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

Current Affairs, July 2023

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1. Polity and Governance

1.1 Ladakh Autonomous Hill Development Council (LAHDC)

Recently, Union Minister for Heavy Industries Dr Mahendra Nath Pandey had a meeting with Ladakh Autonomous Hill Development Council (LAHDC) and Commerce and Industry Chamber at Leh and reviewed the industry sector.

Background:-

- The focus of the meeting was on strengthening indigenous manufacturing in Leh Ladakh.
- LAHDC requested the minister for the provision of Freight or Transport -Subsidies for the procurement of raw materials like Cement, Steel, Wood Iron and glass.
- They also sought a grant of permission for the enhancement of Truck Carriage capacity from 9 tonnes to 15 tonnes at Zojila Pass on the Srinagar to Leh National Highway.
- They further requested some relaxation in the reservation of locally manufactured products by local Ministry of Micro, Small & Medium Enterprises (MSME) unit holders for procurement to be procured by the Government Department and organization.

About Ladakh Autonomous Hill Development Council (LAHDC):-

- It is an autonomous district council that administers the Leh district of Ladakh.
- Establishment: The council was created under the Ladakh Autonomous Hill Development Council Act of 1995.
- Composition: LAHDC-Leh has 30 seats and the government nominates four councilors.

Working:-

- The autonomous hill council work with village panchayats to take decisions on economic development, healthcare, education, land use, taxation, and local governance.
- These decisions are further reviewed at the block headquarters in the presence of the chief executive councillor and executive councillors.
- Leh, which is a Buddhist-dominated district of Ladakh, has demanded the implementation of the sixth schedule for the Union territory to guard against demographic change and dilution of the unique cultural and tribal identity.

About Ladakh

- Ladakh is one of the most sparsely populated regions in Jammu and Kashmir.
- It is the highest plateau in the State of Jammu & Kashmir.
- Population: The biggest ethnic group is Buddhist having 77.30% of the population followed by Muslims with 13.78% and Hindus with 8.16%.

1.2 Regulating Freedom of Speech on Social Media

Recently, The Karnataka High Court admonished Twitter for not complying with the blocking orders by the Ministry of Electronics and Information Technology (MeitY).

About Freedom of Expression and its restrictions in India

Freedom of Expression:

- Article 19 (a) of the Indian constitution guarantees to every citizen of India the Freedom of speech and expression.
- It is a fundamental Right of the Indian Constitution.

Restriction on freedom:

- However this Freedom under Article 19 is also not absolute. It faces certain restrictions under Article

19(2), which are as follows:

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

Constitutionality of the blocking orders

- Information Technology Act, 2000: Section 69A of the Information Technology Act, 2000, empowers the state to issue blocking orders in cases of emergency on the grounds such as
- Sovereignty and integrity of India,
- Defence of India,
- Security of the State,
- Friendly relations with foreign States,
- Public order or
- For preventing incitement to the commission of any cognizable offence relating to the above.

The Information Technology Rules, 2009:

The Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009 (Blocking Rules) lays down the procedure for any blocking order issued under Section 69A.

Karnataka High Court's recent Judgement

Dismissal of Twitter's challenge:

The Karnataka High Court dismissed Twitter's challenge to the issuance of blocking orders by the Ministry of Electronics and Information Technology (MeitY) in connection with the taking down of Twitter accounts and specific tweets.

Turn from the Shreya Singhal case:

- The Karnataka High Court has held that observations in Shreya Singhal cannot be construed to mean providing notice to the users of the content, and that even if reasons are recorded in writing, they may not be conveyed to the user.
- Additionally, the High Court held that claims of users whose tweets or accounts were blocked could not be espoused by Twitter and that none of the affected users had approached the High Court.

Concern raised over the Judgement:

- **Undermining Free Speech and Expression:** The judgment is seen as undermining the fundamental right to free speech and expression.
- It allows the state to exercise unchecked power in taking down content on the grounds of the dissemination of false speech.
- **Lack of Procedural Safeguards:** The High Court's ruling disregards the importance of providing notice to users whose content is being blocked and fails to convey the reasons for blocking.
- In *Shreya Singhal vs Union of India*, the Supreme Court of India upheld the validity of Section 69A and the Blocking Rules after observing that sufficient procedural safeguards were embedded, such as provision of recording a reasoned order, and providing notice to the intermediary and the originator whose content was sought to be blocked.
- **Misuse of "Fake News" Rhetoric:** The High Court justified blocking orders based on the spread of "fake news" and "misinformation" threatening public order and state security.
- However, these grounds are not valid for restricting free speech under Article 19(2) and Section 69A.
- The Supreme Court has repeatedly held that there must be a direct link between the speech and the potential threat to public order.
- **Disproportionate Blocking Practices:** The High Court rejected Twitter's argument that Section 69A permits

the blocking of specific tweets only.

- Instead, it allowed wholesale blocking of Twitter accounts, constituting prior restraint on freedom of speech and expression.
- This disproportionate blocking practice restricts future speech and has the potential to create a chilling effect on the freedom of speech of online platform users.
- Erosion of Natural Justice: The judgment subverts the principles of natural justice, which dictate that the affected party should be allowed to present their case to the best of their abilities.

Way Forward:

- To protect freedom of speech, it is imperative to strengthen procedural safeguards in the process of blocking content to protect the freedom of speech and expression and uphold judicial precedents established to safeguard freedom of speech.

1.3 Article 370 in J&K

Political parties of Jammu and Kashmir hail the Supreme Court's decision to hear petitions challenging the reading down of Article 370 in J&K.

Background:-

- Several of Jammu & Kashmir's regional parties, who challenged the Centre's decision to abrogate the provisions of Article 370 in 2019, welcomed the Supreme Court's decision to hear the petitions challenging the reading down of Article 370.
- The hearing is scheduled for July 11.

About Article 370 in J&K:-

- Article 370 of the Indian constitution dealt with the provision of certain special powers to the state of Jammu and Kashmir.
- It grants a 'temporary' autonomous status to the state of Jammu & Kashmir (J&K).
- The article was an outcome of Kashmir's accession to India after the Independence.

Provisions of Article 370:-

- It permitted J&K to draft its own Constitution.
- It further restricted the Indian Parliament's legislative powers in the state.
- Except for Defense, Foreign Affairs Finance and Communications, the Indian Government was required State Government's nod to apply all other laws.
- The central govt. had no power to impose financial emergencies in the state.
- Emergency could be imposed only on the grounds of internal disturbances and imminent danger from a foreign enemy.
- Indian nationals belonging to other states cannot buy land or property in the state of J&K.
- Woman who marries a person belonging to any other state loses her right to ownership.

Background:-

- Post independence: Jammu & Kashmir (J&K) acceded to the Dominion of India by signing the Instrument of Accession on 26 October 1947 with certain special provisions.
- On the same line, Article 370 was added to the Indian constitution in
- It was added as a 'temporary provision', giving certain exemptions to the state of Jammu & Kashmir.
- These provisions gave the state government control over how it needs to govern the state without worrying about the consent of the central government.

Removal of Article 370

- In accordance with the authority afforded by Clause (1) of Article 370 of the Indian Constitution, the President of India issued the Constitution (Implementation to Jammu and Kashmir) Order, 2019 on August

5, 2019, repealing the special status previously accorded to Jammu and Kashmir.

Resulting Consequences:-

- Jammu and Kashmir no longer has its own constitution, flag, or anthem.
- Its population no longer has dual citizenship as a result of the repeal of Article 370.
- Jammu and Kashmir now abide by all legislative amendments made by the parliament, including the Right to Information Act and the Right to Education Act.
- Jammu & Kashmir is fully covered by the Indian Constitution and all 890 Central legislation.

1.4 Gramodyog Vikas Yojna

Recently, the Lieutenant Governor of Delhi distributed Honey Bee-Boxes and Toolkits to 130 beneficiaries under the Gramodyog Vikas Yojna.

Background:-

- The program was organized under the Khadi and Village Industries Commission (KVIC), Ministry of Micro, Small and Medium Enterprises, State Office Delhi, Government of India.
- Addressing the occasion, Shri Vinai Kumar Saxena emphasized the vital role played by the Khadi and Village Industries Commission in generating employment opportunities in rural India.

About Gramodyog Vikas Yojna:-

Launched:

- Objective: assisting and developing of agarbatti industry and its artisans thereby.
- Ministry: Ministry of Micro, Small and Medium Enterprises (MSME)
- The programme aims to enhance the production of 'Agarbatti' in the country and create sustainable employment for the traditional Artisans, by providing them with regular employment and an increase in their wages.

