formal urban economies to get access to dignified affordable rental housing close to their workplace.

#### **Global Housing Technology Challenge:**

It aims to identify and mainstream a basket of innovative construction technologies from across the globe for the housing construction sector that are sustainable, eco-friendly and disaster-resilient.

#### **CLSS Awas Portal (CLAP):**

It is a common platform where all stakeholders e., MoHUA, Central Nodal Agencies, Primary Lending Institutions, Beneficiaries and Citizens are integrated in a real-time environment.

The portal facilitates processing of applications along with tracking of subsidy status by beneficiaries.

### **3.7 India 7th highest in digital currency ownership: United Nation**

- The UN trade and development body UNCTAD said that in 2021, developing countries accounted for 15 of the top 20 economies when it comes to the share of the population that owns cryptocurrencies.
- In India, 7.3% of the population owned digital currency in 2021, seventh highest in the world.
- Ukraine topped the list with 12.7 per cent, followed by Russia (11.9 per cent), Venezuela (10.3 per cent), Singapore (9.4 per cent), Kenya (8.5 per cent) and the US (8.3 per cent).
- Global use of cryptocurrencies has increased exponentially during the COVID-19 pandemic, including in developing countries.
- In three policy briefs published, UNCTAD said that while these private digital currencies have rewarded some and facilitate remittances, they are an unstable financial asset that can also bring social risks and costs.
- The policy brief titled “All that glitters is not gold: The high cost of leaving cryptocurrencies unregulated” examines the reasons for the rapid uptake of cryptocurrencies in developing countries, including facilitation of remittances and as a hedge against currency and inflation risks.
- If cryptocurrencies become a widespread means of payment and even replace domestic currencies unofficially (a process called cryptoisation), this could jeopardise the monetary sovereignty of countries.
- In developing countries with unmet demand for reserve currencies, stablecoins pose particular risks.
- For some of these reasons, the International Monetary Fund has expressed the view that cryptocurrencies pose risks as legal tender.
- The policy brief titled “Public payment systems in the digital era: Responding to the financial stability and security-related risks of cryptocurrencies” focuses on the implications of cryptocurrencies for the stability and security of monetary systems, and to financial stability.
- It is argued that a domestic digital payment system that serves as a public good could fulfil at least some of the reasons for crypto use and limit the expansion of cryptocurrencies in developing countries.

- Depending on national capabilities and needs, monetary authorities could provide a central bank digital currency or, more readily, a fast retail payment system.
- Given the risk of accentuating the digital divide in developing countries, UNCTAD urges authorities to maintain the issuance and distribution of cash.
- The policy brief titled “The cost of doing too little too late: How cryptocurrencies can undermine domestic resource mobilisation in developing countries” discusses how cryptocurrencies have become a new channel undermining domestic resource mobilisation in developing countries.
- While cryptocurrencies can facilitate remittances, they may also enable tax evasion and avoidance through illicit flows
- In this way, cryptocurrencies may also curb the effectiveness of capital controls, a key instrument for developing countries to preserve their policy space and macroeconomic stability
- UNCTAD urged authorities to take actions to curb the expansion of cryptocurrencies in developing countries, including ensuring comprehensive financial regulation of cryptocurrencies through regulating crypto exchanges, digital wallets and decentralised finance, and banning regulated financial institutions from holding cryptocurrencies (including stablecoins) or offering related products to clients.
- It also called for restricting advertisements related to cryptocurrencies, as for other high-risk financial assets; providing a safe, reliable and affordable public payment system adapted to the digital era; implementing global tax coordination regarding cryptocurrency tax treatments, regulation and information sharing and redesigning capital controls to take account of the decentralised, borderless and pseudonymous features of cryptocurrencies.

### 3.8 Essential Commodities Act

- With tur dal prices surging since mid-July and reports coming in of some traders creating artificial supply squeeze by restricting sales, the Centre has invoked the Essential Commodities Act of 1955 to ask States to monitor and verify the stocks available with such traders.
- Tur prices have risen since mid-July amid slow progress in kharif sowing as compared to last year due to excess rainfalls and water logging conditions in parts of major Tur growing states of Karnataka, Maharashtra and Madhya Pradesh, the Department of Consumer Affairs has noted in its rationale for the directive.

#### Essential Commodities Act 1955:

##### Background

- The ECA Act 1955, was legislated at a time when the country was facing a scarcity of foodstuffs due to persistent low levels of foodgrains production.
- The country was dependent on imports and assistance (such as wheat import from the US under PL-480) to feed the population.
- To prevent hoarding and black marketing of foodstuffs, the Essential Commodities Act was enacted in 1955.

##### Features

- Objective: The ECA 1955 is used to curb inflation by allowing the Centre to enable control by state governments of trade in a wide variety of commodities.
- There is no specific definition of essential commodities in the Essential Commodities Act, 1955.
- Section 2(A) states that an “essential commodity” means a commodity specified in the Schedule of the Act.
- The Centre, if it is satisfied that it is necessary to do so in public interest, can notify an item as essential, in consultation with state governments.
- Legal Jurisdiction: The Act gives powers to the central government to add or remove a commodity in the Schedule.
- Implementing Agency: The Ministry of Consumer Affairs, Food and Public Distribution, implements the

Act.

- Impact: By declaring a commodity as essential, the government can control the production, supply, and distribution of that commodity, and impose a stock limit.

#### Issues Related to Essential Commodities Act 1955:

- The Economic Survey 2019-20 highlighted that government intervention under the ECA 1955 often distorted agricultural trade while being totally ineffective in curbing inflation.
- Such intervention does enable opportunities for rent-seeking and harassment. Rent-seeking is a term used by economists to describe unproductive income, including from corruption.
- Traders tend to buy far less than their usual capacity and farmers often suffer huge losses during surplus harvests of perishables.
- This led to farmers being unable to get better prices due to lack of investment in cold storage, warehouses, processing and export.
- Owing to these issues, the Parliament passed the Essential Commodities (Amendment) Bill, 2020. However, due to farmers' protest the Government had to repeal this law.

### 3.9 Digital lending norms

- Aiming to curb rising malpractices in the digital lending ecosystem, the Reserve Bank of India (RBI) issued guidelines for entities engaged in digital lending,
- The norms state that all digital loans must be disbursed and repaid through bank accounts of regulated entities only, without pass-through of lending service providers (LSPs) or other third parties.
- The norms follow the recommendations of a working group for digital lending, whose report was made public last November.
- The concerns of digital lending primarily relates to unbridled engagement of third parties, mis-selling, breach of data privacy, unfair business conduct, charging of exorbitant interest rates, and unethical recovery practices.

#### The regulator classified digital lenders into three categories:

- entities regulated by the RBI and permitted to carry out lending business,
- entities authorised to carry out lending as per other statutory or regulatory provisions but not regulated by the RBI,
- and entities lending outside the purview of any statutory or regulatory provisions.
- The latest regulatory framework is focused on the digital lending ecosystem of RBI's regulated entities (REs) and the LSPs engaged by them to extend credit facilitation services.
- As for entities falling in the second category, the respective regulator may consider formulating rules on digital lending, based on the recommendations of the working group.
- For entities in the third category, the working group has suggested specific legislative and institutional interventions for consideration by the government to curb illegitimate lending.
- Apart from direct disbursements and repayments of digital loans, the norms mandate that any fees or charges payable to LSPs in the credit intermediation process shall be paid directly by the RE and not by the borrower.
- A standardised key fact statement (KFS) must be provided to the borrower before executing the loan contract.
- The all-inclusive cost of digital loans in the form of annual percentage rate (APR) will have to be disclosed to borrowers.
- Automatic increases in credit limit without the explicit consent of borrowers has been prohibited.
- The loan contract must provide for a cooling-off or look-up period during which borrowers can exit digital loans by paying the principal and the proportionate APR without any penalty.



### **Digital Lending:**

- It consists of lending through web platforms or mobile apps, by taking advantage of technology for authentication and credit assessment.
- India's digital lending market has seen a significant rise over the years.
- The digital lending value increased from USD 33 billion in FY15 to USD 150 billion in FY20 and is expected to hit the USD 350-billion mark by FY23.
- Banks have launched their own independent digital lending platforms to tap in the digital lending market by leveraging existing capabilities in traditional lending.

### **Significance of Digital Lending:**

- **Financial Inclusion:** It helps in meeting the huge unmet credit need, particularly in the microenterprise and low-income consumer segment in India.
- **Reduce Borrowing from informal channels:** It helps in reducing informal borrowings as it simplifies the process of borrowing.
- **Time Saving:** It decreases time spent on working loan applications in-branch. Digital lending platforms have also been known to cut overhead costs by 30-50%.

### **Issues with Digital Lending Platforms:**

- Growing number of unauthorised digital lending platforms and mobile applications as:
- They charge excessive rates of interest and additional hidden charges.
- They adopt unacceptable and high-handed recovery methods.
- They misuse agreements to access data on mobile phones of borrowers.

### **Steps Taken by RBI:**

- Non-Banking Financial Companies (NBFCs) and banks need to state the names of online platforms they are working with.
- RBI has also mandated that digital lending platforms which are used on behalf of Banks and NBFCs should disclose the name of the Bank(s) or NBFC(s) upfront to the customers.
- The central bank had also asked lending apps to issue a sanction letter to the borrower on the letter head of the bank/ NBFC concerned before the execution of the loan agreement.
- Legitimate public lending activities can be undertaken by banks, NBFCs registered with the RBI and other entities who are regulated by state governments under statutory provisions.

### **Way Forward**

- India is on the verge of a digital lending revolution and making sure that this lending is done responsibly can ensure the fruits of this revolution are realized.
- As several players have access to sensitive consumer data, there must be clear guidelines around, for example, the type of data that can be held, the length of time data can be held for, and restrictions on the use of data.
- Digital lenders should proactively develop and commit to a code of conduct that outlines the principles of integrity, transparency and consumer protection, with clear standards of disclosure and grievance redressal.
- Apart from establishing technological safeguards, educating and training customers to spread awareness about digital lending is also important.

## **3.10 National Intellectual Property Awareness Mission (NIPAM)**

- NIPAM has achieved target of imparting Intellectual Property (IP) awareness and basic training to 1 million students on 31st July 2022, ahead of the deadline which was 15 August 2022
- NIPAM, a flagship program to impart IP awareness and basic training, was launched on 8 Dec 2021 as a part of "Azadi Ka Amrit Mahotsav"

- The program is being implemented by Intellectual Property Office, the Office of Controller General of Patents, Designs and Trade Marks (CGPDTM), Ministry of Commerce and Industry.
- The way forward is to strengthen the NIPAM program further to nurture and encourage innovation and creativity, thereby contributing towards cultural and economic development of the society through a revamped manner utilizing the existing resources of the IP Office in collaboration with Atal Innovation Mission (AIM), AICTE, UGC

### 3.11 Special Economic Zones

- In the Union Budget this year, the government proposed to replace the existing law governing Special Economic Zones (SEZs) with a new legislation to enable states to become partners in 'Development of Enterprise and Service Hubs' (DESH).
- The commerce ministry is proposing a host of direct and indirect incentives such as deferral of import duties and exemption from export taxes to revamp Special Economic Zones through a new legislation.
- The proposals seek to provide incentives such as retention of zero-rating of IGST on domestic procurement by a unit in an SEZ; continuation of indirect tax benefits to developers of these zones; and allowing depreciation on sale of used capital goods cleared to domestic tariff areas.
- There is also a plan to extend the corporate tax rate to 15 per cent without any exemptions for units undertaking authorised operations in these development hubs.
- The existing SEZ Act was enacted in 2006 with an aim to create export hubs and boost manufacturing in the country.
- However, these zones started losing their sheen after imposition of minimum alternate tax and introduction of sunset clause for removal of tax incentives.

#### Special Economic Zones

- An SEZ is a territory within a country that is typically duty-free and has different business and commercial laws chiefly to encourage investment and create employment.
- SEZs are created also to better administer these areas, thereby increasing the ease of doing business.
- Asia's first EPZ (Export Processing Zones) was established in 1965 at Kandla, Gujarat.
- While these EPZs had a similar structure to SEZs, the government began to establish SEZs in 2000 under the Foreign Trade Policy to redress the infrastructural and bureaucratic challenges that were seen to have limited the success of EPZs.
- The Special Economic Zones Act was passed in 2005. The Act came into force along with the SEZ Rules in 2006.
- Presently, 379 SEZs are notified, out of which 265 are operational.
- About 64% of the SEZs are located in five states – Tamil Nadu, Telangana, Karnataka, Andhra Pradesh and Maharashtra.
- The Board of Approval is the apex body and is headed by the Secretary, Department of Commerce (Ministry of Commerce and Industry).

#### Objectives of the SEZ Act:

- To create additional economic activity.
- To boost the export of goods and services.
- To generate employment.
- To boost domestic and foreign investments.
- To develop infrastructure facilities.

#### Major Incentives and Facilities Available to SEZ:

- Duty free import/domestic procurement of goods for development, operation and maintenance of SEZ units
- Exemption from various taxes like Income Tax, minimum alternate tax, etc

- External commercial borrowing by SEZ units upto US \$ 500 million in a year without any maturity restriction through recognized banking channels.
- Single window clearance for Central and State level approvals.

## Challenges

### Unutilized Land

Due to a lack of demand for SEZ space and disruptions caused by the pandemic, unutilized land in SEZs exists.

### Multiple Models

- Multiple economic zone models exist, including SEZs, coastal economic zones, the Delhi-Mumbai Industrial Corridor, the National Investment and Manufacturing Zone, food parks, and textile parks, all of which face issues in integrating the various models.

### Competition from ASEAN Countries

- Many ASEAN countries have modified their policies in recent years to encourage global players to participate in their SEZs, as well as working on a developing set of skilling projects.
- As a result, Indian SEZs have lost some of their worldwide competitive advantages, necessitating new rules.

### What measures were taken by the government to revamp SEZs?

- The government constituted a committee headed by Mr Baba Kalyani, in 2018 to study the existing SEZs of India and prepare a policy framework to adopt strategic policy measures.

### Recommendations of the Baba Kalyani committee

- Rename SEZs in India as 3Es- Employment and Economic Enclave
- Framework shift from export growth to broad-based employment and economic growth
- Separate rules and procedures for manufacturing and service SEZs
- Ease of Doing Business (EoDB) in 3Es such as one integrated online portal for new investments
- Extension of Sunset Clause and retaining tax or duty benefits
- Unified regulator for IFSC
- Dispute resolution through arbitration and commercial courts

### Budget 2022-23

- The Budget says that the SEZ Act will be replaced by a new legislation that will enable large existing and new industrial enclaves to optimally utilise available infrastructure and enhance competitiveness of exports.
- It will enable the States to become partners in development of enterprise and service hubs.
- It also says that customs administration in SEZs will be fully IT-driven.
- An infra cluster approach is proposed rather than one based on export subsidies which will be open to WTO challenge.
- The new SEZ legislation will have single window clearance and provide high class infrastructure.
- The new dispensation for SEZ, being considered by the government, could allow domestic units to come up in the unutilised area of SEZs and co-exist with SEZ units with proper monitoring.

## 3.12 Ethanol blending

- Prime Minister announced that India has achieved its target of blending 10% sugarcane-extracted ethanol in petrol, ahead of schedule.
- Addressing the nation from the Red Fort on the 76th Independence Day, PM rooted for energy independence stating that, “we need to be Aatmanirbhar (self-sufficient) in our energy sector”.
- Self reliance in energy sector has brought the focus back on ethanol blending.

### **What is ethanol blending?**

- Blending ethanol with petrol to burn less fossil fuel while running vehicles is called ethanol blending.
- Ethanol is an agricultural by-product which is mainly obtained from the processing of sugar from sugarcane, but also from other sources such as rice husk or maize.
- Though we have had an E10 — or 10% ethanol as policy for a while, it is only this year that we have achieved that proportion.
- India's aim is to increase this ratio to 20% originally by 2030 but in 2021, when NITI Aayog put out the ethanol roadmap, that deadline was advanced to 2025.
- Ethanol blending will help bring down our share of oil imports on which we spend a considerable amount of precious foreign exchange.
- Secondly, more ethanol output would help increase farmers' incomes.
- The NITI Aayog report of June 2021 says, "India's net import of petroleum was 185 million tonnes at a cost of \$55 billion in 2020-21," and that a successful ethanol blending programme can save the country \$4 billion per annum.

### **What are first generation and second generation ethanols?**

- Ethanol production from molasses is first generation ethanol or 1G.
- Other than molasses, ethanol can be extracted from materials such as rice straw, wheat straw, corn cobs, corn stover, bagasse, bamboo and woody biomass, which are second generation ethanol sources or 2G.

### **How have other countries fared?**

- Though the U.S., China, Canada and Brazil all have ethanol blending programmes, as a developing country, Brazil stands out.
- It had legislated that the ethanol content in petrol should be in the 18-27.5% range, and it finally touched the 27% target in 2021.

### **Are there other alternatives?**

- Auto industry state that they prefer the use of biofuels as the next step, compared to other options such as electric vehicles (EV), hydrogen power and compressed natural gas.
- This is mainly because biofuels demand the least incremental investment for manufacturers.