Components of the Yojana:-

- Research & Development and Product Innovation: R&D support would be given to the institutions that intend to carry out product development, new innovations, design development, product diversification processes etc.
- Capacity Building: exclusive capacity building of staff, as well as the artisans, would be adequately addressed through the existing Multidisciplinary Training Centers (MDTCs) and institutions of excellence.
- Marketing & Publicity: The institutions will be provided market support.
- It will be done by way of preparation of a product catalogue, Industry directory, market research, new marketing techniques, buyer-seller meet, arranging exhibitions etc. (UPSC MAINS: Effects of globalisation on the rural population of India)

Khadi and Village Industries Commission (KVIC)

Establishment:

- It is a statutory body established under the Khadi and Village Industries Commission Act, of 1956.
- Objectives of KVIC:-
- To boost employment in the country. (UPSC CSE: Project Re-Hab)
- To promote the promotion and sale of Khadi articles.
- To cater to the self-reliance doctrine of the country by empowering underprivileged and rural sections of society.
- Function: The KVIC is charged with the planning, promotion, organization and implementation of programmes for the development of Khadi and other village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary.
- Ministry: Ministry of Micro, Small and Medium Enterprises

1.5 Performance Grading Index for Districts (PGI-D)

The Performance Grading Index for Districts (PGI-D) combined reports for 2020-21 and 2021-22 were released recently.

About Performance Grading Index for Districts (PGI-D):-

- Released first: 2017-18.
- By: Department of School Education and Literacy (DoSE&L), Ministry of Education.
- Objective: to help the Districts to prioritize areas for intervention in school education and thus improve to reach the highest grade.
- The report the performance of the school education system at the District level by creating an index for comprehensive analysis.
- 83-indicator-based PGI-D has been designed to grade the performance of all districts in school education.
- Significance: The PGI-D is expected to help the state education departments to identify gaps at the district level and improve their performance in a decentralized manner.
- The indicator-wise PGI score shows the areas where a district needs to improve.

Methodology

- The PGI-D structure comprises of total weightage of 600 points across 83 indicators.
- These are grouped under 6 categories viz., Outcomes, Effective Classroom Transaction, Infrastructure Facilities & Student's Entitlements, School Safety & Child Protection, Digital Learning and Governance Process.
- These categories are further divided into 12 domains.
- PGI-D grades the districts into ten grades viz., Daksh and Akanshi-3.
- Daksh: it is the Highest achievable Grade for Districts scoring more than 90% of the total points in that category or
- Akanshi-3: The lowest grade in PGI-D, which is for scores up to 10% of the total points.

PGI for districts report – 2020-21 & 2021-22

- The Covid Pandemic has affected the performance of districts during 2020-21 to 2021-22 as compared to 2019-20.
- None of the districts attained the top two grades.
- 79 districts made consistent improvement in PGI-D scores in the last 4 years.
- In spite of the Covid pandemic at its peak in 2021-22, 290 districts have made a notable improvement in their performance when compared to 2019-20 (pre-pandemic) with 2021-22.
- Overall, 194 districts have made grade level improvement in 2021-22 as compared to 2018-19.

1.6 Alternative Dispute Resolution (ADR) Mechanisms

The Union government is set to launch an initiative under which women-only courts will be set up at the village-level.

Alternative Dispute Resolution:

ADR refers to the methods of resolving a dispute, which are alternatives for litigation in Courts.

- Generally, it uses a neutral third party who helps the parties to communicate, discuss the differences and resolve the dispute.
- It offers to resolve all types of matters related to civil disputes, as explicitly provided by the law.

Important Provisions Related To ADR

- Section 89 of the Civil Procedure Code, 1908: Provides that opportunity to the people, if it appears to court there exist elements of settlement outside the court then the court formulate the terms of the possible settlement and refer the same for ADRs.

- Legal Services Authority Act, 1987 (established Lok Adalat System)
- Arbitration and Conciliation Act, 1996

Types of ADR



Status of ADR in India

- **Statutory Backing:** The Legal Services Authorities Act was passed in 1987 to encourage out-of-court settlements, and the new Arbitration and Conciliation Act was enacted in 1996.
- **Inclusion of Plea Bargaining:** Procedure for plea-bargaining was included in the Code of Criminal Procedure in 2005.
- Plea-bargaining is best described as a “pre-trial negotiation between the accused and the prosecution during which the accused agrees to plead guilty in exchange for certain concessions by the prosecution.”
- **Lok Adalats:** Lok Adalat or “people’s court” comprises an informal setting which facilitates negotiations in the presence of a judicial officer wherein cases are dispensed without undue emphasis on legal technicalities.
- The order of the Lok-Adalat is final and binding on the parties, and is not appealable in a court of law.
- **Online Dispute Resolution (ODR):** The NITI Aayog in its recently released report – The Future of Dispute Resolution discusses the concept of Online Dispute Resolution (ODR) – its evolution, significance and present status in India.
- ODR refers to the usage of ICT tools to enable parties to resolve their disputes.
- In its first phase, ODR shares its fundamentals with ADR Mechanisms of negotiation, mediation and arbitration.

Advantages of ADR:

- **Amicable solution:** It is a party-driven process, allowing litigants to reach an amicable settlement.
- Thus ADR mechanisms mainly focus on simplicity and convenience of the litigants.
- **Speed of settlement:** When compared to litigation, alternative dispute resolution devices, such as arbitration and mediation can clear a dispute within days if not months.
- Lok Adalats offer parties speed of settlement, as cases are often disposed of in a single day;
- **Procedural flexibility:** As there is no strict application of procedural laws such as the Code of Civil Procedure, 1908, and the Indian Evidence Act, 1872 there is procedural flexibility for the parties;
- **Economic affordability:** Cases in courts can go on for years increasing the costs exponentially.
- ADR mechanism is much more cost effective as there are no court fees and significantly less lawyer fees.
- **Finality of awards:** No further appeal is allowed on the agreement reached between two parties.
- This prevents delays in settlement of disputes.
- **Extra security of awards:** The award issued by a Lok Adalat, after the filing of a joint compromise petition.
- It has the status of a civil court decree.

Limitations

- **No Appeals:** There is less or no scope of appeal in awards. Whenever there is a problem with the award, there would be no scope of appeal or correction.
- **Varied Guidelines:** It is difficult to choose among various guidelines and multiple institutions providing the facility of arbitration.
- **Different Statutes:** Due to different statutes for domestic and international arbitration, it is difficult to ascertain the applicability of the laws relating to international arbitration.
- **Cross-cultural Language Barrier:** Due to discrepancy in the language and culture of the two regions, it becomes difficult to bridge the gap and come to a unified solution.
- **Unfamiliarity and lack of awareness:** Most people still prefer the conventional method of going to courts and are also not informed about these options and the methodology.

Way Forward:

- The material and social situation of the litigants forces them to approach ADR mechanism, which is cost effective. However, such mechanism might not always be fair to all parties and may favour the mighty. when dealing with equal parties and in major economic matters, ADR mechanisms can lead to significant cost reductions and reduction of burden on the judiciary.

1.7 Does India really need state Governors?

The recent action taken by Tamil Nadu Governor R N Ravi to terminate the appointment of state minister, who was arrested recently, has once again brought attention to the tussle between state governments and the Governor's office.

About Governor: Constitutional provisions related to Governor

- Article 153 says that there shall be a Governor for each State. One person can be appointed as Governor for two or more States.
- A Governor is appointed by the President and is a nominee of the Central Government. It is stated that the Governor has a dual role.
- He is the constitutional head of the state, bound by the advice of his council of ministers (CoM).
- Articles 157 and 158 specify eligibility requirements for the post of governor.
- Governor has the power to grant pardons, reprieves, etc. (Article 161).
- There is a CoM with the CM at the head to aid and advise the Governor in the exercise of his functions, except some conditions for discretion. (Article 163)
- Governor appoints the Chief Minister and other Ministers (Article 164).
- Governor assents, withholds assent, or reserves the bill for the consideration of the President passed by the Legislative Assembly (Article 200).
- Governor may promulgate the Ordinances under certain circumstances (Article 213).

Powers of Governor

Executive Powers:

- These powers are exercised by the council of ministers in the name of Governor.
- Governor is only nominal head and council of ministers is the real executive.
- He is the constitutional head of the state who appoints the leader of majority party as chief minister.
- He can seek any information from the chief minister.
- He appoints the advocate general, chairman and members of the respective state public commission.
- He can recommend the imposition of constitutional emergency in a state to the President.
- During the period of President's rule in a state, the governor enjoys extensive executive powers as an agent of the President.

Legislative Powers:

- He is part of state legislative assembly.

- No bill can become a law until the governor signs it.
- He can withhold a bill and send it to the President for consideration.
- He can dissolve the State Assembly before the expiry of its term on the advice of the Chief Minister or as directed by the President.

Judicial Powers:

- The governor appoints the district judges.
- He is consulted in the appointment of the judges of the High Court by the President
- He can, pardon, remit and commute the sentence of a person convicted by a state court.

Financial Powers:

- He causes the annual budget to be laid before the Vidhan Sabha;
- No money bill can be introduced without his prior approval.

Discretionary Powers:

- If no party gets an absolute majority, the Governor can use his discretion in the selection of the Chief Minister;
- During an emergency he can override the advice of the council of ministers.
- At such times, he acts as an agent of the President and becomes the real ruler of the state;
- He uses his discretion in submitting a report to the President regarding the affairs of the state; and
- He can withhold his assent to a bill and send it to the President for his approval.

Controversies Related to Governor's post:

- Central Interference: There have been numerous instances of the Governor's position being abused, usually at the request of the Centre's ruling party.
- The procedure of appointment has been the root of the problem.
- Acting as Puppet Rulers: The Governor of Rajasthan has recently been charged for breaking the model code of conduct.
- His support for the ruling party goes against the ethos of non-partisanship.
- Favouring a Particular Political Party: The governor's discretionary powers to ask the leader of the largest party/alliance to form the government after an election have frequently been abused to favour one political party over another.
- Misuse of Power: A Governor's request for President's Rule in a state has not always been based on 'objective material,' but rather on political whim or fancy.