### **What have been the objections against this transition?**

- Ethanol burns completely emitting nil carbon dioxide.
- By using the left-over residue from rice harvests to make ethanol, stubble burning will also reduce.
- The 2G ethanol project inaugurated recently will reduce greenhouse gases equivalent to about three lakh tonnes of CO2 emissions per annum, which is the same as replacing almost 63,000 cars annually on our roads.

### **Concerns**

- Efficient Utilization of Land
- The Institute for Energy Economics and Financial Analysis (IEEFA) in a report in talks about the inefficient land use in ethanol production.
- The report's states that we can use land far more efficiently by generating renewable power for EV batteries.
- For example, to match the annual travel distance of EVs recharged from one hectare generating solar energy, 187 hectares of maize-derived ethanol are required, even when one accounts for the losses from electricity transmission, battery charging and grid storage.

### **Water intensive crop**

- The water needed to grow crops for ethanol is another debating point.
- For India, sugarcane is the cheapest source of ethanol.
- On average, a tonne of sugarcane can produce 100 kg of sugar and 70 litres of ethanol — meaning, a litre

of ethanol from sugar requires 2,860 litres of water.

- There has been, therefore, a move toward waste-based extraction, such as through coarse grains.

### Supply of Raw materials

- The supply of coarse grains may still be a problem.
- The abnormally wet monsoon seasons may have helped in recent years to raise grain output, but in its August 2021 analysis.
- The International Council on Clean Transportation (ICCT) is sceptical that those production increases can be sustained.
- Thus sugar cane would likely continue to be the primary source for ethanol even with the 12 planned farm waste — or 2G ethanol — distilleries.

### Food security

- There are already indications that more sugarcane is being grown and that the Government of India encouraged more corn production, with its use for ethanol production cited as a reason for this push.
- As was evident in India's wheat harvest earlier this year, climate change-induced heatwaves are a worrying factor and can lead to lower-than-expected harvests with little notice.
- Given the uncertainty about future production, India may not find it easy to simultaneously strengthen domestic food supply systems, set aside adequate stocks for lean years, maintain an export market for grains, and divert grain to ethanol at the expected rate in coming years, and this is an issue that warrants continued monitoring.

### Way Forward

#### Ethanol from Wastes:

This would bring both strong climate and air quality benefits, since these wastes are currently often burned, contributing to smog.

#### Water Crisis:

The ethanol policy should ensure that it doesn't drive farmers toward water-intensive crops and create a water crisis in a country where its shortage is already acute.

#### Prioritize Crop Production:

With our depleting groundwater resources, arable land constraints, erratic monsoons, and dropping crop yields due to climate change, food production must be prioritized over crops for fuel.

#### Alternative Mechanism:

To achieve the key goal, that is emissions reduction, alternative mechanisms-enhanced Electric Vehicles uptake, installation of additional renewable generation capacity to allow zero-emissions recharging, etc.-need to be evaluated.

## 3.13 A developed Country Goal

- In his Independence Day address, Prime Minister asked Indians to embrace the "Panch Pran" — five vows — by 2047 when the country celebrates 100 years of independence.
- The first vow, is to become a developed country in the next 25 years.

### What is a "developed" country?

- Different global bodies and agencies classify countries differently.
- The 'World Economic Situation and Prospects' of the United Nations classifies countries into three broad categories: developed economies, economies in transition, and developing economies.
- To categorise countries by economic conditions, the United Nations uses the World Bank's categorisation based on Gross National Income (GNI) per capita.

- But the UN's nomenclature of "developed" and "developing" is being used less and less, and is often contested.

### **But why is the United Nations classification contested?**

- It can be argued that the UN classification is not very accurate and, as such, has limited analytical value.
- Only the top three mentioned in chart 3 alongside — the US, the UK and Norway — fall in the developed country category.
- There are 31 developed countries according to the UN in all. All the rest — except 17 "economies in transition" — are designated as "developing" countries, even though in terms of proportion, China's per capita income is closer to Norway's than Somalia's.
- China's per capita income is 26 times that of Somalia's while Norway's is just about seven times that of China's.
- Then there are countries — such as Ukraine, with a per capita GNI of \$4,120 (a third of China's) — that are designated as "economies in transition".

### **Where does India stand?**

- As chart 2 shows, India is currently far behind both the so-called developed countries, as well as some developing countries.
- However, to be classified as a "developed" country, the average income of a country's people matters more.
- And on per capita income, India is behind even Bangladesh. China's per capita income is 5.5 times that of India, and the UK's is almost 33 times.
- The disparities in per capita income often show up in the overall quality of life in different countries.
- A way to map this is to look at the scores of India and other countries on the Human Development Index (HDI), a composite index where the final value is reached by looking at three factors: the health and longevity of citizens, the quality of education they receive, and their standard of life.
- India has made a secular improvement on HDI metrics. For instance, the life expectancy at birth (one of the sub-metrics of HDI) in India has gone from around 40 years in 1947 to around 70 years now.
- India has also taken giant strides in education enrolment at all three levels — primary, secondary, and tertiary.

### **What is the distance left to cover?**

- When compared to the developed countries or China, India has a fair distance to cover.
- Even though India is the world's third-largest economy in purchasing power parity (PPP) terms, most Indians are still relatively poor compared to people in other middle income or rich countries.
- Ten per cent of Indians, at most, have consumption levels above the commonly used threshold of \$10 (PPP) per day expenditures for the global middle class.

### **How much can India achieve by 2047?**

- One way to make this assessment is to look at how long other countries took to get there.
- For instance, in per capita income terms, Norway was at India's current level 56 years ago — in the year 1966.
- China reached that mark in 2007. Theoretically then, if India were to grow as fast as China did between 2007 and 2022, then, broadly speaking, it will take India another 15 years to be where China is now.
- India's current HDI score (0.64) is much lower than what any of the developed countries had even in 1980. China reached the 0.64 level in 2004, and took another 13 year to reach the 0.75 level — that, incidentally, is the level at which the UK was in 1980.
- The World Bank's 2018 report had made a mention of what India could achieve by 2047.
- "By 2047 — the centenary of its independence — at least half its citizens could join the ranks of the global middle class. By most definitions this will mean that households have access to better education and health care, clean water, improved sanitation, reliable electricity, a safe environment, affordable housing,

and enough discretionary income to spend on leisure pursuits” .

- But it also laid out a precondition for this to happen: “Fulfilling these aspirations requires income well above the extreme poverty line, as well as vastly improved public service delivery.”

### 3.14 Emergency Credit Line Guarantee Scheme (ECLGS)

- The Centre has announced raising the allocation under the Emergency Credit Line Guarantee Scheme (ECLGS) by Rs 50,000 crore to Rs 5 lakh crore.
- The additional amount has been earmarked exclusively for enterprises in hospitality and related sectors.
- The ECLGS was unveiled as part of the comprehensive package announced by the government in May 2020 to aid the MSME sector in view of the economic distress caused by the Covid pandemic and lockdowns.
- The tourism sector was one of the worst hit, as people postponed/cancelled their business and leisure travel plans.
- With high immunisation levels, progressive roll-back of restrictions and overall economic recovery, conditions are in place for sustained growth in demand for these sectors as well.
- The ECLGS credit facility is likely to help the industry fund its expansion, as demand for travel continues to surge.

#### Emergency Credit Line Guarantee Scheme (ECLGS)

- The scheme was launched as part of the Aatmanirbhar Bharat Abhiyan package announced in May 2020 to mitigate the distress caused by coronavirus-induced lockdown, by providing credit to different sectors, especially Micro, Small and Medium Enterprises (MSMEs).
- Objective: To provide fully guaranteed and collateral free additional credit to MSMEs, business enterprises, MUDRA borrowers and individual loans for business purposes to the extent of 20% of their credit outstanding as on 29th February, 2020.
- 100% guarantee coverage is being provided by the National Credit Guarantee Trustee Company, whereas Banks and Non Banking Financial Companies (NBFCs) provide loans.
- Eligibility: Borrowers with credit outstanding up to Rs. 50 crore as on 29th February, 2020, and with an annual turnover of up to Rs. 250 crore are eligible under the Scheme.
- On 1st August, 2020 the government widened the scope of the Rs. 3 lakh crore-ECLGS scheme by doubling the upper ceiling of loans outstanding and including certain loans given to professionals like doctors, lawyers and chartered accountants for business purposes under its ambit.
- Tenor of loans provided under the Scheme is four years, including a moratorium of one year on principal repayment.
- Interest rates under the Scheme are capped at 9.25% for Banks and Financial Institutions (FIs), and 14% for NBFCs.
- Present Status: As per data by the government and banks, loans of about Rs 3.67 lakh crore have been sanctioned under ECLGS till August 5, and Rs 2.54 lakh crore had been disbursed till April 30.

#### Benefits of the scheme:

- The scheme is expected to provide credit to the sector at a low cost, thereby enabling MSMEs to meet their operational liabilities and restart their businesses and recover early.
- The Scheme is expected to have a positive impact on the economy and support its revival.

#### National Credit Guarantee Trustee Company Ltd

- Subsequent to the Central Budget announcements during the year 2013-14 to set up various credit guarantee funds, a common trustee company in the name and style of National Credit Guarantee Trustee Company Ltd (NCGTC) was set up by the Department of Financial Services, Ministry of Finance, Government of India to, inter alia, to act as a common trustee company to manage and operate various credit guarantee trust funds.

### 3.15 Inflation target breach

- The Reserve Bank of India will call a special meeting of its Monetary Policy Committee (MPC) in October to discuss a report it will have to submit to the Union government explaining the reasons for the average retail inflation remaining above the upper tolerance limit of 6 per cent for three consecutive quarters.
- The Union government, in consultation with the RBI, fixes the inflation target for the central bank every five years.
- It had fixed it at 4 per cent plus/ minus 2 per cent (upper limit 6 per cent, lower limit 2 per cent) for the period August 5, 2016 to March 31, 2021, and retained it for the next five years ending March 31, 2026.
- A monetary policy framework was signed between RBI and government on February 20, 2015.
- The RBI Act, 1934, was amended in May 2016, giving effect to this framework agreement.
- The framework agreement requires the RBI to submit a report to the Union government if it is in breach of the inflation targets for three consecutive quarters.
- In eight years, this will be the first time the RBI would have let retail inflation slip beyond the upper tolerance limit of 6 per cent for three straight quarters.
- The average retail inflation in January-March 2022 and April-June 2022, according to data released by the National Statistics Office, was 6.34 per cent and 7.28 per cent, respectively.
- The data for August and September is scheduled to be released on September 12 and October 12, respectively.
- Upon failing to meet the inflation target, the RBI, would have to state the reasons for failure to achieve the target, propose remedial actions to bring it down to 4 per cent, and also provide an estimate of the time-period within which the target would be achieved.
- These would be presented in a report to the Union Ministry of Finance.
- The sources said, it would be up to the government to make the RBI report public. The special meeting of the MPC would discuss the RBI report before it is submitted.

#### Monetary Policy Committee (MPC)

- Under Section 45ZB of the amended RBI Act, 1934, the central government is empowered to constitute a six-member Monetary Policy Committee (MPC).
- The Section 45ZB lays down that “the Monetary Policy Committee shall determine the Policy Rate required to achieve the inflation target”.

#### Composition: Section 45ZB says the MPC shall consist of 6 members:

- RBI Governor as its ex officio chairperson,
- Deputy Governor in charge of monetary policy,
- An officer of the Bank to be nominated by the Central Board,
- Three persons to be appointed by the central government.
- This category of appointments must be from “persons of ability, integrity and standing, having knowledge and experience in the field of economics or banking or finance or monetary policy”.

### 3.16 India’s labour reforms

- India’s “tryst with destiny” was to provide “Poorna swaraj” (i.e., full freedom) to all its citizens: political freedom, social freedom, and economic freedom.
- After 75 years of independence, we examine whether we have been able to provide socio-economic freedom to one of the most deprived classes of or population: labourers

#### India’s fault lines:

##### State of Working India 2021:

- ‘One Year of Covid-19’ brought out by Azim Premji University’s Centre for Sustainable Employment reported that 100 million jobs were lost during the April-May 2020 lockdown.
- Though most of these workers had found employment by mid-2020, 15 million remained out of work.



- Between 1980 and 1990, every 1% of GDP growth generated roughly two lakh new jobs; between 1990 to 2000, it decreased to one lakh jobs per per cent growth; and from 2000 to 2010, it fell to half a lakh only.
- India's gravest socio-economic problem is the difficulty a vast majority of citizens have in earning good livelihoods.
- Their problem is not just employment. It is the poor quality of employment: insufficient and uncertain incomes, and poor working conditions, wherever they are employed — in factories, farms, service establishments, or homes.
- The dominant 'theory-in-use' to increase employment is to improve the ease of doing business, with the expectation that investments in businesses will improve citizens' ease of earning good livelihoods.
- In this theory, large and formal enterprises create good jobs, and labour laws must be "flexible" to attract investments. Investors say the laws protect labour too much.

### **Labour reforms: Background**

- In India, labour is a subject in the Concurrent List, so both the Parliament and the state legislatures can enact laws on it.
- Before the new labour codes were passed, there were more than 40 central laws and more than 100 state laws on labour and related matters.
- The Second National Commission on Labour (2002) recommended that the central labour laws should be integrated into groups like: Industrial relations, Wages, Social security, Safety, Welfare and working conditions.
- The Commission suggested simplification of the labour codes for the sake of transparency and uniformity.

### **The new labour codes:**

- In 2019-20, the Parliament enacted 4 labour codes to consolidate these multiple laws:
- Code on Wages, 2019
- Industrial Relations Code, 2020
- Social Security Code, 2020
- Occupational Safety, Health, and Working Conditions Code, 2020

### **Impact of reforms:**

- The V.V. Giri National Labour Institute's interim report, "Impact Assessment Study of the Labour Reforms undertaken by the States", provides insights into the impacts of the reforms so far.
- The report has focused on the reform of the Industrial Disputes Act, which is to raise the limits of applicability of laws relating to terms of service and modes of dispute resolution (roles of unions) to 300 people.
- The report spans the period 2004-05 to 2018-19. It focuses on Six States which have implemented reforms.
- The report reminds readers that labour laws are only one factor affecting business investment decisions.
- Investors do not go out to hire people just because it has become easy to fire them.
- An enterprise must have a growing market for its products, and many things must be put together to produce for the market — capital, machinery, materials, land, etc. not just labour.
- Therefore, it must be worthwhile to employ more people before firing them.
- Reforms of labour laws have had little effect on increasing employment in large enterprises either.
- The report says, employment in formal enterprises is becoming more informal.
- Large investors can afford to use more capital and are also employing increasing numbers of people on short-term contracts, while perversely demanding more flexibility in laws.

### **Way forward: closing the gap**

- Fundamental reforms are required in the theory of economic growth: more GDP does not automatically produce more incomes at the bottom.
- And the paradigm driving employment and labour policies must also change to enable the generation of better-quality livelihoods for Indian citizens, now and in the future.

- To achieve this, fundamental reform is required in the ways policies are made. If the benefit of reforms is supposed to be the improvement of ease of earning, better livelihoods for all citizens and with more dignity, whether they are farmers, factory workers, or service employees, they must be listened to most of all, within their enterprises, and in the process of shaping policies.

### 3.17 Public Goods Vs Private Goods

- Government of India has clarified that there is no plan to levy any charges for UPI services.
- Finance Ministry said, UPI is a digital public good with immense convenience for the public and productivity gains for the economy. The clarification came amid some reports that there may be possibility of UPI transactions charge.

#### What are Public Goods?

- Public goods are the commodities or services provided by the nature of the government of a country, free of cost or by taxing the few people to offer smass benefit to the public in general.

#### Characteristics of Public Goods

- These commodities or services develop the infrastructure and living standard of a country.

#### Features of Public Goods

- Non-Rival: The public goods are non-competitive, i.e. it can serve many people at the same time without hindering the usage of one another.
- Non-Excludable: These goods are usually free of cost and can be used by anyone without any restriction.
- Non-Rejectable: The consumption of such goods cannot be dismissed or unaccepted by the public since it is available collectively to all the people.
- Free-Riding: The goods categorized under public goods benefit even those who have not paid for it. Such people are termed as free-riders.

#### What are Private Goods?

- Private goods are the products or services which are manufactured or produced by the companies owned by entrepreneurs who aim at meeting customer's requirement to earn profits through the trading of such goods in the free market.

#### Characteristics of Private Goods

Private goods serve the personal needs of consumers.

Following are the various characteristics of these goods:

- Rival: The private products involve rivalry or competition among the consumers for its usage since the consumption by one person will restrict its use by another.
- Excludable: These goods involve cost, and therefore the non-payers are excluded from the consumption.
- Rejectable: Private goods can be unaccepted or rejected by the consumers since they have multiple alternatives and the right to select the product according to their preference.
- Traded in Free Market: Such goods can be freely bought and sold in the market at a given price.
- Opportunity Cost: These goods have an opportunity, i.e. the consumer has to let go of the benefit from a similar product while selecting a particular private commodity.

#### Digital Public Goods

- Digital public goods are open-source software, open data, open AI models, open standards, and open content that adhere to privacy and other applicable laws and best practices, do no harm by design, and help attain the Sustainable Development Goals (SDGs).

### 3.18 Sovereign Gold Bond Scheme 2022-23

#### Sovereign Gold Bond Scheme 2022-23

- Recently Government of India, in consultation with the Reserve Bank of India, decided to issue Sovereign Gold Bonds in tranches for 2022-23.
- The SGB scheme was launched in November 2015 with an objective to reduce the demand for physical gold and shift a part of the domestic savings – used for the purchase of gold – into financial savings.
- The Gold Bonds are issued as Government of India Stock under the Government Securities (GS) Act, 2006.
- These are issued by the Reserve Bank of India (RBI) on behalf of the Government of India.
- Bonds are sold through Commercial banks, Stock Holding Corporation of India Limited (SHCIL), designated post offices and recognised stock exchanges, National Stock Exchange of India Limited and Bombay Stock Exchange, either directly or through agents.
- The bonds are restricted for sale to resident individuals, Hindu Undivided Families (HUFs), trusts, universities and charitable institutions.
- Issue Price: Gold bond prices are linked to the price of gold of 999 purity (24 carats) published by India Bullion and Jewellers Association (IBJA), Mumbai.
- A fixed rate of 2.5% per annum is applicable on the scheme, payable semi-annually.
- The interest on Gold Bonds shall be taxable as per the provision of Income Tax Act, 1961.

#### Investment Limit:

- Minimum permissible investment is 1 gram of gold.
- Gold bonds can be purchased in the multiples of one unit, up to certain thresholds for different investors.
- The upper limit for retail (individual) investors and HUFs is 4 kilograms (4,000 units) each per financial year. For trusts and similar entities, an upper limit of 20 kilograms per financial year is applicable.

#### Term

- The gold bonds come with a maturity period of eight years, with an option to exit the investment after the first five years.
- Bonds can be used as collateral for loans.
- The capital gains tax arising on redemption of SGB to an individual has been exempted.

## 4. Science & Technology

### 4.1 India 7th highest in digital currency ownership: United Nation

- The UN trade and development body UNCTAD said that in 2021, developing countries accounted for 15 of the top 20 economies when it comes to the share of the population that owns cryptocurrencies.
- In India, 7.3% of the population owned digital currency in 2021, seventh highest in the world.
- Ukraine topped the list with 12.7 per cent, followed by Russia (11.9 per cent), Venezuela (10.3 per cent), Singapore (9.4 per cent), Kenya (8.5 per cent) and the US (8.3 per cent).
- Global use of cryptocurrencies has increased exponentially during the COVID-19 pandemic, including in developing countries.
- In three policy briefs published, UNCTAD said that while these private digital currencies have rewarded some and facilitate remittances, they are an unstable financial asset that can also bring social risks and costs.
- The policy brief titled “All that glitters is not gold: The high cost of leaving cryptocurrencies unregulated” examines the reasons for the rapid uptake of cryptocurrencies in developing countries, including facilitation of remittances and as a hedge against currency and inflation risks.
- If cryptocurrencies become a widespread means of payment and even replace domestic currencies unofficially (a process called cryptoisation), this could jeopardise the monetary sovereignty of countries.
- In developing countries with unmet demand for reserve currencies, stablecoins pose particular risks.
- For some of these reasons, the International Monetary Fund has expressed the view that cryptocurrencies pose risks as legal tender.
- The policy brief titled “Public payment systems in the digital era: Responding to the financial stability and security-related risks of cryptocurrencies” focuses on the implications of cryptocurrencies for the stability and security of monetary systems, and to financial stability.
- It is argued that a domestic digital payment system that serves as a public good could fulfil at least some of the reasons for crypto use and limit the expansion of cryptocurrencies in developing countries.
- Depending on national capabilities and needs, monetary authorities could provide a central bank digital currency or, more readily, a fast retail payment system.
- Given the risk of accentuating the digital divide in developing countries, UNCTAD urges authorities to maintain the issuance and distribution of cash.
- The policy brief titled “The cost of doing too little too late: How cryptocurrencies can undermine domestic resource mobilisation in developing countries” discusses how cryptocurrencies have become a new channel undermining domestic resource mobilisation in developing countries.
- While cryptocurrencies can facilitate remittances, they may also enable tax evasion and avoidance through illicit flows
- In this way, cryptocurrencies may also curb the effectiveness of capital controls, a key instrument for developing countries to preserve their policy space and macroeconomic stability
- UNCTAD urged authorities to take actions to curb the expansion of cryptocurrencies in developing countries, including ensuring comprehensive financial regulation of cryptocurrencies through regulating crypto exchanges, digital wallets and decentralised finance, and banning regulated financial institutions from holding cryptocurrencies (including stablecoins) or offering related products to clients.
- It also called for restricting advertisements related to cryptocurrencies, as for other high-risk financial assets; providing a safe, reliable and affordable public payment system adapted to the digital era; implementing global tax coordination regarding cryptocurrency tax treatments, regulation and information sharing and redesigning capital controls to take account of the decentralised, borderless and pseudonymous features of cryptocurrencies.

## 4.2 PeVatrons

- A study using 12 years of data from NASA's Fermi telescope helped scientists understand PeVatrons.
- PeVatrons, the source of some of the highest energy particles that whip across our galaxy.
- Streams of particles called cosmic rays travel at breakneck speeds around our galaxy and they also strike our planet's atmosphere.
- They typically consist of protons but sometimes also include atomic nuclei and electrons.
- They all carry an electric charge, this means that their paths deviate and scramble as they go through our galaxy's magnetic field.
- This means that it is no longer which direction they originally came from, effectively masking their birthplace.
- But when the particles that are part of cosmic rays collide with the gas near supernova remnants, they produce gamma rays; some of the highest-energy forms of radiation that exist.
- These particles get trapped by the chaotic magnetic fields near supernova remnants.
- They pass through the supernova's shock wave multiple times and each time they do, they gain speed and energy.
- Eventually, they can no longer be held by the supernova remnant and will careen off into deep space.
- These particles are boosted to 10 times the energy that the Large Hadron Collider, the most powerful man-made particle accelerator, can generate.

## 4.3 Advanced Towed Artillery Gun System (ATAGS)

- In a first, an indigenously developed howitzer gun, ATAG, became part of the 21-gun salute during the Independence Day ceremony at the Red Fort.
- Developed by the DRDO, the Advanced Towed Artillery Gun System (ATAGS) was used alongside the traditional British-origin '25 Pounders' artillery guns.

### The 21-gun salute tradition

- When the National Anthem is played by the Military Band after the unfurling of the Tricolour at the Red Fort by the Prime Minister, a 21-volley gun salute is fired by a ceremonial battery from an artillery regiment.
- The tradition of gun salutes originates from the Western navies where guns from the ports and those from incoming ships used to be fired in a particular manner to convey that there was no belligerent intention.
- This tradition was carried forward as a way of paying respects or for according official welcome to the Crown, royals, military commanders and heads of states.
- India inherited the tradition from the British rulers who had gun salutes comprising 101 volleys, 31 volleys and 21 volleys, and so on depending on the hierarchy.
- In India, artillery gun salutes are fired on the Republic Day, the Independence Day and also at the time of oath taking ceremony of the President, among other occasions.
- Over the years, this 21-gun salute — which are blanks — was fired by the World War era howitzers of British make known as 'Ordnance Quick Fire 25 Pounder' or just '25 Pounder'.

### Inclusion of ATAGS

- This year, two Advanced Towed Artillery Gun System (ATAGS) howitzers joined the battery that fired along with other 25 Pounders
- The ATAGS is an indigenous 155 mm x 52 calibre howitzer gun developed by the DRDO with its Pune-based facility Armament Research and Development Establishment (ARDE) being the nodal agency.
- Howitzers is an umbrella term for a category of long-range artillery guns.

### Induction of ATAGS into Army

- The system is currently undergoing an evaluation by the Directorate General Quality Assurance (DGQA)

marking its final stage before the Army places orders for it.

- The DGQA is a nodal agency for the quality assurance of all arms, ammunition, equipment and stores supplied to the Armed Forces.

#### **ATAGS features**

- The armament system of ATAGS mainly comprises barrel, breech mechanism, muzzle brake and recoil mechanism to fire 155 mm calibre ammunition held by Army with a longer range, accuracy and precision and provides greater firepower.
- The ATAGS is configured with all electric drive to ensure maintenance free and reliable operation over a longer period of time.
- It has advanced features in terms of high mobility, quick deployability, auxiliary power mode, advanced communication system, automatic command and control system with night firing capability in the direct fire mode.
- During its test at Pokhran, the maximum ranges of 38.5 km and 48 km, with boat tail and extended range full bore types of projectiles, were achieved.
- During the same trials, a minimum range of 4.7 km was achieved from the systems meeting the critical parameter of minimum range at high angle
- The specialised gun system is compatible with C4I (command, control, communications, computers, and intelligence) systems like the Artillery Combat Command and Control System (ACCCS) called Shakti for technical fire control, fire planning, deployment management, and operational logistics management of the Army.

## **4.4 3D printing**

Researchers from Hyderabad have 3D-printed an artificial cornea and transplanted it into a rabbit's eye.

### **What is 3D Printing?**

- 3D printing uses computer-aided design (CAD) to create three-dimensional objects through a layering method.

### **Principle**

- In 3D printing, a 3D printer makes a three-dimensional object from a CAD (computer-aided design) file.
- The creation of a 3D printed object is achieved using additive processes.
- In an additive process an object is created by laying down successive layers of material until the object is created.
- Each of these layers can be seen as a thinly sliced cross-section of the object.
- 3D printing enables us to produce complex shapes using less material than traditional manufacturing methods.

### **Working of a 3-D Printer**

- A typical 3D printer is very much like an inkjet printer operated from a computer.
- It builds up a 3D model one layer at a time, from the bottom upward, by repeatedly printing over the same area in a method known as fused depositional modeling (FDM).
- Working entirely automatically, the printer creates a model over a period of hours by turning a 3D CAD drawing into lots of two-dimensional, cross-sectional layers—effectively separate 2D prints that sit one on top of another.

### **What kind of “ink” does a 3D printer use?**

- Where an inkjet printer sprays liquid ink and a laser printer uses solid powder, a 3D printer uses neither.
- The 3-D printer deposits layers of molten plastic or powder and fuses them together (and to the existing structure) with adhesive or ultraviolet light.

### The most common 3D printing raw materials are the commodity thermoplastic polymers:

- Acrylonitrile butadiene styrene (ABS)
- Polylactic acid (PLA)
- Polyethylene terephthalate glycol-modified (PETG).

### Advantages of 3D Production Process

- Faster production – 3D printing can manufacture parts within hours, which speeds up the prototyping process. This allows for each stage to complete faster.
- Better quality products – 3D printing produces a consistent quality of product.
- Great for design and product testing – 3D printing is one of the best tools for product design and testing. It offers opportunities to design and test models to allow refinement with ease.
- Cost-effective – 3D printing, can be a cost-effective means of production. Once the model is created, the process is usually automated, and raw material waste tends to be limited.
- Product designs are almost infinite – The possibilities of 3D printing are almost limitless.
- 3D printers can print using various materials – Some 3D printers can actually blend or switch between materials. In traditional printing, this can be difficult and expensive.
- Environmentally Friendly – As this technology reduces the amount of material wastage used this process is inherently environmentally friendly.
- Advanced Healthcare: 3D printing is being used in the medical sector to help save lives by printing organs for the human body such as livers, kidneys and hearts. Further advances and uses are being developed in the healthcare sector

### Disadvantages

- Reduction in Manufacturing Jobs: There could be potential reduction in human labour, since most of the production is automated and done by printers.
- Limited Materials: 3D Printing can create items in a selection of plastics and metals. But the available selection of raw materials is not exhaustive. This is due to the fact that not all metals or plastics can be temperature controlled enough to allow 3D printing. In addition, many of these printable materials cannot be recycled and very few are food safe
- Restricted Build Size: 3D printers currently have small print chambers which restrict the size of parts that can be printed. Anything bigger will need to be printed in separate parts and joined together after production. This can increase costs and time.
- Design Inaccuracies: Some printers having lower tolerances, meaning that final parts may differ from the original design.
- Part Structure: With 3D printing parts are produced layer-by-layer. Although these layers adhere together it also means that they can delaminate under certain stresses or orientations.
- 3D printing has the potential to democratize the production of goods, from food to medical supplies, to great coral reefs. In the future, 3D printing machines could make their way into homes, businesses, disaster sites, and even outer space. As this technology spreads, it could help connect marginalized and difficult-to-reach populations with essential products. All in all, this emerging technology has the potential to revolutionize our societies, and transform the development sector.

## 4.5 The new defence systems handed over to Army

Defence Minister handed over two new weapons – the Nipun mines, the Landing Craft Assault (LCA) and the F-INSAS system – to the Army.

### What is the F-INSAS system?

- F-INSAS stands for Future Infantry Soldier as A System, a programme for infantry modernisation aimed at increasing the operational capability of the soldier.
- As part of the project, soldiers are being equipped with modern systems that are lightweight, all-weather-

all-terrain, cost-effective and low maintenance.

- The full-gear of the F-INSAS system includes an AK-203 assault rifle, a multi-mode hand grenade, which can be used in defensive and offensive modes.
- The weapon kit also has a multi-purpose knife for close quarters combat.
- Apart from this, the F-INSAS provides soldiers with ballistic helmets and ballistic goggles for protection against small projectiles and fragments, along with a bullet-proof vest.
- The F-INSAS also comes with hands-free, secured advanced communications set for real-time exchange of information with the command post and fellow soldiers for enhanced situational awareness.

#### **What is the F-INSAS modelled on?**

- Conceived in the 2000s, F-INSAS is one among many soldier modernisation programmes across the world.
- The US has Land Warrior, while the UK has FIST (Future Integrated Soldier Technology).
- According to estimates, over 20 armies around the world are following such programmes.
- The DRDO had conceptualised the F-INSAS in line with the targets of the Army's Infantry Soldier Modernisation Programme with an aim to optimise the soldier's performance across the full spectrum and duration of a military operation.

#### **What are Nipun mines?**

- Nipun mines are indigenously designed and developed anti-personnel mines, termed by the DRDO as 'soft target blast munition'.
- These mines are meant to act as the first line of defence against infiltrators and enemy infantry.
- They have been developed with the efforts of Armament Research and Development Establishment, a Pune-based DRDO facility, and Indian industry.
- Anti-personnel mines are meant to be used against humans as against anti-tank mines that are aimed at heavy vehicles.
- They are smaller in size and can be deployed in large numbers.
- The Army has said that the mine will provide protection to the troops on the borders and is more potent and effective than the existing anti-personnel mine in its arsenal.

#### **What is the Landing Craft Assault?**

- The Landing Craft Assault (LCA) is meant to serve as a replacement for the boats with limited capabilities currently in use in the Pangong Tso lake.
- The LCA, which has been indigenously developed by Goa-based Aquarius ShipYard Limited, is said to have better launch, speed and capacity to operate across water obstacles in eastern Ladakh.

#### **Some other defence systems**

- Other than these systems and equipment, the Defence Minister also formally handed over to the Army a thermal imaging sight for T-90 tanks; hand held thermal imager; and frequency-hopping radio relay for tactical communication across much longer ranges.
- Further, Downlink Equipment with Recording Facility to help helicopters in surveillance missions was also handed over. Using this system, reconnaissance data is recorded and can be accessed only when the helicopter returns to the base.
- Some other defence systems included, Infantry Protected Mobility Vehicles; Quick Reaction Fighting Vehicles and Mini Remotely Piloted Aerial System surveillance, detection and reconnaissance at the infantry battalion and mechanised units level.

### **4.6 Focus on science and technology**

- As India celebrates 75 years of Independence, a higher standard of living is possible if India shifts its focus to science and technology.
- India spends a meagre 0.7% of its GDP on research and development (R&D)



- It needs to make some fundamental policy changes to facilitate the transition.

### Such Transition should focus on

- These include increasing the R&D budget to 4% of the nation's GDP, ensuring that individual institutions implement processes to accommodate the large budget, encouraging individual entrepreneurs and linking science with society.

### Strengthening infrastructure

- First, spending 4% of the national GDP on R&D is required to drive science and innovation.
- Israel and South Korea are prime examples that drive their respective economies by spending nearly 5% of their GDP on R&D.
- However, an increase in the science budget to innovate must precede appropriate macro-level policy changes on how and where the money needs to be spent.
- A part of this increase needs to be earmarked for building physical and intellectual infrastructure across the country, especially in the universities.
- A first-class infrastructure must be accompanied by well-trained, globally competitive institutional administrators and processes.
- Second, before any policy changes take effect, individual institutions must implement processes to accommodate the large budget.
- This requires standardising procedures across institutions and borrowing the best practices from some global counterparts.
- Inadequate staffing at funding agencies, lack of transparency in fund disbursement, lack of a rigorous international standard review and feedback process, excessive delay in fund disbursement, and an outdated appraisal system are holding our scientists back.
- Part of the solution is to bring and implement best practices from the industry and some of the best-run science grant administrations abroad.