Controversies Related to Governor's Role:

- Abuse of Power by the Centre: There are numerous examples of the Governor's position being abused, usually at the behest of the ruling party at the Centre.
- The process of appointment has generally been the cause behind it.
- Biased Ideology: In several cases, politicians and former bureaucrats identifying with a particular political ideology have been appointed as the Governors by the central government.
- This goes against the constitutionally mandated neutral seat and has resulted in bias, as appears to have happened in Karnataka and Goa.
- Puppet Rulers: Recently, the Governor of Rajasthan has been charged with the violation of the model code of conduct. His support of the central ruling party is against the spirit of non-partisanship that is expected from the person sitting on constitutional posts.
- Due to such incidents, negative terms like an agent of the Centre, Puppet and rubber stamps are used to describe a governor of the state.
- Favouring a Particular Political Party: Governor's discretionary powers to invite the leader of the largest party/alliance, post-election, to form the government has often been misused to favour a particular political party.
- Misuse of Power: A Governor's recommendation for President's Rule (Article 356) in a state has not

always been based on 'objective material', but on political whim or fancy.

The Supreme Court's stand on office of Governor

- According to the Supreme Court, the Governor cannot exercise any power that has not been granted to them by the Constitution or a law enacted in accordance with it.
- The Supreme Court also established the limits of gubernatorial overreach through a series of significant rulings, including the notable cases of:
- R. Bommai (1994),
- Rameshwar Prasad (Bihar Assembly Dissolution Case of 2006), and
- Nabam Rebia (Arunachal Assembly Case of 2016).
- These decisions effectively eliminate or minimise the potential for excessive abuse of power, subject to the duration required for judicial review.

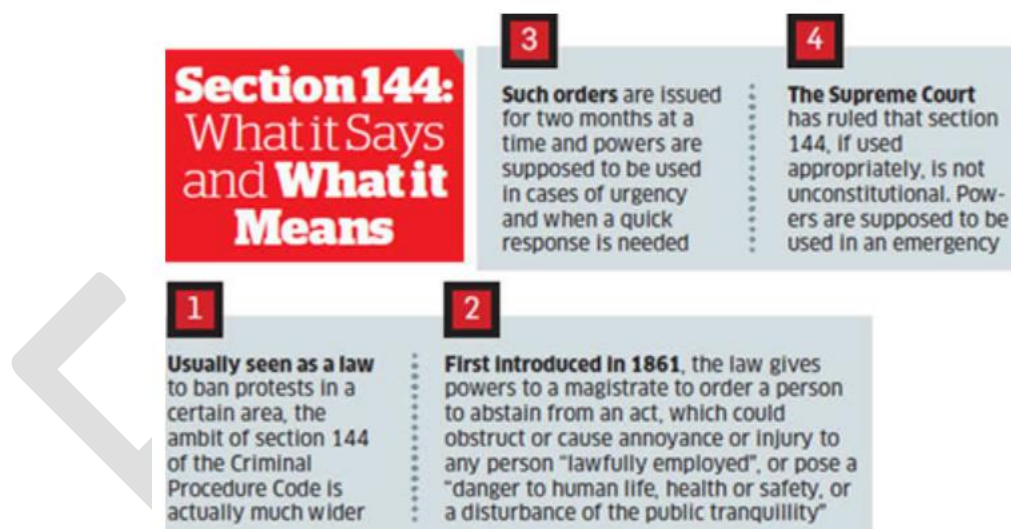
Way Forward:

- The governor has to see that a stable government is formed in the state and also look into the legal validity of the law passed by state legislature and recommend president rule in the state if there is a breakdown of constitutional machinery. Thus the post of governor is essential for the healthy functioning of democracy though it is true that this post has been reduced to becoming a retirement package for politicians.

1.8 Section 144 of Code of Criminal Procedure (CrPC), 1973

The Delhi Police imposed prohibitory measures under CrPC section 144 in flood-prone areas of the city.

About Section 144:



- Section 144 CrPC is a law retained from the colonial era.
- It empowers a district magistrate, a sub-divisional magistrate or any other executive magistrate specially empowered by the state government in this behalf to issue orders to prevent and address urgent cases of apprehended danger or nuisance.
- The magistrate has to pass a written order which may be directed against:
- a particular individual, or
- to persons residing in a particular place or area, or
- to the public generally when frequenting or visiting a particular place or area.
- In emergency cases, the magistrate can pass these orders without prior notice to the individual against whom the order is directed.

Features of Section 144:

- It places restrictions on handling or transporting any kind of weapon in the given jurisdiction.
- The maximum punishment for such an act is three years.
- According to the order under this section, there shall be no movement of public and all educational institutions shall remain closed.
- Further, there will be a complete bar on holding any kind of public meeting or rallies during the period of operation of this order.
- It is deemed a punishable offence to obstruct law enforcement agencies from disbanding an unlawful assembly.
- It also empowers the authorities to block internet access in the region.
- The ultimate purpose of section 144 is to maintain peace and order in the areas where trouble could erupt to disrupt the regular life.

Duration of Section 144 Order:

- No order under this section can remain in force for a period of more than 2 months.
- Under the state government's discretion, it can choose to extend the validity for two more months with the maximum validity extendable to six months.
- Once the situation becomes normal, section 144 levied can be withdrawn.

Criticism of Section 144:

- Too much power given to magistrate: The section is sweeping, and allows the magistrate to exercise absolute power unjustifiably.
- Rare remedies in case of violation of rights: Under the law, the first remedy against the order is a revision application that must be filed to the same officer who issued the order in the first place.
- An aggrieved individual can file a writ petition in the High Court if their fundamental rights are affected by the order.
- However, in many cases those rights would have already been violated by the state even before the High Court has intervened.
- Unjustifiable imposition: It has also been argued that imposing prohibitory orders over a very large area is not justified because the security situation differs from place to place and cannot be dealt with in the same manner.
- It was done in all of Uttar Pradesh during the protests against the Citizenship (Amendment) Bill.

Rulings of Courts in this regard:

- In Dr. Ram Manohar Lohiya case 1967, the Supreme Court held that "no democracy can exist if 'public order' is freely allowed to be disturbed by a section of the citizens".
- 'Madhu Limaye vs Sub-Divisional Magistrate': SC said the power of a magistrate under Section 144 "is not an ordinary power flowing from administration but a power used in a judicial manner and which can stand further judicial scrutiny".
- In 2012, the Supreme Court criticised the government for using Section 144 against a sleeping crowd in Ramlila Maidan.
- Such a provision can be used only in grave circumstances for maintenance of public peace.
- The efficacy of the provision is to prevent some harmful occurrence immediately.

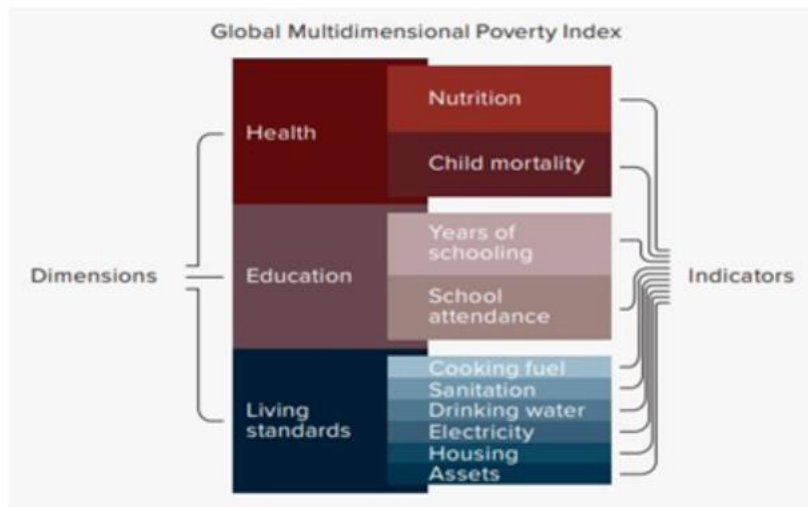
Way Forward:

- Section 144 is a useful tool to help deal with emergencies. However, absence of any narrow tailoring of wide executive powers with specific objectives, coupled with very limited judicial oversight over the executive branch, makes it ripe for abuse and misuse.
- In order to deal with urgent crises, the legislature must strike a balance between the necessity to protect individuals' personal freedoms and other liberties under the constitution's fundamental rights.

1.9 Global Multidimensional Poverty Index (MPI) 2023

Recently, the Global Multidimensional Poverty Index (MPI) 2023 has been released by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI).

About the Multidimensional Poverty Index (MPI):



- It has been jointly published by the Human Development Report Office (HDRO) of the United Nations Development Programme and the Oxford Poverty and Human Development Initiative (OPHI) at the University of Oxford since 2010.
- It tells about how prevalent poverty is in the world and provides insights into the lives of poor people, their deprivations and how intense their poverty is—to inform and accelerate efforts to end poverty in all its forms.
- It compiles data from 110 developing countries covering 6.1 billion people, accounting for 92 percent of the population in developing countries.
- It offers a key perspective on SDG 1 i.e. to overcome the greatest global challenge: ending poverty in all its forms.