### Third – Science for the masses

- It is time to bring the fruits of science and technology closer to the masses.
- There is no better way to do this than by promoting and facilitating individual entrepreneurs.
- This has received increased attention from the government with many positive policy changes.
- There are no better cradles for creative ideas than our university labs.
- Fourth, a robust system to link the labs with the entrepreneurs to funnel innovative ideas, products, and solutions to our society needs to be in place.
- To make this happen, the universities must encourage scientists to innovate and place standardised procedures to take ideas out of labs.
- Entrepreneurship will only succeed in India if it is backed by a funnel of ideas and a liberal process of taking those ideas out of our university labs.

### Where does India can raise funds for such reforms?

- India cannot do that by taking money away from social infrastructure, rural development or important welfare schemes.
- This is only possible if India cuts the defence budget.
- No nation can claim to win wars in the 21st century with increased defence spending.
- Even the mighty U.S., with an excess of \$750 billion dollars in the defence budget, could not defeat the Taliban.
- We must realise that the next generation of war is economic, not military, and only a science and technology-driven economy can prepare us for that.

## 4.7 Manthan platform

- Principal Scientific Adviser to the Government of India unveils Manthan.
- Manthan is India's exclusive platform for driving R&D collaboration at scale and achieving India's scientific missions and UN SDGs.
- The Office of the Principal Scientific Adviser (PSA) to the Government of India (GoI); entrusted with the vision to enable and empower all spheres of science and technology within the country, announced the launch of the Manthan platform.
- Manthan can potentially change the landscape of science and technology-based social impact innovation and solutions in India.
- The platform will facilitate knowledge transfers and interactions through Information Exchange Sessions, Exhibitions, and Events to develop a framework for future science, innovation, and technology-led growth.

## 4.8 Endosulfan

- The Supreme Court directed the Kasargod District Legal Services Authority in Kerala to inspect the medical and palliative care facilities provided to endosulfan victims.
- The bench ordered the legal services authority to submit its report in six weeks.
- The order came after victims, complained of the lack of health care infrastructure provided by the State despite the best efforts of the district administration.
- The State Government has recently filed an affidavit informing the apex court about the disbursal of compensation to 98% of the victims.
- In May, the apex court slammed the Kerala Government for doing "virtually nothing" for endosulfan pesticide exposure victims.
- The court had said the State's inaction was "appalling" and amounted to a breach of the apex court's judgment in 2017, which had ordered the State to pay 5 lakh each to the victims in three months.
- The court noted that "The right to health is an integral part of the right to life under Article 21 of the Constitution. Without health, the faculties of living have little meaning."

### What is Endosulfan?

- Endosulfan is an organochlorine insecticide which was first introduced in the 1950s and is commonly known by its trade name Thiodan.
- It is linked to a slew of grave medical conditions, such as neurotoxicity, physical deformities, poisoning and more.
- It is sprayed on crops like cotton, cashew, fruits, tea, paddy, tobacco etc. for control of pests such as whiteflies, aphids, beetles, worms
- Endosulfan is listed under both the Rotterdam Convention on the Prior Informed Consent and the Stockholm Convention on Persistent Organic Pollutants.

### What are the Impacts of Endosulfan?

- Endosulfan in the environment gets accumulated in food chains leading to higher doses causing problems.
- The endosulfan ingestion results in diseases ranging from physical deformities, cancer, birth disorders and damage to the brain and nervous system in humans and animals.

### Rotterdam

- The Rotterdam Convention is the name of the Convention, which was adopted by the Conference of Plenipotentiaries in 1998 in Rotterdam (Netherlands).
- It intends to promote shared responsibility with respect to the global trade of hazardous chemicals.
- The convention's secretariat is located in Geneva, Switzerland.
- The Prior Informed Consent (PIC) procedure is implemented under the terms of the Convention, which establishes obligatory legal responsibilities.

### **What is the Prior Informed Consent (PIC) Procedure?**

- It is one of the key clauses of the 1998 Rotterdam Convention.
- It says that parties must legally obtain and communicate the decision to receive future shipments of the substances listed in Annex III of the Convention before they can import them.
- The importing parties must make sure that the exporting parties abide by any judgments made on their imports.

### **Members**

- The convention has 163 parties, including 158 UN members, the Cook Islands, the State of Palestine, and the European Union.
- The United States is one of the non-member states.
- On May 24, 2005, India became a party to the Rotterdam Convention.
- The Rotterdam Convention became effective in India on August 22, 2005.

### **The Rotterdam Convention's covered provisions are as follows:**

- The convention includes industrial chemicals and insecticides that are outlawed or subject to rigorous regulations.
- Any concern about industrial chemicals and pesticides encourages their inclusion on Annex III of the agreement.
- Annex III lists 52 chemicals, 35, 16 industrial chemicals, and one chemical that falls into both the pesticide and industrial chemical categories.

### **The Stockholm Convention:**

- It is a global treaty to protect human health and the environment from Persistent Organic Pollutants.
- It was opened for signature in 2001 in Stockholm (Sweden) and became effective in 2004.
- POPs are listed in various Annexes to the Stockholm Convention after thorough scientific research, deliberations and negotiations among member countries.

### **Objectives:**

- Support the transition to safer alternatives.
- Target additional POPs for action.
- Cleanup old stockpiles and equipment containing POPs.
- Work together for a POPs-free future.
- India ratified the Stockholm Convention in 2006 as per Article 25(4), which enabled it to keep itself in a default "opt-out" position such that amendments in various Annexes of the convention cannot be enforced on it unless an instrument of ratification/ acceptance/ approval or accession is explicitly deposited with UN depositary.
- The convention calls to ban nine of the dirty dozen chemicals (key POPs), limit the use of DDT to malaria control, and curtail inadvertent production of dioxins and furans.

### **The convention listed twelve distinct chemicals in three categories:**

- Eight pesticides (aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex and toxaphene)
- Two industrial chemicals (poly chlorinated biphenyls and hexachlorobenzene)
- Two unintended by-products of many industrial processes involving chlorine such as waste incineration, chemical and pesticide manufacturing and pulp and paper bleaching (poly chlorinated dibenzo-p-dioxins and dibenzofurans, commonly referred to as dioxins and furans).

## **4.9 Per- and polyfluoroalkyl substances**

A recent study published in Environment Science and Technology has found that rainwater from many places across the globe is contaminated with "per- and polyfluoroalkyl substances," (PFAs).

### What are PFAs?

- According to the US Centre for Disease Control and Prevention (CDC), PFAs are man-made chemicals used to make nonstick cookware, water-repellent clothing, stain-resistant fabrics, cosmetics, firefighting forms and many other products that resist grease, water and oil.
- PFAs can migrate to the soil, water and air during their production and use.
- They are called as “forever chemicals” because of their tendency to stick around in the atmosphere, rainwater and soil for long periods of time.
- PFAs can migrate to the soil, water and air during their production and use.
- Since most PFAs do not break down, they remain in the environment for long periods of time.
- Some of these PFAs can build up in people and animals if they are repeatedly exposed to the chemicals.

### What harm do PFAs cause?

- A variety of health risks that are attributed to PFA exposure, include decreased fertility, developmental effects in children, interference with body hormones, increased cholesterol levels and increased risk of some cancers.
- Recent research has also revealed that long-term low-level exposure to certain PFAs can make it difficult for humans to build antibodies after being vaccinated against various diseases.

### How can these chemicals be removed from rainwater?

- While there is no known method that can extract and remove PFAs from the atmosphere itself, there are many effective, albeit expensive, methods to remove them from rainwater that has been collected through various rainwater harvesting methods.
- One way to do this would be to use a filtration system with activated carbon.
- The activated carbon will need to be removed and replaced regularly.
- Also, the old contaminated material must be destroyed.

## 4.10 India Blockchain Platform

- India has made a significant effort to become a digital society by building a large citizen-scale digital public infrastructure.
- As, With the commencement of the Digital India mission in 2015, our payments, provident fund, passports, driving licences, crossing tolls, and checking land records all have been transformed with modular applications built on Aadhaar, UPI, and the India Stack.
- The Government of India and Reserve Bank of India (RBI) have been promoting simplification and transparency to increase the speed of interaction between individuals, markets, and the government.

### What are the Challenges of public digital infrastructure?

- For better implementation of digital technology, it is prerequisite that digital infrastructure should be designed based on principles of availability, affordability, value, and trust.
  - Which can be made by using design principles, legislative frameworks, governance frameworks, and public engagement.
  - But the current digital ecosystem, it is identified that existing different digital infrastructures are not interconnected as a design; a technical integration is required to make them conversant and interoperable.
  - Most of available digital data is stored on private databases, which makes the validation of data more complex as the network grows, driving up costs and creating inefficiencies.

Web 3.0 to address these challenges: Yes

### What is Web 3.0 (Web3)?

- Web 3.0 (Web3) is the third generation of the evolution of web technologies.

- The web, also known as the World Wide Web, is the foundational layer for how the internet is used, providing website and application services.
- Web 3.0 will have a strong emphasis on decentralized applications and make extensive use of blockchain-based technologies.
- Web 3.0 will also make use of machine learning and artificial intelligence (AI) to help empower more intelligent and adaptive applications.
- Web 3.0 architecture can be the next resilient platforms, which is capable of scaling and solving the current challenges in a cost-efficient manner.
- The Web 3.0 architecture establishes a new version of the Internet protocol incorporating token-based economics, transparency, and decentralization.
- A user can access all ecosystem benefits using a distributed token where they can show proof of ownership, tax history, and payment instrument.
- Therefore, A blockchain-based infrastructure can provide all these attributes without the need of trusting any actor to verify a ledger's history. The blockchain records could be visible, compiled, and audited by the regulators in real time.

#### **Increasing global adoption of blockchain infrastructure:**

- Many countries have already begun establishing their blockchain policies and infrastructure.
- Estonia, the world's blockchain capital, is using blockchain infrastructure to verify and process all e-governance services offered to the general public.
- In Britain, the Centre for Digital Built Britain, a partnership between the University of Cambridge and the UK government is running the National Digital Twin (NDT) program to foster collaboration between owners and developers of digital twins in the built environment
- There are also well-established Decentralised finance (DeFi) platforms that rely on blockchain infrastructure like Ethereum, however, pegged to the base cryptocurrencies owned by that platform.
- DeFi allows users to borrow and lend cryptocurrencies on a short-term basis at algorithmically determined rates.
- The digital roads that India must build using blockchain

The Indian digital community, including fintech's, academia, think tanks, and institutions, should focus on

- supporting research in standards,
- interoperability, and
- efficient handling of current known issues with the distributed technologies, scalability and performance, consensus mechanisms, and auto-detection of vulnerabilities
- Also, at present, end-user devices such as smartphones do not support blockchain-based technology and, as a result, the last mile is always outside the network.

#### **Current regulation mechanism and what need to be done?**

- Currently, the blockchain models are unregulated and rely on intrinsic standards.
- The ideal solution to solving most of the known issues of decentralised technologies lies in the middle path, e., a national platform.
- blockchains (both permissioned and public),
- application providers (decentralized applications — dApps —and existing),
- token service providers, and infrastructure managers.
- As a result, together they can form a reliable and efficient network for the Indian digital economy.
- The need of the hour is to work on an indigenous solution of the people, for the people, and by the people. A digital infrastructure based on blockchain technology will transform the digital ecosystem in India, and will enable the future of digital services, platforms, applications, content, and solutions. Considering the current situation worldwide, one can safely assume that we are at the beginning of the curve, but the days are not far.

## 4.11 Non Fungible Tokens

### Non Fungible Tokens

- Anything that can be converted into a digital form can be an NFT.
- Everything from drawings, photos, videos, GIFs, music, in-game items, selfies, and even a tweet can be turned into an NFT, which can then be traded online using cryptocurrency.

### Working of NFT:

- If anyone converts its digital asset to an NFT, he/she will get proof of ownership, powered by Blockchain.
- There is a need for a cryptocurrency wallet and an NFT marketplace where one can buy and sell NFTs.
- Some of the NFT marketplaces are OpenSea.io, Rarible, Foundation.
- NFTs are different from other digital forms in that they are backed by Blockchain technology.
- NFTs can have only one owner at a time.
- Apart from exclusive ownership, NFT owners can also digitally sign their artwork and store specific information in their NFTs metadata.
- This will be only viewable to the individual who bought the NFT.

### How is an NFT different from a cryptocurrency?

- Apart from NFTs and cryptocurrencies being built on Blockchain, both are different from each other.
- Cryptocurrency is a currency and is fungible, meaning that it is interchangeable.
- For instance, if one holds one crypto-token, say one Ethereum, the next Ethereum that the one holds will also be of the same value.
- However, NFTs are non-fungible, which means the value of one NFT is not equal to another.
- Nonfungible means NFTs aren't mutually interchangeable.
- Every art is different from others, making it non-fungible, and unique.

## 4.12 Mystery 'dwarfing' disease

- Scientists track cause of mystery paddy dwarfing in Punjab and Haryana
- Scientists at the Indian Agricultural Research Institute (IARI), collected samples of plants from farmers' fields – which showed symptoms of stunting and yellowing and have undertaken electron microscopy analysis and DNA isolation through PCR (polymerase chain reaction) technique.
- Agriculture scientists have narrowed down the cause of a mystery disease causing "dwarfing" of rice plants in Punjab and Haryana to either grassy stunt virus or phytoplasma bacteria.
- The vector responsible for their transmission is the brown plant hopper, an insect pest that sucks sap from the stems and leaves of rice plants.
- Preliminary laboratory analysis indicates the "phytoreovirus" or rice grassy stunt virus as the source of infection.
- This virus, which induces stunting and yellowing of rice plants, is transmitted by brown plant hopper.
- The second possible source is phytoplasma, a bacterial pathogen that is spread by both brown plant hopper and green leaf hopper sucking insect pests.
- Many farmers in Punjab, Haryana and even parts of western Uttar Pradesh and Uttarakhand have, for the past fortnight or more, been reporting stunting of paddy plants in their fields.
- Such stunting has taken place typically 30-35 days after transplanting or direct seeding of rice. Initially, all plants register uniform growth. But at a later stage, some stop growing while others continue.
- The proportion of dwarfed plants has been generally reported at 10 to 25 per cent, even exceeding 40 per cent in some cases.

## 4.13 Scientific Literacy in India

- India has failed to propagate scientific literacy not only among the public, but also among scientists

themselves.

- While politicians, writers, artists, actors, and other celebrities have been given their due, science and scientists seem to have been largely ignored.
- The general apathy towards science, and the lack of scientific temper among the public and politicians, is a poor commentary on the Indian sensibility.

#### **What is the status of scientific advancement in India?**

- A solid foundation for modern science was built by scientists in the 1950s and 1960s, facilitated by the then Prime Minister Jawaharlal Nehru.
- India has made significant scientific advances in fields such as molecular biology, agricultural/pharmaceutical science, solid-state chemistry, space, nuclear science, and information technology.

#### **What is the case of scientific literacy in India?**

- Parliament underscored our commitment to propagate scientific temper by including it as a duty in Article 51A of the Constitution through the 42nd Amendment.
- Article 51A says, “It shall be the duty of every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform.”
- Lack of scientific temper– Although India has made some significant scientific advances in research fields, it has failed to propagate scientific literacy in India.
- Scientific temper has not really percolated into society paving the way for retrogressive religion-based politics at the expense of constitutionally guaranteed secular values.
- The bulk of scientists in the country were themselves not committed to scientific temper which calls for rationality, reason, and lack of belief in dogma and superstition.
- India had not produced any Nobel Prize winner in science since 1930 largely because of the lack of a scientific environment in the country, of which scientific temper would be an important component.
- Pseudoscience- Pseudoscience is everywhere, whether in denying the science of climate change or the evolution theory.
- There is official backing of the theory that cow excreta has therapeutic properties despite no scientific validation of this.
- Official circulars quote ancient texts to support the curative properties of cow urine for ailments.
- Disinformation weakens human rights and many elements of democracy.
- Dissemination of fake news is faster and reaches millions of consumers in seconds thanks to Information Technology.

#### **What is the need of the hour?**

- It is the job of the science academies to chip in and inspire the country to attain greater science literacy among the public.
- There is a need to develop a knack for critical thinking using the time-tested and highly successful methodologies followed in science.
- Revamping of National Science, Technology, and Innovation Policy.
- Increasing fund allocation to R&D Institutes.
- Collaboration between various stakeholders – academic institutes, research organisation and industries.

## 5. Environment & Ecology

### 5.1 Draft e-waste Rules

Recently Environment Ministry has released Draft E-waste Management Rules, 2022, for public comments.

#### Stats

- The Environment Ministry estimated 7,70,000 tons of e-waste to have been generated in 2018-19 and around one million tons in 2019-20 of which only a fifth (about 22% in both years) has been confirmed to be “dismantled and recycled.”

#### Background

- A proposed framework by the Centre for regulating e-waste in India has upset a key link of India’s electronic waste collection system and threatens the livelihood of thousands.
- Electronic waste that are past their shelf life is largely handled by India’s vast informal sector.
- Many of these units are run out of unregulated sweatshops that employ child labour and hazardous extraction techniques.
- This electronic detritus also contributes to contaminating soil as well as plastic pollution.
- To address all of this, the environment ministry brought the E waste (Management) Rules, 2016, that introduced a system of Extended Producer Responsibility (EPR) compelling makers of electronic goods to ensure a proportion of the goods they sold every year was recycled.
- They are expected to maintain records annually demonstrating this.
- Most companies however didn’t maintain an in-house unit in charge of recycling and this gave rise to network of government-registered companies, called Producer Responsibility Organisations (PRO) who acted as an intermediary between manufacturers of electronic goods and formal recycling units that were technologically equipped to safely and efficiently recycle end-of-life electronic goods.
- As of March, the Central Pollution Control Board has registered 74 PROs, and 468 authorised dismantlers who have a collective recycling capacity of about 1.3 million tons.

#### Draft Rules

- Recently the Environment Ministry issued a draft notification that does away with PRO and dismantlers and vests all responsibility of recycling with authorised recyclers, only a handful of whom exist in India.
- Recyclers will source a quantity of waste, recycle them and generate electronic certificates.
- Companies can buy these certificates equivalent to their annual committed target and thus do not have to be involved with engaging PROs and dismantlers. T
- Several PROs have mailed their objections to the Environment Ministry arguing that dismantling a fledgling system was detrimental to the future of e-waste management in India.
- Under the new rules, recyclers will likely establish their own supply chains and companies will no longer bear any responsibility for ensuring that their produce is recycled.

#### Concern

- Five years of investing and putting in place a system to collect and channelise waste was under threat as about 25,000-30,000 were employed in this sector.

#### E-waste Management Rules, 2016:

- The Central Government, in the exercise of the powers provided under the Environment (Protection) Act, 1986, had notified e-waste management rules in 2016.
- These rules supersede the E-waste (Management and Handling) Rules, 2011.
- The rules aim to enable the recovery and/or reuse of useful material from e-waste, and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment.
- For the first time, the rules brought the producers under Extended Producer Responsibility (EPR), along



with targets.

- Producers have been made responsible for the collection of E-waste and for its exchange.
- The manufacturers, dealers, e-retailers, and refurbishers have been brought under the ambit of these rules to ensure that the e-waste is effectively channelized and disposed of.
- The urban local bodies have been assigned the responsibility of collecting back the e-waste arising from the orphan products and channelizing it to authorized dismantler or recycler.

#### **Amendment to EWM Rules, 2016:**

- In 2018, the EWM Rules were further amended.
- The new E-Waste (Management) Amendment Rules, 2018 has the provision of introduction of Producer Responsibility Organisation (PRO) registration.
- PRO is defined as a professional organization which can take the responsibility for collection and channelization of e-waste to ensure environmentally sound management of such e-waste.
- PROs are now required to register with CPCB under the new Rules.
- PROs will also have to prove that all collection is legitimate and share proofs for such collection.

## **5.2 Carbon markets**

- In order to facilitate the achievement of more ambitious climate change targets and ensure a faster transition to a low-carbon economy, the government is seeking to strengthen a 20-year law, called the Energy Conservation Act of 2001, which has powered the first phase of India's shift to a more energy-efficient future.

#### **The Bill to amend the Energy Conservation Act, 2001 –**

- First, it seeks to make it compulsory for a select group of industrial, commercial and even residential consumers to use green energy. A prescribed minimum proportion of the energy they use must come from renewable or non-fossil fuel sources.
- Second, it seeks to establish a domestic carbon market and facilitate trade in carbon credits.
- Importantly, the amendment Bill seeks to widen the scope of energy conservation to include large residential buildings as well. Till now, the energy conservation rules applied mainly on industrial and commercial complexes.

#### **What are carbon markets?**

- Carbon markets allow the trade of carbon credits with the overall objective of bringing down emissions.
- These markets create incentives to reduce emissions or improve energy efficiency.
- For example, an industrial unit which outperforms the emission standards stands to gain credits.
- Another unit which is struggling to attain the prescribed standards can buy these credits and show compliance to these standards.
- The unit that did better on the standards earns money by selling credits, while the buying unit is able to fulfill its operating obligations.
- Under the Kyoto Protocol, the predecessor to the Paris Agreement, carbon markets have worked at the international level as well.
- As the world negotiated a new climate treaty in place of the Kyoto Protocol, the developed countries no longer felt the need to adhere to their targets under the Kyoto Protocol.
- A similar carbon market is envisaged to work under the successor Paris Agreement, but its details are still being worked out.

#### **Where else can we see Carbon Markets?**

- Domestic or regional carbon markets are already functioning in several places, most notably in Europe, where an emission trading scheme (ETS) works on similar principles. Industrial units in Europe have prescribed emission standards to adhere to, and they buy and sell credits based on their performance.

China, too, has a domestic carbon market.

- A similar scheme for incentivising energy efficiency has been running in India for over a decade now. This BEE scheme, called PAT, (or perform, achieve and trade) allows units to earn efficiency certificates if they outperform the prescribed efficiency standards.

### 5.3 Hasdeo Aranya

- The Hasdeo Aranya forests are called the lungs of Chhattisgarh.
- Over the past one year, protests against mining in this region have erupted several times and some still continue to sit-in demanding a complete stop to mining.
- Amidst this, on July 26, the Chhattisgarh Legislative Assembly unanimously passed a private member resolution urging the Centre to cancel allocation of all coal mining blocks in the ecologically sensitive area.

#### Significance of the Hasdeo-Aranya region

- The Hasdeo Aranya (Aranya means forest) lies in the catchment area of the Hasdeo river and is spread across 1,878 sq km in North-Central Chhattisgarh.
- The Hasdeo river is a tributary of the Mahanadi river which originates in Chhattisgarh and flows through Odisha into the Bay of Bengal.
- The Hasdeo forests are also the catchment area for the Hasdeo Bango Dam built across the Hasdeo river which irrigates six lakh acres of land, crucial to a State with paddy as its main crop.
- Besides, the forests are ecologically sensitive due to the rich biodiversity they offer and due to the presence of a large migratory corridor for elephants.

#### What is a Private Member Resolution?

- An MLA who is not a Minister — whether she happens to be from the ruling party or not — is a private member.
- A private member resolution can be brought in by a private member and if passed, it becomes an expression of what the House thinks.
- This is different from a private member bill which would become law in case of approval.

#### When did the controversy surrounding coal mining start?

- Underneath the Hasdeo Aranya is a coalfield that comprises of 22 coal blocks. In 2010, the Centre categorised Hasdeo Aranya to be a “no-go” zone for mining. It ruled out mining in any of these blocks.
- However, only a year later, the Ministry of Environment, Forest and Climate Change (MoEF) granted clearance for the mining for one coal block.
- At present, of the 22 blocks, seven blocks have been allotted to different companies, says the resolution.

### 5.4 Leading people-powered climate action: “Lifestyle for the Environment” (LiFE)

- In November 2021, at the CoP 26 in Glasgow, Prime Minister Narendra Modi, in addition to announcing the panchamrit, or five climate-related commitments of the country, also articulated the concept of “Lifestyle for the Environment” (LiFE) — advocating for “mindful and deliberate utilisation” by people worldwide, instead of “mindful and wasteful consumption”.
- Over the last two decades, many countries have attempted policies and actions to address climate change. However, the positive impact that individual and community behaviours can have on climate action has remained under realised. According to the United Nation Environment Programme (UNEP), if one billion people out of the global population of close to eight billion adopt eco-friendly behaviours in their daily lives, global carbon emissions could drop by approximately 20 per cent.
- There is an urgent need for individuals to transcend geographical, social and economic boundaries, and come together as a global community to tackle the climate crisis. India can lead the global climate debate by nudging the world towards a new model of sustainable and inclusive development through the Lifestyle

for the Environment (LiFE) movement.

### **Lifestyle for the Environment (LiFE)**

- Launched on June 5, 2022, World Environment Day
- Vision: To harness the power of individual and collective action across the world to address the climate crisis.
- The objective of the movement is to nudge individuals and communities to adopt simple and specific climate-friendly behaviours in their daily lifestyles.
- Precedents of pro-planet initiatives around the world
- Denmark promotes the use of bicycles by limiting parking within the city centre and providing exclusive bike lanes.
- Japan has its unique “walk-to-school” mandate, which has been in practice since the early 1950s.
- LiFE, however, is planned as a first-of-its-kind global movement, led by India in partnership with other countries, that will provide the world with a unique people-powered platform to relentlessly focus on bringing individual and collective actions to the core of the climate action narrative.
- Consume responsibly: LiFE plans to nudge the world to consume responsibly, rather than consuming less. Building on the unique insights from India’s recent jan andolans such as the Swachh Bharat Mission (SBM), LiFE will deploy a range of tested behavioural techniques, including nudges, social and behaviour change communication and norm influencing to make mindful consumption a mass movement.
- Produce responsibly: By nudging the consumption patterns of the society at scale, LiFE can also trigger a huge boost for the sustainability market. Several green industries and a large number of jobs are likely to be initiated as a positive externality of LiFE.
- Live responsibly: Through its multi-dimensional, multi-cultural and global approach, the LiFE movement can play a pivotal role in not merely reversing the effects of climate change but, at a broader level, mainstream a harmonious and mindful way of living — a staple of Indian culture and tradition, practised by its people over centuries.

### **Conclusion**

- As the world moves in fits and starts towards its shared commitment to achieve ambitious climate goals, the time is ripe for India to lead the LiFE movement and mainstream it into the climate narrative. LiFE could arguably become the very heart of that model.

## **5.5 India’s higher Climatic Targets**

- As India strengthens its climate targets, a look at the progress so far.
- Nine months after Prime Minister made a few headline-grabbing promises at the climate change conference in Glasgow last year, the government, converted two of those into official targets, which would now be part of India’s international climate commitments for 2030.
- Along with the above mentioned new targets, PM also said that at least 500 GW of India’s installed electricity generation capacity in 2030 would be based on non-fossil fuel sources.
- Also, India promised that it would ensure avoided emissions of at least one billion tonnes of carbon dioxide equivalent between now and 2030.
- These two promises have not been converted into official targets.
- PM also announced a net zero target for India for the year 2070.

### **India’s progress**

- The upward revision of the two climate targets — those relating to reductions in emissions intensity and proportion of non-fossil sources in electricity generation — do not come as a surprise.
- India is on way to achieve its existing targets well ahead of the 2030 timeline.

### Emission

- India's emissions intensity was 24 per cent lower than the 2005 levels in the year 2016
- It is very likely that the 33 to 35 per cent reduction target has already been achieved, or is very close to being achieved.
- A further reduction of 10-12 per cent from here, to meet the new target, does not appear too challenging

### Electricity

- The other target — having at least 40 per cent of electricity coming from non-fossil fuels — has officially been reached.
- According to the latest data from the power ministry, 41.5 per cent of India's current installed electricity capacity of 403 GW is now powered by non-fossil fuels.
- Renewables (wind, solar and others) alone account for more than 28 per cent of this capacity while hydropower contributes over 11 per cent.
- With most of the new capacity additions happening in the renewable energy sector, a 10 per cent rise in the share of non-fossil fuels in electricity generation is not an unrealistic target.

### Tricky Glasgow promises

- Two promises made in Glasgow have not been converted into official targets.
- India announced that India's non-fossil fuel electricity generation capacity would touch 500 GW in 2030.
- And also India would cut at least one billion tonnes of carbon dioxide equivalent from its net projected emissions between now and 2030.
- Both these promises were tricky.
- The 500 GW non-fossil fuel electricity capacity target for 2030 is not easy.
- Of the current installed capacity of 403 GW, over 236 GW, or 58.5 per cent comes from fossil fuel sources, while non-fossil fuels, which include not just renewables like solar or wind but also hydropower, nuclear and others, make up only 167 GW.
- Capacity additions from non-fossil sources would have to triple in the next 10 years to reach the 500 GW target.
- The promise to reduce at least one billion tonnes of carbon dioxide equivalent from the cumulative projected emissions till 2030 was even more problematic.
- It was the first time that India had enunciated any climate target in terms of absolute emission reductions.
- But it appears it was announced without much preparatory work. India does not have any official projection of its emissions in 2030.
- In the absence of a baseline, the target would have been meaningless.

### Financial and technological support

- India's enhanced climate commitments were likely to be contingent on the availability of international finance and technology from the developed countries.
- The updated NDC does talk about the need for low-cost international finance and transfer of technology, but does not make achievement of targets contingent on their availability. This was the case in the previous NDC as well.

## 5.6 Tetrapods

- A new gigantic seawall protecting the long-suffering Chellanam village in Kerala.
- Over the past few years, Chellanam, an idyllic coastal village in Kerala's Ernakulam district, would unfailingly hit the headlines during the monsoons for massive sea incursion and widespread destruction of homes.
- However, this monsoon, despite heavy spells of rain lashing Ernakulam district from May, Chellanam has remained largely unaffected thanks to the construction of a new tetrapod-based seawall.

### What are tetrapods?

- Tetra pod in Greek means four-legged.
- These are four-legged concrete structures that are placed along coastlines to prevent erosion and water damage.
- Tetrapods were first used in France in the late 1940s to protect the shore from the sea.
- They are typically placed together to form an interlocking but porous barrier that dissipates the power of waves and currents.
- These are large structures, sometimes weighing up to 10 tonnes, and interlocked tetra pods act as a barrier that remains stable against the rocks when buffeted by waves.

### 5.7 India adds 11 more wetlands to the list of Ramsar Sites

- India adds 11 more wetlands to the list of Ramsar sites to make total 75 Ramsar sites covering an area of 13,26,677 ha in the country in the 75th year of Independence.
- The 11 new sites include: Four sites in Tamil Nadu, Three in Odisha, Two in Jammu & Kashmir and One each in Madhya Pradesh and Maharashtra.
- Designation of these sites would help in conservation and management of wetlands and wise use of their resources.
- India is one of the Contracting Parties to Ramsar Convention, signed in Ramsar, Iran, in 1971.
- India signed it on 1st Feb 1982.
- During 1982 to 2013, a total of 26 sites were added to the list of Ramsar sites, however, during 2014 to 2022, the country has added 49 new wetlands to the list of Ramsar sites.
- Tamil Nadu has maximum no. of Ramsar sites (14 nos), followed by UP which has 10 nos. of Ramsar sites.

#### New Ramsar Sites

- Odisha – Tampara Lake and Hirakud Reservoir, Ansupa Lake
- Madhya Pradesh – Yashwant Sagar
- Tamil Nadu – Chitrangudi Bird Sanctuary, Suchindram Theroor Wetland Complex, Vaduvur Bird Sanctuary and Kanjirankulam Bird Sanctuary
- Maharashtra – Thane Creek
- Jammu and Kashmir – Hygam Wetland Conservation Reserve and Shallbugh Wetland Conservation Reserve

### 5.8 Antarctic ice shelf crumbling faster than thought

- The first-of-its-kind study raises new concerns about how fast climate change is weakening Antarctica's floating ice shelves and accelerating the rise of global sea levels.
- Antarctica's coastal glaciers are shedding icebergs more rapidly than nature can replenish the crumbling ice, doubling previous estimates of losses from the world's largest ice sheet over the past 25 years, a satellite analysis showed.
- The study's key finding was that the net loss of Antarctic ice from coastal glacier chunks "calving" off into the ocean is nearly as great as the net amount of ice that scientists already knew was being lost due to thinning caused by the melting of ice shelves from below by warming seas.
- Taken together, thinning and calving have reduced the mass of Antarctica's ice shelves by 12 trillion tons since 1997, double the previous estimate.
- The net loss of the continent's ice sheet from calving alone in the past quarter-century spans nearly 37,000 sq km (14,300 sq miles), an area almost the size of Switzerland
- Antarctica is crumbling at its edges, and when ice shelves dwindle and weaken, the continent's massive glaciers tend to speed up and increase the rate of global sea level rise.
- The consequences could be enormous.
- Antarctica holds 88% of the sea level potential of all the world's ice.

- When ice shelves are stable, the long-term natural cycle of calving and re-growth keeps their size fairly constant.
- The accelerated glacial calving, like ice thinning, was most pronounced in West Antarctica, an area hit harder by warming ocean currents.
- But even in East Antarctica, a region whose ice shelves were long considered less vulnerable, are witnessing more losses than gains.
- The losses measured from calving outpaced natural ice shelf replenishment so greatly that researchers found it unlikely Antarctica can return to pre-2000 glacier levels by the end of this century.

## 5.9 Coastal Regulation Zone

- Comptroller and Auditor General (CAG) of India tabled a report in Parliament on whether steps taken by the Union Environment Ministry to conserve India's coastal ecosystems have been successful.
- The CAG frequently undertakes 'performance audits' of government programmes and ministries.
- This latest report contains the observations from an audit of Conservation of Coastal Ecosystems from 2015-20.