Key highlights of the Index:

Global Outlook:

- Globally, 1.1 billion people (18% of the total population) out of 6.1 billion people are acutely multidimensionally poor and live in acute multidimensional poverty across 110 countries.
- Sub-Saharan Africa has 534 million poor and South Asia has 389 million.
- These two regions are home to approximately five out of every six poor people.
- Children under 18 year's old account for half of MPI-poor people (566 million).
- The poverty rate among children is 27.7%, while among adults it is 13.4 %.

Outlook for India:

- Poverty in India: India still has more than 230 million people who are poor.
- The UNDP defines, "Vulnerability — the share of people who are not poor but have deprivations in 20 – 33.3% of all weighted indicators — can be much higher.
- India has some 18.7% population under this category.
- India's Progress in Poverty Reduction: India is among 25 countries, including Cambodia, China, Congo, Honduras, Indonesia, Morocco, Serbia, and Vietnam, that successfully halved their global MPI values within 15 years.
- Some 415 million Indians escaped poverty between 2005-06 and 2019-21.
- The incidence of poverty in India declined significantly, from 55.1% in 2005/2006 to 16.4% in 2019/2021.
- In 2005/2006, approximately 645 million people in India experienced multidimensional poverty, a number that decreased to about 370 million in 2015/2016 and further to 230 million in 2019/2021.

- Improvement in Deprivation Indicators: India progressed significantly in all the three deprivation indicators: Health, Education, Standard of living.
- Decline in poverty has been equal as well, cutting across regions and socio-economic groups.
- The poorest states and groups, including children and people in disadvantaged caste groups, had the fastest absolute progress.
- The percentage of people who were multidimensionally poor and deprived of nutrition decreased from 44.3% in 2005/2006 to 11.8% in 2019/2021, and child mortality fell from 4.5% to 1.5%.

Significance:

- Contribution to establishing public policy instrument: The creation of the Index is a crucial step in the establishment of a public policy instrument that tracks multidimensional poverty and directs evidence-based and focused initiatives, ensuring that no one is left behind.
- Provides an Overview of Poverty: This provides a broad picture of poverty in the nation while also allowing for more in-depth assessments of areas of interest such regions, states, or districts, and particular sectors, and it enhances current data on monetary poverty.
- Help measure progress towards Sustainable Development Goal (SDG) target 1.2, which aims to “at least halve the proportion of men, women, and children of all ages living in poverty in all its dimensions,” which contributes to the achievement of the SDGs.

Initiatives by Government of India for Poverty Alleviation:

- NITI Aayog is in the last stage for preparation of Multidimensional Poverty Index (MPI) parameter dashboard and a State Reform Action Plan (SRAP).
- In this regard, the Niti Aayog will leverage the monitoring mechanism of the Global Multidimensional Poverty Index.
- NITI Aayog is the nodal agency for the MPI.
- Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS),
- Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM),
- Deen Dayal Upadhyay – Gramin Kaushalya Yojana (DDU-GKY),
- Pradhan Mantri Awaas Yojana – Gramin (PMAY-G),
- Pradhan Mantri Gram Sadak Yojana (PMGSY),
- Shyama Prasad Mukherjee National RuRBAN Mission (SPMRM) and National Social Assistance Programme (NSAP), and programmes of Department of Land Resources, viz., Watershed Development Component of Pradhan Mantri Krishi Sinchai Yojana (WDC-PMKSY).
- To support recovery from COVID induced poverty, Pradhan Mantri Garib Kalyan Package was introduced in 2020 and extended in 2021.

Way Forward:

- This year’s Multidimensional Poverty Index (MPI) reminds us of the need for a complete picture of how people are being affected by poverty, who they are and where they live. There is a need to design effective responses that leave no one behind.

1.10 Uniform Civil Code

As per recent reports, the Parliamentary Committee is set to discuss the Uniform Civil Code in the upcoming meeting.

Background:-

- The Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice will hold a meeting on the Uniform Civil Code (UCC) tomorrow.
- BJP Rajya Sabha MP Sushil Modi will head the Committee.
- The UCC proposes to formulate and implement personal laws of citizens, which apply to all citizens equally regardless of their religion.

About Uniform Civil Code:-

'DIRECTIVE PRINCIPLES CALL FOR UCC'	
<ul style="list-style-type: none">▶ SC favours UCC throughout India as envisaged under Article 44 of the Directive Principles in the Constitution▶ Cites example of Goa, says the state has a UCC for all irrespective of their religion and no provision for triple talaq▶ Says Muslim men whose marriages are registered in Goa cannot practise polygamy▶ Says no attempt made to frame a UCC despite SC appeals in Shah Bano and Sarla Mudgal cases▶ Hindu laws codified in 1956	<p>“ It is interesting to note that whereas the founders of the Constitution in Article 44 in Part IV dealing with Directive Principles of state policy had hoped and expected that the state shall endeavour to secure for the citizens a uniform civil code throughout the territories of India, till date no action has been taken in this regard</p> <p>— SUPREME COURT BENCH</p>

- UCC is a generic set of governing laws for every citizen without taking into consideration religion.
- The Constitution in Article 44 requires the State to strive to secure for its citizens a Uniform Civil Code (UCC) throughout India. (UPSC CSE: Uniform Civil Code)
- Article 44: According to this article, “The State shall endeavor to secure for the citizens a uniform civil code throughout the territory of India”.

Historical Background:-

- The Supreme Court for the first time directed the Parliament to frame a UCC in the case of Mohammad Ahmed Khan v. Shah Bano Begum in the year 1985.
- In this case, Shah Bano claimed maintenance from her husband under Section 125 of the Code of Criminal Procedure after she was given triple talaq by him.
- However, the government overturned the Shah Bano case decision by way of the Muslim Women (Right to Protection on Divorce) Act, 1986 which curtailed the right of a Muslim woman to maintenance under Section 125 of the Code of Criminal Procedure.

Need of UCC:-

Gender Justice:-

- It is commonly observed that personal laws of almost all religions are discriminatory towards women.
- Men are usually granted upper preferential status in matters of succession and inheritance.
- Muslim men are allowed to marry multiple wives, but women are forbidden from having multiple husbands.
- Even after the 2005 amendment to the Hindu Succession Act, women are still considered part of their husband's families after marriage.
- So, in case a Hindu widow dies without any heirs or will, her property will automatically go to her husband's family.
- Men (fathers) are also treated as 'natural guardians' and are given preference under the Hindu Minority and Guardianship Act.
- A uniform civil code will establish gender justice by bringing both men and women to par.

Promote national unity:

- A unified personal law irrespective of gender, caste, creed, etc. will boost national unity and solidarity.
- Simplification of laws: It will eliminate the overlapping of laws. Different personal laws (Codified and Uncodified) practised in India:-

Hindu Personal Law

- Hindu personal law is codified in four bills: the Hindu Marriage Act, Hindu Succession Act, Hindu Minority and Guardianship Act, and Hindu Adoptions and Maintenance Act.
- The term 'Hindu' also includes Sikhs, Jains and Buddhists for the purpose of these laws.
- It was codified by the Parliament in 1956.

Muslim personal laws

- A 1939 Act enacted by the British said that their personal Law (ie, the Shariat) would govern Muslims.
- The Muslim Personal Law (Shariat) Act, 1937 is a short statute with five provisions.
- It covers provisions of marriage, divorce, children's custody or inheritance Intestate succession, dissolution of marriage etc.

Secular' laws:-

- These laws disregard religion altogether. These include:
- Special Marriage Act: for Inter-religion marriages and
- Guardians and Wards Act: establishes the rights and duties of guardians.

Other laws:-

- In the Northeast, there are more than 200 tribes with their own varied customary laws.
- Apart from it, different personal laws also govern Christians and Jews.
- Thus, a UCC will simplify these laws into one standard.

Parliamentary Standing Committees

- These are the permanent and regular committees.
- They are constituted from time to time according to the provisions of an Act of Parliament or Rules of Procedure and Conduct of Business.
- Both houses of Parliament, Rajya Sabha, and Lok Sabha have similar Committee structures with a few exceptions.

Parliamentary committees draw their authority from:-

- Article 105: on privileges of Parliament members.
- Article 118: on Parliament's authority to make rules for regulating its procedure and conduct of business.

2. International Relations

2.1 Shanghai Cooperation Organization (SCO)

As per recent reports, India will host the 23rd summit of the Shanghai Cooperation Organization (SCO) Summit in a virtual format.

Background:-

- Prime Minister Narendra Modi will chair the 23rd Summit of the SCO Council of Heads of State on 4th July.
- India assumed the rotating Chairmanship of SCO at the Samarkand Summit on 16 September last year.
- India has set up new pillars of cooperation under its Chairmanship by emphasizing startups and innovation, traditional medicine, digital inclusion, youth empowerment, and shared Buddhist heritage.
- It has worked towards fostering greater people-to-people ties that celebrate the historical and civilizational bonds between nations.