### What are the Centre's obligations on conserving the coastline?

- The government has issued notifications under the Environment Protection Act, 1986, to regulate activities along India's coasts particularly regarding construction.
- The Coastal Regulation Zone Notification (CRZ) 2019, implemented by the Ministry, classifies the coastal area into different zones to manage infrastructure activities and regulate them.
- The three institutions responsible for the implementation of the CRZ are the National Coastal Zone Management Authority (NCZMA) at the Centre, the State/Union Territory Coastal Zone Management Authorities (SCZMAs/UTCZMAs) in every coastal State and Union Territory and the District Level Committees (DLCs) in every district that has a coastal stretch and where the CRZ notification is applicable.
- These bodies examine if CRZ clearances granted by the government are as per procedure, if project developers once given the go-ahead are complying with conditions, and if the project development objectives under the Integrated Coastal Zone Management Programme (ICZMP) are successful.
- They also evaluate the measures taken up by the government towards achieving the targets under Sustainable Development Goals.

### Why did the CAG undertake this audit?

- The CAG has a constitutional mandate to investigate and report on publicly funded programmes.
- The CAG conducted pre-audit studies and found that there were large-scale CRZ violations in the coastal stretches.
- Incidences of illegal construction activities (reducing coastal space) and effluent discharges from local bodies, industries and aquaculture farms had been reported by the media and this prompted it to undertake a detailed investigation.

### What did the audit find?

- The audit pointed out various categories of violations.
- For one, the Environment Ministry hadn't notified NCZMA as a permanent body and it was being reconstituted every few years.
- In the absence of defined membership, it was functioning as an ad-hoc body.
- There were instances of the Expert Appraisal Committees — a committee of scientific experts and senior bureaucrats who evaluate the feasibility of an infrastructure project and its environmental consequences — not being present during project deliberations.
- There were also instances of the members of the EAC being fewer than half of the total strength during the deliberations.
- The SCZMA had not been reconstituted in Karnataka and there was delayed reconstitution in the States of

Goa, Odisha and West Bengal.

- The DLCs of Tamil Nadu lacked participation from local traditional communities.
- There were instances of projects being approved despite inadequacies in the Environment Impact Assessment (EIA) reports.
- These included non-accredited consultants preparing the EIA, using outdated data, not evaluating environmental impacts of the project, not appraising the disasters which the project area was prone to and so forth.

#### **What are CRZ norms?**

- In India, the CRZ Rules govern human and industrial activity close to the coastline, in order to protect the fragile ecosystems near the sea.
- They restrict certain kinds of activities — like large constructions, setting up of new industries, storage or disposal of hazardous material, mining, reclamation and bunding — within a certain distance from the coastline.
- Under the section 3 of Environment Protection Act, 1986 of India, Coastal Regulation Zone notification was issued in February 1991 for the first time.
- In 2018-19, fresh Rules were issued, which aimed to remove certain restrictions on building, streamlined the clearance process, and aimed to encourage tourism in coastal areas.
- While the CRZ Rules are made by the Union environment ministry, implementation is to be ensured by state governments through their Coastal Zone Management Authorities.

#### **Classifications of Coastal Zones under CRZ Notification 2011**

- CRZ-I (ecologically sensitive areas like mangroves, coral reefs, biosphere reserves etc.).
- No new construction shall be permitted in CRZ-I except
- Projects relating to the Department of Atomic Energy;
- Construction of trans-harbour sea link and roads without affecting the tidal flow of water, between LTL and HTL. etc.
- Between Low Tide Line and High Tide Line in areas which are not ecologically sensitive, the following may be permitted;
- Exploration and extraction of natural gas;
- Construction of basic amenities like schools, roads, etc. for traditional inhabitants living within the biosphere reserves;
- Salt harvesting by solar evaporation of seawater;
- Desalination plants;
- Storage of non-hazardous cargo such as edible oil, fertilizers within notified ports;
- CRZ-II (Areas which are developed up to the shoreline and falling within the municipal limits; includes built-up area – villages and towns are that are already well established),
- Buildings are permissible on the landward side of the hazardous line.
- Other activities such as desalination plants are also permissible.
- Some construction is permitted only as per guidelines specified by the notification.
- CRZ-III: Areas that are relatively undisturbed and do not fall under either in Category I or II and also include rural and urban areas that are not substantially developed.
- Between 0-200 metres from HTL is a No Development Zone where no construction shall be permitted.
- Only certain activities relating to agriculture, forestry, projects of Department of Atomic Energy, mining of rare minerals, salt manufacture, regasification of petroleum products, non-conventional energy sources and certain public facilities may be permitted in this zone.
- Between 200-500 metres of HTL, those permitted in 0-200 metres zone, construction of houses for local communities and tourism projects are permissible.
- CRZ-IV: The aquatic area from low tide line up to territorial limits is classified as CRZ-IV including the area of the tidal influenced water body.
- There is no restriction on the traditional fishing undertaken by local communities.
- No untreated sewage or solid waste shall be let off or dumped in these areas.

### **New Rules under CRZ regulations**

- The government notified new CRZ Rules with the stated objectives of promoting sustainable development and conserving coastal environments.
- For the so-called CRZ-III (Rural) areas, two separate categories have been stipulated.
- In the densely populated rural areas (CRZ-IIIA) with a population density of 2,161 per sq km as per the 2011 Census, the no-development zone is now 50 m from the high-tide level, as against the 200 m stipulated earlier.
- In the CRZ-IIIB category (rural areas with population density below 2,161 per sq km) continue to have a no-development zone extending up to 200 m from the high-tide line.
- The new Rules have a no-development zone of 20 m for all islands close to the mainland coast, and for all backwater islands in the mainland.

## **5.10 Stepping back from an ecological abyss**

- 1970s and 1980s India saw the rise of environmentalist movements like Chipko, Silent Valley, Narmada, Koel-Karo. The government too responded with a series of forest, wildlife, environment-related laws, and policies. As India celebrates 75 years of Independence, we examine how this legacy is now being carried.

### **An earth under stress: key facts**

- According to NITI Aayog, 600 million people in India face high to extreme water stress with nearly 70% of water being contaminated; India is placed at 120th amongst 122 countries in the water quality index.
- Land degradation and desertification are taking place over 30% of our land, according to the Indian Space Research Organisation.
- The World Bank reported in 2013 that India was losing 5.7% of GDP due to environmental damage.
- The latest global environmental performance index (EPI) by Yale and Columbia Universities puts India at the bottom among 180 countries.

### **About: Environment Performance Index (EPI)**

#### **India's performance:**

- With a score of 18.9, India's 180th ranking comes after Pakistan, Bangladesh, Vietnam, and Myanmar.
- India has also scored low on rule of law, control of corruption and government effectiveness, according to EPI.
- Indian government has rejected the methodology and findings of EPI based on following grounds:
- The 'projected GHG emissions levels in 2050' is computed based on the average rate of change in emission of the last 10 years instead of modelling that considers a longer period, the extent of renewable energy capacity and use, additional carbon sinks, energy efficiency, etc. of respective countries.
- Forests and wetlands of the country are crucial carbon sinks but have not been factored in.
- The index computes the extent of ecosystems but not their condition or productivity.
- The weight of the indicators in which India performed well has been reduced and the reasons for such change have not been explained in the report.

#### **Counter-arguments: India's declining policy stand on environment:**

- Favouring corporate access
- Despite public posturing about the SDGs, the natural elements without which we would all be dead — land, water, biodiversity, air — continue to be ignored or mauled.
- In fact, the Government is dismantling many environmental and social security policies to favour corporate access to land and natural resources, such as the latest proposals to amend forest and environment laws and the Environment Impact Assessment notification.

#### **The socio-cultural cost of environment degradation:**

- After the LPG Reforms of 1991, the entry of multinational corporations into every sector, and increasing



exports of natural materials and imports of toxic waste, the issue of environmental sustainability was relegated to the background.

### **Mining projects crept into previously safe areas including wildlife protected areas and Adivasi territories.**

#### **Extreme events:**

- The extreme temperatures in India are responsible for 7,40,000 excess deaths annually.
- The majority of these are likely to be labourers, farmers, and other vulnerable sections who must work, live, and commute in these temperatures without access to air-conditioning, appropriate clothing, etc.
- Enabling sustainability – Important case studies
- Ensuring ecological sustainability while generating livelihood security and dignity – Vikalp Sangam
- Five thousand Dalit women farmers of the Deccan Development Society have demonstrated how organic, rainfed farming with traditional seed diversity can provide full food security and sovereignty.
- Community-led ecotourism – such as homestays in Uttarakhand and Ladakh and Sikkim, has combined increased earnings with ecologically sensitive visitation. Linking programmes such as the MGNREGA with such activities, as happening in some States, also has huge potential.

#### **Way forward:**

- This needs fundamental restructuring of economy and governance.
- Shift away from large infrastructure and industrialisation, replacing mega-corporations with producer cooperatives, ensuring community rights over the 'commons' (land, water, forest, coasts, knowledge), and direct decision-making powers to gram sabhas and urban area sabhas while tackling gender and caste inequities. It will entail respect for both human rights and the rights of nature.
- Only with the respect for both human rights and the rights of nature, India finish its century of Independence as a nation that has achieved genuine well-being — a real 'Amrit kaal'.

### **5.11 Delhi, Kolkata most polluted cities globally by PM2.5**

- According to a report titled Air Quality and Health in Cities, published by the United States-based Health Effects Institute, Delhi and Kolkata are the top two most polluted cities in terms of exposure to harmful fine particulate matter (PM2.5).
- The report examines pollution and global health implications in over 7,000 cities worldwide, focussing on two of the most dangerous pollutants – fine particulate matter (PM2.5) and nitrogen dioxide (NO2).

#### **Overall findings of the Air Quality and Health in Cities report:**

- According to the report, while exposures to 5 and NO2 pollution tend to be higher in cities located in low and middle-income countries,
- The report found most global cities far exceed World Health Organisation's (WHO) air pollution guidelines, posing serious health risk.
- In 2019, 86% of the cities analysed exceeded the WHO's 10 µg/m<sup>3</sup> (microgram per cubic metre) guideline for NO2, impacting about 2.6 billion people.
- 41 of the 50 cities with the highest increase in PM2.5 are in India, with 9 in Indonesia.
- On the other hand, all 20 cities with the highest reduction in PM2.5 pollution from 2010 to 2019 are in China.

#### **India specific findings:**

- Delhi and Kolkata were ranked first and second in the list of top 10 most polluted cities when PM2.5 levels were compared.
- In terms of impact, Delhi and Kolkata ranked sixth and eighth for PM2.5 related disease burden, reporting 106 deaths and 99 deaths per lakh of population, respectively due to exposure to 5 in 2019.
- However, no Indian city appeared in the list of top 20 polluted cities when NO2 levels were compared (Shanghai at the top with an average annual exposure of 41 µg/m<sup>3</sup>).

- Short-lived climate pollutants: Short-lived climate pollutants (SLCPs) are powerful climate forcers that remain in the atmosphere for a much shorter period than longer-lived climate pollutants, such as carbon dioxide (CO<sub>2</sub>). They include methane, PM 2.5, NO<sub>2</sub>, fluorinated gases including hydrofluorocarbons (HFCs), and black carbon.

## 5.12 Solar energy: For Amrit Kaal in agriculture

- By making solar energy the ‘third crop’, promoting this innovation on a mission mode, the government can double farmers’ income.
- Recently, India celebrated 75 years of Independence and entered the Amrit Kaal toward 2047.
- The famous slogan of late Lal Bahadur Shastri, “Jai Jawan, Jai Kisan,” was extended by Atal Bihari Vajpayee to include “Jai Vigyan.” Now, our current Prime Minister has extended it to, “Jai Anusandhan”.

### Challenges with respect to growing population and availing the food:

- As per the latest UN Population reports, India is likely to surpass China by 2023. So, the biggest challenge will be feeding a country whose per capita income still hovers around \$2,300.
- The per capita income is likely to grow between 5 to 6 per cent per annum, under normal conditions.
- As they rise from low-income levels, people are likely to demand not just more food but safe and nutritious food.
- So, the first challenge would be to align our Agri-policies and strategies to the emerging demand pattern.

### The above infographic shows that:

- Poultry and fisheries have the fastest growth, while it has been the slowest in cereal production despite regular Government intervention is the most in cereals through the massive procurement of rice and wheat under MSP.
- While those sub-sectors of agricultural economy that rely on market forces, no matter how imperfect, still perform better.

### We need to focus on the food system as a composite entity. It has five dimensions:

- Production, marketing, and consumption is the traditional part of the food system and need to add two more.
- The environmental sustainability of our food systems and their nutritional outcomes.
- As in the past, The Green Revolution of the 1960s brought about a marked improvement in the yield of agricultural crops such as rice and wheat.
- However, intense use of irrigation, chemical fertilizers and pesticides lead to negative environmental consequences.
- Promotion of climate-resilient and environment sustainable agriculture.
- To check on declining groundwater table, rejuvenate our soils, and Carbon markets need to be developed so that farmers can be incentivized to change existing farming practices that are not compatible with environmental sustainability.
- Adaptation of digital technology (e-technology in the aid of farmers) will help in better adaptation and implement of this initiative. We need to become a nation of innovators in agriculture like Israel, Holland, and the US.
- Making the agri-food system vibrant and competitive requires significantly augmenting farmers’ income by Diversification of crops toward high-value crops by building efficient value chains by the participation of private sector.
- There is also need to bring innovation and advancement of technology in the field such as use of solar energy (“solar as a third crop”) on fields.
- On one acre of cultivated land, which grows two crops a year, one can have more than 400 solar panels (trees) of 10 to 12 feet in height, with due spacing for regular cultivation.
- So, it will help the adding the farmer’s income in two ways

### Reducing to zero, the current electricity bill

- Generating income by selling solar energy: As Solar energy generated from 400 panels will be the “third crop” that can be bought by the power companies and incorporated into the grid for distribution.
- A pilot programme in the Najafgarh KVK area revealed that farmers could earn additional income of up to Rs one lakh/acre, when the capital cost is being incurred by another entrepreneur.
- In addition to that it will help in pollution reduction, therefore it will be sustainable crop production.
- Therefore, the production of crop by using the method is “inclusive growth, green growth” model that needs to supplement the solar parks model being developed by entrepreneurs which will help in better utilisation of social capital and powers of mobilization.
- And it will lead to double and stabilize farmers’ incomes which will help in achieve the purpose of slogan of “Jai Anusandhan”.

### 5.13 Vizhinjam port

- The week-long ongoing protests against the construction of the Adani Group’s Vizhinjam International Transshipment Deepwater Multipurpose Seaport in Kerala’s capital Thiruvananthapuram intensified, with fisherfolk laying siege to the port from the sea and land.
- The fishing community has said the protests will continue until all their demands are met.
- The Chief Minister of Kerala told that the government was ready for talks, and wanted to resolve the concerns faced by the fishing community — however, it could not agree to halting the project.

#### Fisherfolk’s demands

- The biggest demand of the protesters is that the project should be stopped and a proper environmental impact study should be carried out.

#### The community has also put forward six other demands:

- rehabilitation of families who lost their homes to sea erosion,
- effective steps to mitigate coastal erosion,
- financial assistance to fisherfolk on days weather warnings are issued,
- compensation to families of those who lose their lives in fishing accidents,
- subsidised kerosene, and
- a mechanism to dredge the Muthalappozhi fishing harbour in Anchuthengu in Thiruvananthapuram district.
- The government has conceded all demands except providing a kerosene subsidy, and halting the construction of the port.
- Delays; contested studies
- As per the initial agreement, the project was supposed to be operational by 2019. The Adani Group cited several reasons for the delay, from the 2017 Ockhi cyclone to the Covid-19 pandemic.
- Fisherfolk were also provoked by the central government’s annual shoreline studies that concluded work on the port did not lead to increased coastal erosion, even though the impact was clearly visible.
- In 2019, the National Institute of Ocean Technology, Chennai, said in its Annual Shoreline Monitoring report that erosion spots such as Valliyathura, Shangumugham, and Punthura had remained unchanged since the construction of the port began in 2015.
- The 2021 edition of the study noted erosion at Pulluvila (500 m), Mullur (290 m), Kochuveli (250 m), Punthura (150 m), Cheriyaathura (120 m), Shangumugham (100m), and Valliyathura (50m), but concluded that the port activity had less impact than high wave activities and cyclones in the Arabian Sea.

#### Question of viability

- The Rs 7,525 crore port being built under a Public Private Partnership (PPP) model with Adani Ports Private Limited, in December 2015.
- The port will have 30 berths, and will be able to handle giant “megamax” container ships.

- It is said to be ultramodern port, located close to major international shipping routes, will boost India's economy.
- The port is expected to compete with Colombo, Singapore, and Dubai for a share of trans-shipment traffic.
- The report of the Comptroller and Auditor General of India, tabled in the Kerala assembly in 2017, had said the conditions of the concession agreement were not favourable to the state government.
- Out of a total project cost of Rs 7,525 crore, the Adani Group needs to invest only Rs 2,454 crore. The rest of the cost would be borne by the state and the central governments, the CAG report stated.
- The CAG had said that the standard concession period for PPP projects was 30 years, but the Vizhinjam project concessionaire had been given an extra 10 years, which would allow it to reap an additional revenue of Rs 29,127 cr
- According to locals, the project would put the government in a "debt trap", and could meet a fate similar to that of the Vallarpadam Terminal in Kochi, which has failed to make a profit more than a decade after it was opened.