About Shanghai Cooperation Organization (SCO):-

- SCO is a permanent Eurasian political, economic and military organization.
- Objective: to maintain peace, security and stability in the region.
- Establishment: 2001.
- The SCO Charter was signed in 2002 and entered into force in 2003.
- It is a statutory document which outlines the organization's goals and principles, as well as its structure and core activities.
- SCO's official languages: Russian and Chinese.
- Founding members: Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan were members of the Shanghai 5.
- Following the accession of Uzbekistan to the organization in 2001, the Shanghai 5 was renamed the SCO.
- India and Pakistan became members in 2017.
- Current Members: India, China, Russia, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, and Uzbekistan.

Structure of the SCO:

- Heads of State Council – The top SCO body that decides on internal SCO operations, interactions with other states and international organizations, and international concerns.
- Heads of Government Council – approves the budget, evaluates, and decides on topics pertaining to SCO's economic domains of engagement.
- Council of Foreign Ministers – Considers problems concerning day-to-day operations.
- Regional Anti-Terrorist Structure (RATS) – An organization formed to combat terrorism, separatism, and extremism.

2.2 India-Africa ties

The 20-member Africa Expert Group (AEG), established by the Vivekananda International Foundation (VIF), recently presented the Report entitled 'India-Africa Partnership: Achievements, Challenges and Roadmap 2023'.

Findings of the Report:

- The VIF report notes that India has a substantive partnership with Africa and a rich fund of goodwill, but it is “essential for India to review its Africa policy periodically, stay resilient by making the required changes, and place a razor-like focus on its implementation”.
- This can best be secured through close collaboration between the Ministry of External Affairs and the National Security Council Secretariat through a team of officials working under the joint leadership of the Secretary, Africa in the MEA, and a designated Deputy National Security Adviser.

India – Africa Relations:

Evolution of Ties:

- **Historical Ties:** India and Africa have a long history of interaction, primarily through trade routes connecting the Indian Ocean region and the East African coast.
- This historical connection forms the basis of cultural and people-to-people ties that continue to influence contemporary relations.
- **Decolonization and South-South Cooperation:** Following the wave of decolonization in Africa during the mid-20th century, India played a significant role in supporting African nations’ struggles for independence.
- India’s own experience of colonial rule resonated with African nations, leading to the establishment of strong diplomatic and political ties.
- India’s leaders, such as Mahatma Gandhi and Jawaharlal Nehru, played a crucial role in fostering solidarity and cooperation between India and Africa.
- **Non-Aligned Movement (NAM):** Both India and many African countries were founding members of the Non-Aligned Movement, which emerged during the Cold War era.
- NAM aimed to provide a platform for countries to maintain neutrality and pursue their own development agendas, free from the influence of major power blocs.

Trade and Investment:

- India is the fifth-biggest investor in Africa with investments over the past 20 years amounting to \$54 billion or 19.2% of Africa’s foreign direct investment.
- Pharmaceuticals, ICT and services, the automobile sector and the power sector could help boost Indian trade and investment in the continent. The bilateral trade stood at \$ 62 billion in 2017-18 and the goal of hitting \$ 100 billion is still distant.
- A huge population of Africa can serve as an attractive destination for exports and investment under ‘Make in India’.
- Africa has ample agricultural land which can address India’s food security. India is looking at leasing land in Africa to overcome the land deficit that we face in terms of arable land.

Soft Power:

- It is amplified by the presence of Indian Diaspora in countries like Mauritius.
- This helps in building trust between the nations and effective implementation of joint projects.
- Women consist of 90% of Africa’s labor force in the informal sector, engaged mainly in education, healthcare, and tertiary services.
- India’s efforts in these areas under the African Continental Free Trade Area (AfCFTA) would enhance its brand image across the continent.

Common Agendas:

- Most African nations are developing in nature just like India which creates a common understanding on multiple issues.
- India and Africa share common grounds on reformation of the UNSC, Climate change agreements, Trade Issues and WTO negotiations etc.

Geopolitical

- India has been actively involved in peace and stability of African countries through UN Peace keeping operations. India is involved in capacity building of African countries.
- Africa, through forums such as BRICS and IBSA, can voice the concerns of developing and least developed countries at international climate change conferences and investment summits.
- Indian aid to Africa: India must revive the infrastructure projects already going on in Africa through its aid.
- India being a peaceful democratic nation can help African countries to establish political stability.

Regional Groupings and Forums for India-Africa Relations:

- India-Africa Forum Summit (IAFS): The IAFS is a major platform for India-Africa cooperation.
- It is a summit-level meeting held periodically to enhance and strengthen the partnership between India and African countries.
- BRICS (Brazil, Russia, India, China, South Africa): India and Africa engage through the BRICS platform, which is a grouping of five major emerging economies.
- Asia-Africa Growth Corridor (AAGC): The AAGC is an economic cooperation agreement between India and Japan aimed at promoting socio-economic development in Asia and Africa.
- International Solar Alliance (ISA): The ISA is an initiative launched by India and France to promote solar energy deployment globally.
- It provides a platform for collaboration and technology transfer in the field of solar energy, including for African countries.
- India-Africa Science and Technology Initiative (IASTI): The IASTI is an initiative that promotes cooperation between India and African countries in the field of science and technology.

Challenges in India-Africa Relations:

- Competition with China: China has established a significant presence in Africa, particularly in sectors like infrastructure, mining, and energy. India faces competition from China in terms of investment, trade, and influence in Africa.
- Limited Resources: India's resources for providing financial assistance and infrastructure development in Africa are comparatively limited.
- India cannot match China's vast financial capabilities, which can result in challenges in competing for major projects and trade opportunities.
- Lack of Connectivity: Adequate city-to-city connectivity between India and Africa is lacking, hindering people-to-people contact and impeding the growth of mutual understanding and cooperation.
- Perception and Image: India needs to address concerns among African citizens who view Indian investments as neo-colonialism or exploitative. Incidents of racial attacks on African nationals in India have damaged India's image and could potentially strain relations.
- Different Priorities: India's focus on Africa is not its primary foreign policy priority, as it also engages with other major powers like the United States, the European Union, and neighboring countries. Balancing multiple priorities can pose challenges in effectively pursuing India-Africa relations.

Way Forward:

- India has a substantive partnership with Africa and a rich fund of goodwill, but it is “essential for New Delhi to review its Africa policy periodically, stay resilient by making the required changes, and place a razor-like focus on its implementation”.

2.3 Criminalisation of politics in India

The Association for Democratic Reforms (ADR) wrote to the Election Commission seeking action against parties that fail to publish details of criminal antecedents of candidates as per orders of the Supreme Court and the poll panel.

About Criminalisation of Politics:

- Criminalization of politics is defined as the situation when criminals participate in the politics of the government, i.e., contest elections and are elected to the Parliament and state legislatures.
- This growing menace has become a big problem for our society, affecting the basic principles of democracy, such as fairness in elections, following the law, and being accountable.
- According to data from the ADR, the number of candidates with criminal charges elected to Parliament in India has been on the rise since 2004.
- In 2004, 24% of parliamentarians had pending criminal cases, which rose to 43% in 2019.
- In a petition filed in Feb 2023, it was claimed that there has been an increase of 44% in the number of MPs with declared criminal cases since 2009.
- In the 2019 Lok Sabha elections, 159 MPs had declared serious criminal cases against them, including those of rape, murder, attempt to murder, kidnapping, crimes against women.

Causes of criminalization of politics

- Muscle power: An ideology that works behind adopting the method of muscle power is that if one party cannot secure faith in society, then fear and violence may aid them in the same.
- When there is a nexus between political parties and criminals, the most dangerous elements in society take birth.
- Money power: Black money and funds from the mafia are also significant causes of criminalization in politics.
- Money accumulated through unlawful acts also acts as one of the primary reasons for increasing criminalization in politics
- Corruption: When contempt of law combines with the criminalization of politics, it gives birth to flourishing corruption.
- Growing corruption ultimately leads to the criminalization of politics.
- Divisions in the Indian political system: The Indian political system is based on divisions in which our Indian society exists.
- Criminals take advantage of this division and enter the arena of politics.
- People tend to vote based on the candidates' caste, ethnicity, religion, community, and linguistic lineage.
- No retirement policy in Indian politics: There is no retirement policy for Lok Sabha members, and hence some members never retire.
- The issue of family fiefdom seriously jeopardizes the careers of budding politicians and lawyers.

Effects of criminalization of politics:

- Hampering free and fair election: limited choice of voters to elect a candidate to parliament or state.
- It is against the spirit of free and fair election, which is the bedrock of a democracy.
- Unhealthy democratic practice: The major problem is that the law-breakers become lawmakers; this affects the efficacy of the democratic process in delivering good governance.
- These unhealthy tendencies in the democratic system reflect a poor image of the nature of India's state institutions and the quality of its elected representatives.
- Circulation of black money: It also leads to increased circulation of black money during and after elections, which in turn increases corruption in society and affects the working of public servants.
- Culture of violence: it introduces a culture of violence in society, sets a bad precedent for the youth to follow, and reduces people's faith in democracy as a system of governance.
- Weakening the institutions: This is a pervasive malaise in our body politic, which is assuming cancerous proportions.
- As a result, the three main pillars of our democracy, namely, Parliament, judiciary and executive, are progressively weakened, and the fundamental concept of a democratic system is subverted.

Measures to Curb Criminalization of Politics:

Section 125A of the Representation of Peoples Act:

- The Act should be amended, in order to provide more stringent punishment for concealing or providing wrong information in Form 26 under the Conduct of Election Rules, 1961 to a minimum term of two years' imprisonment.

Second Administrative Reforms Commission:

- It recommended amending the Section 8 of Representation of People Act, 1951 for disqualifying persons who are facing charges related to heinous crimes and corruption, if charges are framed 6 months before the election.
- Bringing greater transparency in campaign financing is going to make it less attractive for political parties to involve gangsters.

Supreme Court Landmark Judgements:

- Association for Democratic Reforms v. Union of India (2002): In 2002, the SC ruled that every candidate contesting election has to declare his criminal and financial records along with educational qualifications.
- Lily Thomas v. Union of India (2013): The SC has declared that any member of parliament or state legislative assembly who is convicted of a crime and sentenced to a prison term of two years or more would be disqualified from holding office.
- Public Interest Foundation v. Union of India (2019): The SC has ordered political parties to publish the criminal records of their candidates on their websites, social media handles, and newspapers.
- The court also directed the ECI to create a framework to ensure that the information on candidates' criminal records was disseminated effectively.

Way Forward:

- The criminalization of politics and corruption hits the roots of democracy. There should be wide publicity of the candidates with criminal records, who are contesting in an election and the political parties that give them support. There is a need to bring greater transparency in the campaign financing of political parties. The political parties must be brought under the Right to Information Act to improve their transparency and accountability. The Parliament should enact a law dealing with increased criminalization

of politics. Further, of courts dealing with sitting legislators would be crucial for the decriminalization of politics.

2.4 Unmanned Aircraft Systems and Innovative Air Mobility

The Directorate General of Civil Aviation (DGCA) of India has recently signed a memorandum of understanding with the European Union Aviation Safety Agency (EASA).

Background:-

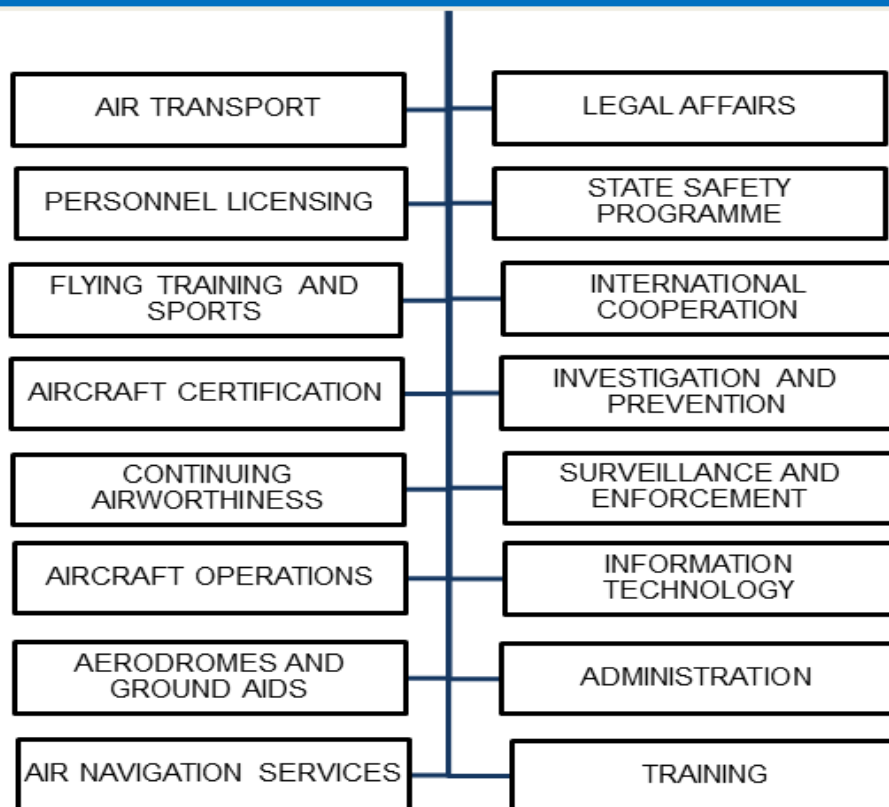
- The MoU is for cooperation in Unmanned Aircraft Systems and Innovative Air Mobility.
- This MoU will facilitate collaboration on unmanned aircraft and innovative air mobility between the two civil aviation authorities.

About the Collaboration on Unmanned Aircraft Systems and Innovative Air Mobility:-

- This memorandum of understanding (MoU) will facilitate collaboration on unmanned aircraft and innovative air mobility between the two civil aviation
- Unmanned aerial vehicle (UAV): it is commonly known, as a drone. It is an aircraft without any human pilot, crew, or passengers on board.
- Innovative air mobility (IAM): The concept of innovative air mobility (IAM) accommodates commercial and non-commercial operations with novel aircraft designs that do not automatically fall under one of the known categories of aero planes or helicopters. They may have the capability to vertically takeoff and land, have specific (distributed) propulsion features, may be operated in unmanned configuration, etc.
- This collaboration would include cooperation between DGCA and EASA in the areas of development of certification standards and environmental standards and related requirements for the certification and use of unmanned aircraft systems and innovative air mobility operations which includes licensing of personnel, training, air traffic management and infrastructure, including Unmanned Aircraft System Traffic Management (UTM) standards and services.
- The MoU will also ensure regular information sharing between the two authorities on the technological developments and research in this area and their respective strategies for outreach to relevant stakeholders.
- Further, the MoU will result in collaboration in conducting conferences, workshops, and training programs by DGCA and EASA in this area.

About Directorate General of Civil Aviation (DGCA):-

DIRECTORATE GENERAL OF CIVIL AVIATION



- The Directorate General of Civil Aviation is the regulatory body in the field of Civil Aviation primarily dealing with safety issues.
- It is a statutory body of the Indian Central Government under the Aircraft (Amendment) Bill, 2020.
- Objectives: to regulate civil aviation in India.
- Ministry: Ministry for Civil Aviation.
- HQ: New Delhi.
- It has regional offices in various parts of India.

Functions of DGCA:-

- It investigates aviation accidents and incidents.
- It maintains all regulations related to aviation.
- It is responsible for the issuance of licenses.
- It is responsible for the regulation of air transport services to/from/within India.
- It is responsible for the enforcement of civil air regulations, air safety and airworthiness standards.
- It also coordinates all regulatory functions with International Civil Aviation Organization.

European Union Aviation Safety Agency (EASA)

- EASA is an Agency of the European Union (EU).
- EU: international organization comprising 27 European countries.
- It develops common safety and environmental rules at the European level.
- Objective: to promote the highest common standards of safety and environmental protection in civil aviation.
- Established: 4 July 2018.

- HQ: Cologne, Germany.
- It is headed by an Executive Director.
- The work of the Agency is overseen by a Management Board, which represents EU Member States and the European Commission.
- It is a body governed by European public law.
- It is distinct from the Community Institutions (Council, Parliament, Commission, etc.) and has its own legal personality.
- Exclusion: EASA's remit does not encompass questions related to civil aviation security e.g. airport security measures, counter-terrorism.

2.5 Japan-India Maritime Exercise 2023 (JIMEX 23)

Recently, the seventh edition of the bilateral Japan-India Maritime Exercise 2023 (JIMEX 23) took place.

Background:-

- The event was hosted by the Indian Navy and is being conducted at/ off Visakhapatnam from 05 -10 July 2023.
- This edition marks the 11th anniversary of JIMEX, since its inception in 2012.

About Japan-India Maritime Exercise 2023 (JIMEX 23):-

- Background: JIMEX, is a series of maritime exercises conducted by the Indian Navy and the Japan Maritime Self-Defence Force (JMSDF).
- It was first commenced in 2012.

JIMEX 23 will witness the participation of:-

From Indian Navy:-

- INS Delhi: India's first indigenously built Guided Missile Destroyer.
- INS Kamorta: an indigenously designed and built Anti-Submarine Warfare Corvette.
- INS Kamorta is a Kamorta-class anti-submarine warfare corvette.
- The Kamorta-class corvettes are designed to perform a range of naval operations, including anti-submarine warfare, anti-surface warfare, and surveillance missions.
- Others: a fleet tanker INS Shakti, a submarine, maritime patrol aircraft P8I and Dornier, ship-borne helicopters and fighter aircraft.

From JMSDF:-

- It will be represented by the guided missile destroyer JS Samidare and its integral helicopters.

It will take place in two phases:-

- Harbour Phase: at Visakhapatnam comprising professional, sports and social interactions.
- After the Harbour Phase: the two navies will jointly hone their warfighting skills at sea and enhance their interoperability through complex multi-discipline operations in the surface, sub-surface and air domains.

Other Exercises between India and Japan:-

- Malabar: India and Japan with the United States and Australia participate in the naval war-gaming exercise named Malabar.

- SHINYUU Maitri :Air Force
- Dharma Guardian: Military Exercise(UPSC CSE: Exercise IBSAMAR)

2.6 International Maritime Organization

Recently, the summit of the United Nations International Maritime Organization (IMO) concluded in London.