#### 5.14 Battery Waste Management Rules, 2022

- Ministry of Environment, Forest and Climate Change, Government of India published the Battery Waste Management Rules, 2022 to ensure environmentally sound management of waste batteries. These rules will replace Batteries (Management and Handling) Rules, 2001.
- The rules cover all types of batteries, viz. Electric Vehicle batteries, portable batteries, automotive batteries and industrial batterie.
- The rules' function based on the concept of Extended Producer Responsibility (EPR) where the producers (including importers) of batteries are responsible for collection and recycling/refurbishment of waste batteries and use of recovered materials from wastes into new batteries.
- The rules will enable setting up a mechanism and centralized online portal for exchange of EPR certificates between producers and recyclers/refurbishers to fulfil the obligations of producers.
- Mandating the minimum percentage of recovery of materials from waste batteries under the rules will bring new technologies and investment in recycling and refurbishment industry and create new business opportunities.
- Prescribing the use of certain number of recycled materials in making of new batteries will reduce the dependency on new raw materials and save natural resources.
- Online registration & reporting, auditing, and committee for monitoring the implementation of rules and to take measures required for removal of difficulties are salient features of rules for ensuring effective implementation and compliance
- On the principle of Polluter Pays Principle, environmental compensation will be imposed for non-fulfilment of EPR targets, responsibilities and obligations set out in the rules. The funds collected under environmental compensation shall be utilised in collection and refurbishing or recycling of uncollected and non-recycled waste batteries.

#### 5.15 Europe's great drought

- Europe is experiencing the great drought.
- Some of Europe's biggest rivers — Rhine, Po, Loire, Danube — which are usually formidable waterways, are unable to support even mid-sized boats.
- As water levels have fallen, remains of sunken ships and ominously named hunger stones — rocks engraved by previous generations during earlier periods of extraordinary dryness — have come out of erstwhile depths.
- The drought has been billed as the worst in 500 years.
- It is being said that never has a European summer been so dry since 1540, when a year-long drought killed tens of thousands of people.
- The dry spell this year follows a record-breaking heatwave that saw temperatures in many countries rise

to historic highs.

### **The impact has been debilitating.**

- Water transport has suffered badly, and is having cascading effects.
- Power production has been hit, leading to electricity shortages and a further increase in energy prices already pushed high by the war in Ukraine.
- Food is sharply more expensive in many countries, and drinking water is being rationed in some regions.
- Worst in 500 years
- Earlier European droughts — such as those in 2003, 2010, and 2018 — too were compared to the 1540 event.
- Much like now, the 2018 drought was described as the “worst in 500 years”.
- But a senior scientist at the European Commission’s Joint Research Centre said this year could turn out to be worse than 2018, though data were still being analysed.
- The “worst in 500 years” description may be still not settled, but the impacts of this event are expected to be far worse than anything experienced in the recent past.
- Europe has been facing large scale climatic anomalies for over six months — precipitation has been far less than usual, while temperatures have soared to unprecedented levels.
- And this has come on top of the massive energy and food-supply implications of the Ukraine war.

### **Waterways and power**

- Apart from agriculture and drinking water supplies, the most visible impact has been the disruption in Europe’s waterways.
- Europe depends heavily on its rivers to move cargo in an economical manner, including coal to power plants.
- With water levels down to less than a metre in some stretches, most large ships have been rendered unusable.
- Supply disruptions in coal has hit power generation.
- Lack of adequate water has affected the operation of nuclear power plants, which use large amounts of water as coolant.
- The result has been a shortage of electricity and an unprecedented rise in energy prices.
- Drought in China, US too
- Many parts of China too are headed towards a serious drought, being described as the worst in 60 years.
- The country’s longest river, Yangtze, which caters to about a third of the Chinese population, is seeing water levels drop to record lows, according to a report in the South China Morning Post.
- Two of the country’s biggest freshwater lakes, Poyang and Dongting, have touched their lowest levels since 1951, the report said.
- The water scarcity is leading to problems similar to those in Europe. Power shortages in some areas have begun to force factories to shut, adding to the strain on global supply chains.
- Over 40% of the area in the United States too is under drought conditions currently, affecting about 130 million people, according to the US government.

## **5.16 Fuel Cell Electric Vehicle (FCEV)**

Recently hydrogen fuel cell bus developed by KPIT-CSIR in Pune was unveiled by Union minister of state for Science and Technology.

### **What is a hydrogen fuel cell?**

- The hydrogen fuel cell uses hydrogen and air to generate electricity, producing only heat and water in the process.
- Fuel cells work in a similar manner to conventional batteries found in electric vehicles but they do not run out of charge and do not need to be recharged with electricity.

- It continues to produce electricity if there is a supply of hydrogen. Just like conventional cells, a fuel cell consists of an anode (negative electrode) and cathode (positive electrode) sandwiched around an electrolyte.
- Hydrogen is fed to the anode and air is fed to the cathode.
- The electrons go through an external circuit, creating a flow of electricity that can be used to power electric motors. The protons, on the other hand, move to the cathode through the electrolyte. Once there, they unite with oxygen and electrons to produce water and heat.

#### **What is the advantage of hydrogen FCEV?**

- The main of hydrogen fuel cell electric vehicles (FCEV) is that they produce no tailpipe emissions.
- They are more efficient than internal combustion engine vehicles.
- When it comes to refuelling time, which makes them more practical than battery-powered electric vehicles for public transportation purposes.

#### **What are the challenges with FCEVs?**

- FCEVs do not generate gases that contribute to global warming; the process of making hydrogen needs energy — often from fossil fuel sources. This has raised questions over hydrogen's green credentials.
- There are questions of safety — hydrogen is more explosive than petrol.
- Hydrogen fuel tanks in FCEVs such as the Mirai are made from highly durable carbon fibre, whose strength is assessed in crash tests, and trials where bullets are fired at it, which makes vehicles, more expensive, and fuel dispensing pumps are scarce.

#### **How environment-friendly are hydrogen fuel cell vehicles?**

- Using a battery-powered electric vehicle does not mean that the vehicles produce no emissions, but rather, that they produce no tailpipe emissions.
- Since most of the electricity in the country comes from fossil fuels, and the biggest source of hydrogen in the world currently is also fossil fuels, these vehicles do cause many emissions with their usage.
- However, just like we are moving towards renewable sources of electricity, we could also move towards renewable methods of generating hydrogen in the future.
- So, even if these vehicles do contribute to emissions right now, the fuel that they need could be produced using renewable methods such as solar and wind energy.

### **5.17 Getting India to Net Zero report**

- Achieving net zero carbon emissions by 2070 could boost India's economy by as much as 4.7% above the projected baseline growth in GDP terms by 2036, worth a total of \$371 billion as per the report by High-level Policy Commission on Getting Asia to Net Zero.
- It could also create as many as 15 million new jobs by 2047.
- The Getting India to Net Zero report, as it is called, contains new research and modelling and finds that policies to initiate the clean energy transition will be crucial in determining when India achieves net zero emissions and how much it could benefit from it.
- Positive economic impacts are driven in part by an improved trade balance of \$236 billion due to reduced demand for fossil fuels.
- By reaching net zero by 2050, India could boost annual GDP by as much as 7.3% (\$470 billion) and create nearly 20 million additional jobs by 2032, compared with the current policies, the report finds.
- Net zero emissions by 2070 would require an economy-wide investment of \$10.1 trillion from now; 2050 calls for \$13.5 trillion, the research finds.
- Additional finance would free up existing resources to tackle negative impacts of climate policies such as carbon taxes, and to help reskill and upskill workers.

## 6. Security issues

### 6.1 Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022

- The Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022, was passed in Rajya Sabha.
- The Bill amends the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005.
- The 2005 Act prohibits unlawful activities (such as manufacturing, transport, or transfer) related to weapons of mass destruction, and their means of delivery.
- Weapons of mass destruction are biological, chemical, or nuclear weapons.

#### Amendments

- Prohibition on financing certain activities: The Bill bars persons from financing any prohibited activity related to weapons of mass destruction and their delivery systems.
- To prevent persons from financing such activities, the central government may freeze, seize or attach their funds, financial assets, or economic resources (whether owned, held, or controlled directly or indirectly).
- It may also prohibit persons from making finances or related services available for the benefit of other persons in relation to any activity which is prohibited.

### 6.2 Kerala opposes changes to MMDR Act

- The Kerala government has opposed the new set of proposed amendments to the Mines and Minerals (Development and Regulation) Act.
- The State Industries Minister stated that the amendments are a breach of States' rights as minerals come under the purview of States.
- The Centre had invited suggestions from the public to the draft amendments to the MMDR Act.

#### Proposed amendments

- The main objection is against the sixth item in the note for consultation sent to the State governments that will empower the Centre to auction some minerals from the list of atomic minerals.
- Kerala strongly opposes the proposed amendment as State governments are the owners of the mines and minerals located within the territory of the State concerned, and under Entry 23 of List II of the Constitution and the Constitutional right of the State under Article 246(3), State Assemblies can make laws on such minerals.

#### Ownership of Mineral:

- The State Governments are the owners of minerals located within the boundary of the State concerned, under the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 and Mineral Concession Rules, 1960.
- However, for minerals specified in the First Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 approval of the Central Government is necessary.
- The Central Government is the owner of the minerals underlying the ocean within the territorial waters or the Exclusive Economic Zone of India.
- Schedule I contains minerals such as coal and lignite, minerals of the "rare earths" group containing Uranium and Thorium.

#### Atomic Minerals

- Uranium and Thorium are the main atomic minerals.
- Other atomic minerals are beryllium, lithium and zirconium.

## Thorium

- Thorium is a chemical element with symbol Th and atomic number 90.
- It is one of only two significantly radioactive elements that still occur naturally in large quantities.
- Thorium is estimated to be about three to four times more abundant than uranium in the Earth's crust, and is chiefly refined from monazite sands.
- Monazite is a widely scattered on the Kerala Coast
- Thorium is predicted to be able to replace uranium as nuclear fuel in nuclear reactors.

## 6.3 INS Vikrant

The nation's first Indigenous Aircraft Carrier (IAC-1) is set to be commissioned soon in the presence of Prime Minister of India; the Indian Navy has announced.

### What is the aircraft carrier INS Vikrant?

- The INS Vikrant – the 44,000-tonne indigenous aircraft carrier (IAC) – is the first to be designed and constructed in India.
- After its induction, the warship will be a key component of the Indian Navy's push to establish itself as a "blue water" force, one with the ability to project its power on distant seas.

### Features:

- The Vikrant stretches 262 metres in length, exceeding that of two football fields and is 62 metre wide. Around 20 aircraft can be parked in the hangar.
- It has a top speed of around 28 knots (more than 50 kmph) and a cruising speed of 18 knots with an endurance of about 7,500 nautical miles.
- Over 76 per cent of the material and equipment on board the carrier is indigenous, including 21,500 tonnes of special grade steel developed indigenously and used in Indian naval ships for the first time.
- This is the first time in the country that a ship of the size of an aircraft carrier is completely modelled in 3D and production drawings extracted from the 3D model.
- The Made-in-India warship is a feather in the country's cap, as only five or six nations have the capacity of building an aircraft carrier.

### It will be carrying:

- the Russian-made MiG-29K fighter jet,
- Kamov-31 early warning helicopters,
- the indigenously manufactured Advanced Light Helicopters and
- the MH-60R multirole helicopter made by the American defence major Lockheed Martin.

### Why is it named Vikrant?

- INS Vikrant was India's first aircraft carrier, which it acquired from the United Kingdom in 1961.
- It played a key role in the 1971 war with Pakistan which led to the creation of Bangladesh. It was decommissioned in 1997.

### Now India's first homemade aircraft carrier will carry the name of her illustrious predecessor.

#### Other aircraft carriers:

- The Indian Navy has only one operational aircraft carrier at present – the INS Vikramaditya.
- The country's two earlier carriers, INS Vikrant and INS Viraat, were originally the British-built HMS Hercules and HMS Hermes before being commissioned into the Navy in 1961 and 1987 respectively.
- The commissioning of the warship, which will be christened 'Vikrant', will mark a "historical milestone of realisation of Nation's commitment towards AatmaNirbharta" (self-reliance).



## 7. Social issues

### 7.1 National Crime Records Bureau (NCRB) Report

- Recently, National Crime Records Bureau (NCRB) released its report while highlighting the issues of
- Daily wage earners remained the largest profession-wise group among suicide victims in 2021.
- Significant rise in crimes against women and while chargesheet rate low.
- Rise in crime against children and POCSO accounts third highest crime against the children.
- Punjab has highest no of crimes rate under NDPS (Narcotic Drugs and Psychotropic Substances) Act
- There is increase in crime against scheduled tribes (STs) registration as increase of 4% from 8,272 cases in 2020 to 8,802 in 2021 whereas cases of atrocities against scheduled castes (SCs) registered an increase of 1.2% in 2021.

#### Significant rise in crimes against women and while chargesheet rate low:

- There is alarming rise of 40% in crimes against women and children however only 31% of IPC cases being charge sheeted.
- A rapid 111% jump in cases of cybercrimes.
- Majority of cases under crime against women under IPC were registered under 'Cruelty by Husband or His Relatives' (31.8 per cent) followed by 'Assault on Women with Intent to Outrage her Modesty' (20.8 per cent),
- Uttar Pradesh (56,083), Rajasthan (40,738) and Maharashtra (39,526) recorded the highest number of cases from state.
- In capital city, according to data, with 356 cases in 2021, there has been a 111% rise in cases of online fraud, online harassment, publication of explicit content, etc.
- Daily wage earners remained the largest profession-wise group among suicide victims in 2021
- The report "Accidental Deaths and Suicides in India" shows that daily wage earners remained the largest profession-wise group among suicide victims in 2021, accounting for 42,004 suicides (25.6 per cent)
- At the national level, the number of suicides increased by 7.17 per cent from the years 2020 to 2021.
- However, the number of suicides in the daily wage group rose by 11.52 per cent during this period. Therefore, growth in suicide in daily wage in more than national average.
- According to the report, 10,881 suicides were recorded in the "Persons engaged in farming sector" group in 2021, including 5,318 under "farmer/cultivator" and 5,563 "agricultural labourers".
- From the nationwide number in 2021, the maximum of 22,207 suicides were recorded in Maharashtra, followed by Tamil Nadu (18,925), Madhya Pradesh (14,956), West Bengal (13,500) and Karnataka (13,056). Among Union Territories, Delhi recorded the highest number of 2,840 suicides.

#### Punjab has highest no of crimes rate under NDPS Act

- Punjab again topped the list of crime rate (per lakh population) in cases lodged last year under the Narcotics Drugs and Psychotropic Substances (NDPS) Act
- The report further showed that Himachal Pradesh — with a population of 74.06 lakh people as per NCRB — ended second on the list in the same category.

#### Rise in registered cases under UAPA

- 814 cases were registered under the Unlawful Activities Prevention Act (UAPA) as compared to 796 cases in 2020 while 76 cases of sedition were registered in 2021 as compared to 73 in 2020.

#### National Crime Records Bureau (NCRB):

- NCRB was set-up in 1986 to function as a repository of information on crime and criminals to assist the investigators in linking crime to the perpetrators.
- It was recommended by Tandon Committee, National Police Commission (1977-1981) and the MHA's Task force (1985).

- NCRB is entrusted with the responsibility for monitoring, coordinating, and implementing the Crime and Criminal Tracking Network & Systems (CCTNS) project.
- It is headquartered in New Delhi and is part of the Ministry of Home Affairs.

**Its publications include:**

- Accidental Deaths & Suicides in India
- Prison Statistics India
- Fingerprints in India
- Report on missing women and children in India

## 7.2 India's unique jobs crisis

India is currently facing a unique job crisis because, while fewer people are employed in agriculture today, the transformation has been slow.

**Stats**

- Between 1993-94 and 2018-19, agriculture's share in India's workforce came down from 61.9% to 41.4%, roughly a third in 25 years.
- Given its level of per capita GDP in 2018 – and comparing with the average for other countries in the same income bracket – India's farm sector should be employing 33-34% of the total workforce.
- 4% may not be a substantial deviation from the average.

**Weak structural transformation**

- There's been a reversal of the trend in the last two years, which has seen the share of those employed in farms rise to 44-45%. This has primarily to do with the Covid-induced economic disruptions.
- Even the movement of workforce from agriculture that India has witnessed over the past three decades or more does not qualify as what economists call "structural transformation".
- Such transformation would involve the transfer of labour from farming to sectors –manufacturing and modern services – where productivity, value-addition and average incomes are higher.
- The share of manufacturing (and mining) in total employment has actually fallen along with that of agriculture.
- The surplus labour pulled out from the farms is being largely absorbed in construction and services.
- While the services sector does include relatively well-paying industries — such as information technology, business process outsourcing, telecommunications, finance, healthcare, education and public administration — the bulk of the jobs in this case are in petty retailing, small eateries, domestic help, sanitation, security staffing, transport and similar other informal economic activities.
- Simply put, the structural transformation process in India has been weak and deficient.
- The surplus labour isn't moving to higher value-added non-farm activities, specifically manufacturing and modern services (the familiar 'Kuznets Process' named after the American economist and 1971 Nobel Memorial Prize winner, Simon Kuznets).
- Instead, the labour transfer is happening within the low-productivity informal economy.
- The jobs that are getting generated outside agriculture are mostly in low-paid services and construction; the latter's share in employment has even overtaken that of manufacturing.
- Weak structural transformation and persistence of informality also explains the tendency, especially by rural families, for pursuing multiple livelihoods. Many of them cling on to their small plots of lands, even while earning incomes wholly or predominantly from non-farm sources.

**A picture in contrast**

**IT industry adding jobs:**

- The IT industry is clearly an isolated island of the Indian economy that added jobs during the pandemic and is continuing to do so.

- The five companies (Tata Consultancy Services, Infosys, Wipro, HCL Technologies and Tech Mahindra) have more employees than the 12.5 lakh and 14.1 lakh currently on the rolls of the Indian Railways and the three defense services, respectively.
- Much of the IT sector's recent success is courtesy of exports.
- These have, in fact, boomed due to Covid's triggering increased demand for digitisation even among businesses that were hitherto slow in adoption.
- India's net exports of software services have surged from \$84.64 billion in 2019-20 to \$109.54 billion in 2021-22.

### India's unique job crisis

- The manufacturing sector is potentially best placed to absorb agricultural labourers. However, there is a lack of jobs in the manufacturing sector.
- The more educated are not qualified to be programmers or develop software programs which are essential for the IT industry.
- They aim to join the armed forces or to sit for the Railway Recruitment Board's exams.
- However, there is not much recruitment in these sectors these days.
- So, the Indian workforce possesses skill sets for the sectors where there is a lack of job opportunities. And sectors that generate excess jobs require particular skill sets that the majority of the Indian workforce lacks.
- As a result, the Indian economy is unable to absorb excess labour.

## 7.3 Dip in adoption

- Concerned over the declining number of children for adoption in the country, a Parliamentary panel has expressed apprehension that this may point to an illegal child adoption market and trafficking.
- In its 118th Report on Review of Guardianship and Adoption Laws, submitted to Parliament Parliamentary Standing Committee on personnel, public grievances, law and justice has noted "the paradoxical situation where on one hand there are a large number of parents willing to adopt a child, (and) on the other, there are not many children available for adoption".
- The committee, noted that according to adoption statistics of Central Adoption Resource Authority (CARA), the number of children adopted within the country declined from 5,693 in 2010 to 3142 in 2020-21.
- The number of children taken in inter-country adoption decreased from 628 in 2010 to 417 in 2020-21.
- This, the committee reported, "is a cause of grave concern".
- There is decline in the number of children coming to adoption agencies over the years
- This decline, by and large, points to trafficking or a thriving illegal child adoption market.
- The committee is of the view that there is a need to increase surveillance, especially on unregistered child care institutions and adoption agencies/hospitals with a past record of trafficking.
- The committee takes note of the paradoxical situation where on one hand there are a large number of parents willing to adopt a child, on the other, there are not many children available for adoption, all this while the 2020 World Orphan Report estimates the number of orphans in India at 31 million.

### Recommendations

- In the given situation, the committee recommended that a true picture of the number of children who are orphaned/abandoned be ascertained through a district-level survey. This data should be updated regularly.
- There is a need to simplify the procedure further, besides bringing down the time required for placing a child in adoption to less than six months. The committee is of the view that a longer wait period often forces parents willing to adopt a child to resort to illegal adoption.
- Laws governing adoption in India

- In India, the Central Adoption Resource Authority (CARA) is the statutory body of the Women and Child Development ministry, which functions as the nodal agency for adoption, and is mandated to monitor and regulate in-country and inter-country adoptions.
- The adoption of orphaned, abandoned and surrendered children are all regulated by CARA through its associated or recognised adoption agencies.

#### **Three laws govern adoption in the country:**

- The Hindu Adoption and Maintenance Act of 1956, which applies to Hindus, Buddhists, Jains and Sikhs.
- Under this act, the adoption is irrevocable and it gives full status to the child as a natural child born to the family, it also gives the right to inherit the property.
- The Guardian and Wards Act of 1890, which applies to Muslim, Parsi, Christian and Jews in adoption.
- Under the GAWA, the relationship which is established after an adoption is only of guardian and ward respectively. Adoption under GAWA does not confer the status of the child on the adopted child; it is different from the HAMA.
- The Juvenile Justice (Care and Protection of Children) Act of 2015.
- It replaced the Juvenile Justice (Care and Protection of Children) Act, 2000.
- It applies to all Indian Citizen.
- It allows the adoption of two children of the same sex.
- It confers the status of parents & child and not guardian and ward. It also confers rights available to the child on the adopted child.
- In particular, it provides a comprehensive process for domestic and inter-country adoption of orphan, abandoned and surrendered children.
- In addition, the UNCRC (United Nations Convention on the Rights of Child) was ratified by India in 1992 and the Hague Convention on Inter-country Adoption, 1993, was ratified by the Government of India in 2003.

### **7.4 Women representatives of the people**

- Sadia Hussain's article, 'Performance of Women in Parliament: A Quantitative Study of Questions by Women Members in Lok Sabha (1999-2019)' draws attention to women's performance in the Lok Sabha through a quantitative analysis of the questions posed by women leaders on the floor.
- It contests claims that women members act as silent dolls or 'gungi gudiyas' during the Question Hour in Parliament and that they act as mere token representation in political spheres.

#### **Women in politics**

- India has not had a single women's movement that challenged patriarchal and gender norms in the last two decades.
- Women have had to use alternate methods to come to power.
- Education and wealth have aided women in political participation.
- Studies suggest that more women have started to organise themselves into economic groups, and financial freedom has pushed them to be more politically active.
- The decreased gap in voter turnout between men and women is a positive sign toward gender inclusivity in the political sphere.
- The 2019 general election was a historic moment for women's politics, as it saw 78 women elected to the lower house of Parliament for the first time since independence where only 22 women were present in the 543-member Lok Sabha.
- But this number is still not representative of the actual proportion of women in the country.

#### **Access to power versus participation**

- Women's performance during the Question Hour session becomes relevant as it is a space where legislators act free from party regulation.

- Substantive representation or acting in the interest of those represented defines the quality of a leader.

### Breaking stereotypes

- The study reveals how descriptive representation transforms into substantive representation.
- It goes against the popular notion that women members only touch upon softer issues or that they are silent spectators in Parliament.
- Though men asked more questions and participated in more debates than women, there has been a substantial increase in the number of questions women asked.
- Moreover, contrary to general belief, women representatives asked more questions on health and family welfare, human resource development, home affairs, finance, agriculture and railways than women's issues.
- Male legislators asked more questions on issues concerning women than their female counterparts.
- These are very welcoming signs as the representatives were seen not to be held back by gender stereotypes.
- Intersectionality of identities became an important factor in the questioning capacity of representatives.
- Party affiliations, education, regional background, ethnicity, caste and the age of women members played a role in the number and content of questions asked in the lower house
- While women are expected to bring a feminine quality into the public political domain, they are breaking stereotypes by simply behaving like their male counterparts.

### Way Forward

- Analysing the debates on gender and politics, using the performance framework, one concludes that the problem of under-representation of women is only superficial.
- What lies underneath is the problem of structural inequality, wherein women are marginalised at different levels.
- Proportional representation will lead to a better representation of women's interests. Moreover, representation becomes a phenomenon that cannot be isolated from society.
- The increased political participation is a positive sign toward gender inclusivity and equality in the political sphere. But it has a long way to go, considering the socio-economic and cultural conditions that still socialise women into being averse to politics, hindering them from pursuing politics as a career.

## 7.5 National Action Plan for Mechanised Sanitation Ecosystem (NAMASTE)

- The Ministry of Social Justice and Empowerment (MoSJ&E) is now preparing to undertake a nationwide survey to enumerate all people engaged in hazardous cleaning of sewers and septic tanks, an activity that has led to at least 351 deaths since 2017.
- Drawing a distinction between this work and manual scavenging, the Ministry insisted that the practice of manual scavenging no longer takes place in the country as all manual scavengers had been accounted for and enrolled into the rehabilitation scheme.
- The enumeration exercise, soon to be conducted across 500 AMRUT (Atal Mission for Rejuvenation and Urban Transformation) cities, is part of the Union government's National Action Plan for Mechanised Sanitation Ecosystem (NAMASTE), which will streamline the process of rehabilitating sanitation workers and eventually merge with and replace the Self-Employment Scheme for the Rehabilitation of Manual Scavengers (SRMS), which was started in 2007.
- Explaining that the enumeration of people engaged in hazardous cleaning of septic tanks and sewers would be the next step, ministry said that they will now set up Programme Monitoring Units (PMUs) for the 500 AMRUT cities, who will be at the frontlines of carrying out the exercise.
- Eventually, the idea is to also link these sanitation workers to the Swachhta Udyami Yojana, through which the workers will be able to own sanitation machines themselves and the government will ensure that at the municipality level, the work keeps coming in.

### **National Action Plan for Mechanised Sanitation Ecosystem (NAMASTE)**

- The government has developed the NAMASTE scheme—to clean septic tanks and sewers.
- The NAMASTE project, is a joint project of Ministry of Social Justice and Empowerment and the Ministry of Housing and Urban Affairs.

#### **The project aims to achieve the following outcomes:**

- Zero fatalities in sanitation work in India.
- All sanitation work to be performed by skilled workers.
- No sanitation workers should come in direct contact with human faecal matter.
- Sanitation workers are to be collectivized into SHGs and are empowered to run sanitation enterprises.
- All Sewer and Septic tank sanitation workers (SSWs) have access to alternative livelihoods.
- Strengthened supervisory and monitoring systems at national, state and ULB levels to ensure enforcement and monitoring of safe sanitation work.
- Increased awareness amongst sanitation services seekers (individuals and institutions) to seek services from registered and skilled sanitation workers.

### **Swachhta Udyami Yojana**

- The Ministry of Social Justice and Empowerment launched the Swachhta Udyami Yojana (SUY) on 02nd October 2014.
- This Scheme has twin objective of cleanliness and providing livelihood to Safai Karamcharis and liberated Manual Scavengers to achieve the overall goal of “Swachh Bharat Abhiyan”
- The Swachhta Udyami Yojana extends financial assistance for Construction, Operation and Maintenance of Pay and Use Community Toilets in Public Private Partnership (PPP) Mode and Procurement and Operation of Sanitation related Vehicles.
- The scheme also provides for training the workers in the use of these machines, during which time a stipend of up to ₹3,000 per month will be provided.
- The scheme will also provide for sanitation workers to train for and go into any of the approved list of alternative occupations in sectors like agriculture, services, electronics assembling, handicrafts and so on.

## **7.6 Moving policy away from population control**

- India’s focus should be on investment in human capital, on older adults living with dignity, and on healthy population ageing.
- The United Nations’ World Population Prospects (WPP), 2022, forecasts India becoming the most populous country by 2023, surpassing China, with a 140 crore population.
- This is four times the population India had at the time of Independence in 1947 (34 crore).
- Now, at the third stage of the demographic transition, and experiencing a slowing growth rate due to constant low mortality and rapidly declining fertility, India has 17.5% of the world’s population.
- As per the latest WPP, India will reach 150 crore by 2030 and 166 crore by 2050.

### **Growing Population**

- In its 75-year journey since Independence, the country has seen a sea change in its demographic structure.
- In the 1960s, India had a population growth rate of over 2%.
- At the current rate of growth, this is expected to fall to 1% by 2025.
- However, there is a long way to go for the country to achieve stability in population. This is expected to be achieved no later than 2064 and is projected to be at 170 crore (as mentioned in WPP 2022).
- India reached a significant demographic milestone as, for the first time, its total fertility rate (TFR) slipped to two.
- However, even after reaching the replacement level of fertility, the population will continue to grow for three to four decades owing to the population momentum (large cohorts of women in their reproductive age groups).

- Several States have reached a TFR of two except for Bihar, Uttar Pradesh, Jharkhand, Manipur and Meghalaya.
- All these States face bottlenecks in achieving a low TFR.
- These include high illiteracy levels, rampant child marriage, high levels of under-five mortality rates, a low workforce participation of women, and low contraceptive usage compared to other States.
- A majority of women in these States do not have much of an economic or decisive say in their lives.
- Without ameliorating the status of women in society (quality of life), only lopsided development is achievable.

### **Demographic dividend**

- A larger population is perceived to mean greater human capital, higher economic growth and improved standards of living.
- In the last seven decades, the share of the working age population has grown from 50% to 65%, resulting in a remarkable decline in the dependency ratio.
- As in the WPP 2022, India will have one of the largest workforces globally, i.e., in the next 25 years, one in five working-age group persons will be living in India.
- This working-age bulge will keep growing till the mid-2050s, and India must make use of it.

### **Obstacles**

There are several obstacles to harnessing this demographic dividend.

### **Health**

- Every other woman in the reproductive age group in India is anaemic, and every third child below five is stunted.
- India stands 101 out of 116 nations in the Global Hunger Index
- India is a global disease burden leader as the share of NCDs has almost doubled since the 1990s, the cause of more than 62% of total deaths.
- India is home to over eight crore people with diabetes.
- Further, more than a quarter of global deaths due to air pollution occur in India alone.
- In contrast, India's health-care infrastructure is highly inadequate and inefficient.
- India's public health financing is low, varying between 1% and 1.5% of GDP, which is among the lowest percentages in the world.
- The share of India's elderly population is now increasing and is expected to be 12% by 2050. After 2050, the elderly population will increase sharply.

### **Sex-Ratio**

- Another demographic concern of independent India is the male-dominant sex ratio. In 1951, the country had a sex ratio of 946 females per 1,000 males.
- In 2011, the sex ratio was 943 females per 1,000 males; by 2022, it is expected to be approximately 950 females per 1,000 males.
- One in three girls missing globally due to sex selection (both pre-and post-natal), is from India — 46 million of the total 142 million missing girls.

### **Education and Employment**

- India's labour force is constrained by the absence of women from the workforce; only a fourth of women are employed.
- The quality of educational attainments is not up to the mark, and the country's workforce badly lacks the basic skills required for the modernised job market.
- Having the largest population with one of the world's lowest employment rates is another enormous hurdle in reaping the 'demographic dividend'.

## Way Forward

- The focus of action should be on extensive investment in human capital, on older adults living with dignity, and on healthy population ageing. India should be prepared with suitable infrastructure, conducive social welfare schemes and massive investment in quality education and health. The focus should not be on population control anymore, instead, an augmentation of the quality of life should be the priority.

## 7.7 Death by inequality

- Violence against Dalit student in Rajasthan is stark reminder of nation's unfinished tasks.
- A nine-year-old Dalit child from Rajasthan's Jalore district succumbed to injuries, inflicted by his teacher.

### What happened?

- The boy drank water from the pot that had been kept separately for the savarna jati (upper caste) teacher.
- The teacher abused him with casteist slurs and beat him up, resulting in internal injuries.
- This incident should prick the nation's conscience, and remind policymakers of unmet promises and unfinished tasks, as India begins the "Amrit Kaal" to the centenary of its Independence.
- That casteist violence is a grim lived reality — at odds with India's constitutional principles — for a large section of the country's Scheduled Caste (SC) and Scheduled Tribe (ST) communities is borne out by numerous reports and surveys.
- National Crime Records Bureau (NCRB) data show that a crime was committed every 10 minutes against a person from an SC community in 2020.
- Rajasthan along with Bihar, UP and Madhya Pradesh accounts for two-thirds of such crimes though these four states constitute about 40 per cent of the country's population.

### Crimes against Scheduled Castes and Scheduled Tribes

- Cases registered for crime against SCs rose from 42,793 in 2018 to over 50,000 in 2020, and of crime against STs from 6,528 to 8,272 in the same period.

### Reasons for Crime against SC/ST:

- Caste discrimination still exists and not much has changed. It is taking new forms that have led to crimes against dalits from time to time.
- Another factor contributing to the spike in anti-Dalit violence is rising living standards of Dalits, which appears to have led to a backlash from historically privileged communities.
- The increase in crime rates is also a reporting effect. More crimes against Dalits are being reported and registered.
- SC and ST are viewed as enjoying all the privileges through reservation, thereby leading to a feeling of hatred for them.

### Provisions safeguarding the rights of SCs and STs in India

- The Indian Government has enacted laws to remove negative discrimination and has also brought in many reforms to improve the quality of life for the weaker sections of society. Few among them are:

### Constitutionally guaranteed fundamental human rights

- Provision of reservations in places like educational institutions, for employment opportunities etc
- Establishing social welfare departments and national commissions for the welfare of scheduled castes and tribes.
- Scheduled Castes and Tribes (Prevention of Atrocities) Act.
- Right to Equality
- Articles 14, 15, 16, 17 and 18 of the Constitution of India highlight the Right to Equality in detail.



**What needs to be done?**

- SC/ST commission should start a national helpline number for any harassment on the basis of caste.
- Improving the training of police officers in dealing with POA cases so that they can solve the cases without any pressure or prejudice.
- Efficient implementation of Scheduled Castes and Tribes (Prevention of Atrocities) Act
- Increasing awareness about several legal remedies and different rights available to the marginalised community.
- State Protection of a witness is a must in order to raise voice against atrocities.

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