Background:-

Maritime countries upgraded their Greenhouse House Gas (GHG) emissions strategy to reach net zero “by or around” 2050 without specifying a definite year agreed to upgrade their Greenhouse House Gas (GHG) emissions strategy to reach net zero “by or around” 2050.

About International Maritime Organization:-

IMO is the United Nations specialized agency.



Establishment:

- HQ: London, United Kingdom.
- Objective: to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented.
- Membership: IMO currently has 175 Member States and three Associate Members.
- India joined the IMO in (UPSC CSE: International Maritime Organization (IMO) & India)

Functions:-

- Its role is to create a level playing field so that ship operators cannot address their financial issues by simply cutting corners and compromising on safety, security and environmental performance.
- IMO’s work supports the UN Sustainable Development Goals (SDGs).
- The IMO is not responsible for enforcing its policies.

- It has the responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships.

Key Conventions of IMO:

- International Convention for the Safety of Life at Sea (SOLAS)
- International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW)
- International Convention for the Prevention of Pollution from Ships (MARPOL)

2.7 Muslim World League

Recently, President Droupadi Murmu had a meeting with the Secretary General of the Muslim World League, at Rashtrapati Bhavan in New Delhi.

Background:-

- President Droupadi Murmu today said that India appreciates the role and objectives of the Muslim World League in promoting tolerant values, moderation of consciousness and inter-faith dialogue.
- India is the country with the second-largest population of Muslims in the world.

About Muslim World League:-

- Muslim World League (MWL) is an international Non-governmental organization (NGO).
- Established: 1962.
- Historical Background: It was founded in accordance with a resolution adopted during the meeting of the General Islamic Conference, which was held in Holy Makkah on the 14th to the 18th May 1962.
- HQ: Makkah, Saudi Arabia. (UPSC CSE: Arab Spring)

Objectives of the MWL:-

- Introduce Islam and its tolerant values as presented in the Holy Quran and the Sunnah.
- Consolidate the concepts of centrism and moderation in the consciousness of the Muslim Ummah.
- Ummah: a community of believers bound together with a common purpose, to worship God and with a common goal to advance the cause of Islam.
- Strive to tackle and resolve issues facing the Muslim Ummah, and ward off factors causing conflict and discord.
- Give emphasis to civilizational rapprochement and spread the culture of dialogue.
- Give importance to Muslim minorities and their issues and solve them within the constitutions and regulations of the countries in which they are based.
- Benefit from the Hajj season by facilitating meetings among scholars, intellectuals and heads of organizations to provide scientific solutions to raise the standards of Muslims around the world. (UPSC CSE: GCC Trade pact)
- Hajj: an annual Islamic pilgrimage to Mecca, Saudi Arabia, the holiest city for Muslims
- Preserve the Islamic identity of the Ummah, strengthen its status in the world and make it more united.

Status of the MWL in international organizations:-

- The United Nations Organization: Observer in consultative status with the Economic and Social Council (ECOSOC).

- Organization of the Islamic Cooperation: Observe the status of attendance at all meetings and conferences.
- UNESCO: Member
- UNICEF: Member

2.8 Maputo Protocol

As per recent reports, the Maputo Protocol contributed towards Africa's progress in gender equality.

Key findings of the report:-

- There has been some progress on gender equality in African countries due to the Maputo Protocol, but it has been uneven, according to a new report.
- The Protocol has a target of universal ratification in Africa by 2028.
- However, with just five years until the target year, there are still 12 countries that are yet to ratify this important legal instrument.
- There is an urgent need for Botswana, Burundi, Central African Republic, Chad, Egypt, Eritrea, Madagascar, Morocco, Niger, Somalia and Sudan to renew their commitments and ratify the Maputo Protocol in order to deliver on their promises to the women and girls in their countries.
- Significant efforts have been made to promote gender equality under all the provisions of the Maputo Protocol, which include advancing reproductive health and rights, facilitating equal access to and participation in political processes, promoting economic empowerment and ending violence against women.
- In the past two decades (2003-2022), in nearly all countries, women's labour force participation rate (LFPR) as compared to that of men has remained low.
- In 24 countries, the share of women in the labour force has decreased. (UPSC CSE: Women Employment)
- Women's economic rights and opportunities and access to social welfare and protection are significantly affected by external factors such as conflict, COVID-19, the pandemic and climate change.
- The ripple effects of the COVID-19 pandemic have undone the progress towards ending child marriage.
- The pandemic had also strained and pressured the existing public health systems.
- There has been an improvement in women's participation in the political and decision-making processes.

About Maputo Protocol:-

- It is an International human rights document for the protection of women and girls in Africa.
- Adopted: July 2003.
- Adopted in Mozambique.
- Adopted by: African Union (AU).
- Ratification: Of the 55 member states, 44 have ratified or acceded to the Protocol.
- Objective: The Protocol requires the African States to eliminate all forms of discrimination and violence against women in Africa and to promote equality between men and women.

Significance:-

- It is a comprehensive legal framework that holds the African government to account in the event of a violation of women's rights.
- It also gives women the right to take part in political processes, social and political equality with men, improved autonomy in their reproductive health decisions, and an end to female genital mutilation.

- The Protocol is considered one of the world's most progressive legal frameworks for women's rights.
- It is one of the most ratified instruments in the AU.

2.9 UN Human Rights Council (UNHRC)

Recently, India voted in favour of a draft resolution tabled in the UN Human Rights Council (UNHRC) condemning "public and premeditated" acts of desecration of the Holy Quran.

Background:-

- UN Human Rights Council adopted the draft resolution 'Countering religious hatred constituting incitement to discrimination, hostility or violence', with 28 members voting in favour, seven abstentions and 12 nations voting against.
- The resolution was strongly opposed by the United States and the European Union, who say it conflicts with their view on human rights and freedom of expression.

About UN Human Rights Council (UNHRC):-

- It is an inter-governmental body within the United Nations system. (UPSC CSE: United Nations Human Rights Council)
- Objective: it is responsible for strengthening the promotion and protection of human rights around the world.
- Establishment: 2006.
- The Council was created by the United Nations General Assembly in 2006.
- It replaced the former United Nations Commission on Human Rights.
- HQ: Geneva, Switzerland.

Membership:-

- Current members: 47 Member States.
- These are elected by the majority of members of the General Assembly of the United Nations through direct and secret ballots.
- The Council's Membership is based on equitable geographical distribution.

Seats are distributed as follows:

- African States: 13 seats
- Asia-Pacific States: 13 seats
- Latin American and Caribbean States: 8 seats
- Western European and other States: 7 seats
- Eastern European States: 6 seats
- The term of each seat is three years.
- No member may occupy a seat for more than two consecutive terms.

India and UN Human Rights Council:-

- 2019: India was elected to the Council for a period of three years.
- 2020: India's National Human Rights Commission submitted its mid-term report to the Council as a part of the third round of the Universal Periodic Review (UPR) process.
- 2021: India was re-elected to the United Nations Human Rights Council (UNHRC) for the 2022-24 term.

- It vowed to continue to work for the promotion and protection of human rights through “Samman, Samvad and Sahyog”.

2.10 India-France Ties

The recent visit of Prime Minister Narendra Modi to France on Bastille Day celebrations in Paris as the guest of honour coincides with 25 years of the oldest among India’s almost 30 strategic partnerships around the world.

About India-France Relations:

- The two countries commenced their strategic partnership, India’s first, immediately after India’s nuclear tests.
- France was the first country to recognise the strategic importance of India after the nuclear tests in 1998.
- The signing of an agreement for the supply of 36 Rafale aircraft in September 2016, and an industrial agreement in March 2018 to build six European pressurized water reactors (EPR) at the Jaitapur site are directly linked to this partnership.

Climate agreements:

- Recently, India and France signed a Road Map on Green Hydrogen, which aims to bring the French and Indian hydrogen ecosystems together to establish a reliable and sustainable value chain for a global supply of decarbonised hydrogen.
- In 2022, they signed a Road Map on the Blue Economy and Ocean Governance.

Economic Cooperation

- France has emerged as a major source of FDI for India with more than 1,000 French establishments already present in India.
- France is the 11th largest foreign investor in India with a cumulative FDI stock of USD 9.83 billion from April 2000 to March 2021, which represents 2 % of the total FDI inflows into India.
- There are more than 150 Indian companies operating in France (including sub-subsidiaries).
- India’s exports to France were valued at USD 5.6 billion, down by 22.9%.
- French exports to India decreased by 20.95% during the same period to USD 5.1 billion.
- Trade with France constitutes only 1.41% of India’s total international trade.
- A joint announcement was also signed for setting up of a FAST-TRACK system for French companies in India and Indian companies in France.

Defence:

- France has emerged as a key defence partner for India, becoming the second largest defence supplier in 2017- 2021.
- France has emerged as a major strategic partner for India with crucial defence deals and increased military to military engagement.
- Induction of the French Scorpene conventional submarines, being built in India under technology transfer agreement of 2005, and the Indian Air Force having received 36 Rafale fighter jets.
- The Tata group has also tied up with Airbus to manufacture C-295 tactical transport aircraft in Vadodara, Gujarat.
- Military Dialogues and Regularly held Joint Exercises: Varuna (navy), Garuda (air force), and Shakti (army).

Road Map on Green Hydrogen:

- The two sides also cooperate closely on climate change initiatives.
- Recently they signed a Road Map on Green Hydrogen, which aims “to bring the French and Indian hydrogen ecosystems together” to establish a reliable and sustainable value chain for a global supply of decarbonised hydrogen.

Indo-Pacific:

- “Joint Strategic Vision of India-France Cooperation in the Indian Ocean Region” presents a blueprint for a strengthening of ties like Franco-Indian joint patrolling in the Indian Ocean.
- India and France agreed to set up an Indo-Pacific Trilateral Development Cooperation Fund that will support innovative solutions for countries in the region.
- The two partners have formed a trilateral grouping with the United Arab Emirates to ensure security from the east coast of Africa to the far Pacific.

Significance of the India France relationship:

- Securing the Indo-Pacific: India will require the support of France for maintaining the stability and security of the Indo-Pacific region and countering the growing Chinese aggression.
- The Indian Ocean holds importance for France as it controls the Reunion Islands.
- Both countries have concluded a Joint Strategic Vision for cooperation in the Indian Ocean Region in 2018.
- High Degree of Trust: France has stood by India through thick and thin, beginning with 1998 when India conducted nuclear tests.
- Both nations share a high degree of mutual trust that allows them to cooperate on bilateral and multilateral issues.
- Entry to Key Organizations: France’s support will be crucial to India’s entry into the UNSC and the NSG.
- Tackling Climate Change: The cooperation between them can be helpful to achieve the goals of the Paris Agreement and in implementing the Glasgow Climate Pact.
- Global Stability: Cooperation between the two can help in checking Russia’s assertiveness in Europe and China’s assertiveness in Asia, thereby ensuring global stability and world order.

Challenges:

- Stalled Projects: Many projects that have been negotiated between the countries have not been operationalized.
- For instance, the Jaitapur nuclear project has been stalled and is facing a lot of domestic impediments.
- Free Trade with EU: Despite having good relations, France and India don’t have a free trade agreement between them.
- Further, no progress is being made on the India-EU Broad based Trade and Investment agreement (BTIA) as well.
- Stand on Russia Ukraine conflict: France has openly criticized the Russian invasion. India has a more restrained stance on the conflict.
- The difference in the response hasn’t impacted their bilateral relationship till now.
- However if the conflict gets prolonged, then it might impact the India France relationship as well.

Way Forward:

- India’s partnership with France is built on common values and goals. Both have underlined the importance of maintaining strategic autonomy with a shared understanding of global risks in many domains. There is a high-level India-France political dialogue that is ongoing in defence, maritime, counterterrorism and the

Indo-Pacific. In the marking of a long strategic partnership, a common interest in enhancing strategic autonomy and improving resilience, there is much ground ahead for further collaboration.

2.11 Sudan conflicts

Recent conflicts in Blue Nile or Darfur regions of Sudan has led to nationwide displacement.

Background:-

Some 2,231,523 internal displacements have been recorded in Sudan (as of June 28, 2023), since conflict erupted in one of Africa's biggest countries on April 15, 2023.

About Sudan conflicts:-



- The conflict in April 2023 is a power struggle between the two major factions of Sudan, which has led to the outbreak of violence.
- The ongoing struggle is between the paramilitaries of the Rapid Support Forces (RSF) and the Sudanese military forces.

Reason for conflict:-

- 2019: The conflict in Sudan has its roots in the overthrowing of long-serving President Omar al-Bashir by military generals in April 2019, following widespread protests.
- 2021: The military overthrew the transitional government led by Abdalla Hamdok in October 2021, with Burhan becoming the de-facto leader of the country and Dagalo his second-in-command.
- The current fight is due to the RSF supporting the former warlord Gen Mohamed Hamdan Dagalo, also known as Hemedti, while the Sudanese military forces supporting Gen Abdel Fattah al-Burhan, who is the de facto ruler of the nation.

Current Impact of Conflict:-

- It has resulted in millions of internal and cross-border displacements.
- Fighting initially took place in cities across Northern and Khartoum states, later spreading across the Darfur and Kordofan states. (UPSC CSE: Sudan's Darfur region)
- Khartoum state has been experiencing the highest levels of internal displacement.

India and Sudan conflict:-

- There are about 2,800 Indian nationals in Sudan, and there is also a settled Indian community of about 1,200 in the country.
- India began Operation Kaveri in 2023. (UPSC CSE: Indian Naval Ship Airavat enters Port Sudan under Mission Sagar – II)
- Operation Kaveri: a codename for India's evacuation effort to bring back its citizens stranded in Sudan amid intense fighting between the army and a rival paramilitary force there.
- The operation involves the deployment of the Indian Navy's INS Sumedha, a stealth offshore patrol vessel, and two Indian Air Force C-130J special operations aircraft on standby in Jeddah.

2.12 India-UAE Relations

During Prime Minister Narendra Modi's recent visit to the UAE, the RBI and its counterpart the Central Bank of the UAE signed two memoranda of understanding (MoUs).

While the first established a framework to promote the use of local currencies for cross-border transactions, the other was for interlinking payment systems.

India-UAE Bilateral Relations

Political and Diplomatic Relations:

- India and the UAE have established a comprehensive strategic partnership, leading to high-level visits and engagements.
- This includes the historic visit of the Indian Prime Minister to the UAE in 2015, which marked the beginning of a new strategic partnership.
- The UAE's Crown Prince also visited India in 2017.
- The two countries have institutionalized their political and diplomatic engagements through mechanisms like the UAE-India Strategic Dialogue.
- India was invited as the Guest of Honour for the sixth World Government Summit. For this, Prime Minister of India paid a State visit to the UAE in February 2018 further enriching the rapport established at the highest political levels between India and the UAE.
- Modi's last visit to the UAE was in August 2019, when he received the UAE's highest award, 'Order of Zayed'.

Trade and Investment:

- The UAE is India's third-largest trade partner and second-largest export destination.
- Bilateral trade reached approximately USD 72 billion in the fiscal year 2021-22.
- The UAE has made substantial investments in India, with sectors such as construction development, power, air transport, tourism, and metallurgical industries receiving significant investment.
- The first meeting of the Joint Committee of the India-UAE Comprehensive Economic Partnership Agreement (CEPA) that took place recently, in which the target of achieving USD 100 billion in bilateral trade by 2030 was set.
- The CEPA, which was implemented in May 2022, aims to promote economic cooperation and enhance trade relations between India and the UAE.
- It focuses on expanding non-oil sectors of trade, indicating that the target of USD 100 billion will not include oil trade.
- To facilitate the implementation of the agreement and address various trade-related issues, several sub-committees and councils will be established.

- One such sub-committee will specifically handle matters pertaining to services trade.
- India's major export items to the UAE are Precious Metals, Stones, Gems & Jewellery, Minerals & Refined Petroleum Products, Food Items (Cereals, Sugar, Fruits & Vegetables, Tea, Meat, and Seafood), Textiles (Garments, Apparel, Synthetic fiber, Cotton, Yarn) and Engineering & Machinery Products and Chemicals.
- India's major import items from the UAE are Petroleum and Petroleum Products, Precious Metals, Stones, Gems & Jewellery, Minerals, Chemicals, Wood & Wood Products.

Defence and Security Cooperation:

- Bilateral Defence Interaction between India and UAE has been steadily growing in accordance with other aspects of the bilateral relationship.
- There have been regular high level and functional level exchanges between the two countries.
- The ships of the Navies of both countries have regularly made port calls enhancing bilateral defence co-operation.
- India and UAE signed a comprehensive strategic partnership in 2017, and hold annual defence dialogues.
- More recently, UAE is a key part of the Indian Ocean Region dialogue.
- Both sides take part in military exercises with each other and there have been several military chiefs' visits.
- The maiden bilateral naval exercise 'Gulf Star 1' took place in March 2018.
- 'Desert Eagle II', a ten-day air combat exercise, was held between the air forces of India and UAE.

Space Cooperation

- Space is a new arena in which India and the UAE have collaborated through the work of the UAE Space Agency (UAESA) and the Indian Space Research Organization (ISRO).
- Space cooperation between India and the UAE gained quick momentum during Prime Minister Modi's visit to the Emirates in 2015.
- Together, the two space agencies have developed the nano-satellite, Nayif-1, which was launched from the Satish Dhawan Space Centre, Sriharikota in India.
- The two countries are likely to work together on Emirates' 'Red planet Mission'.

Indian Community:

- The Indian expatriate community of approximately 4 million is the largest ethnic community in UAE constituting roughly about 35% of the country's population.

Challenges in India-UAE Relations:

- Slow implementation of investments: The establishment of a \$75 billion investment fund by the UAE for infrastructure projects in India, announced in 2015, has faced delays in finalizing the modalities and governance structure.
- This slow implementation hampers the realization of investment commitments.
- Lack of clarity and transparency: Indian companies operating in the UAE often face challenges due to a lack of clarity in commercial regulations and labor laws.
- Additionally, a lack of transparency on the part of Emirati businesses adds to the difficulties faced by Indian companies.
- Issues concerning the Indian diaspora: Indian migrants in the UAE face cumbersome and strict regulations, particularly in relation to Emirati employers.
- Problems such as favouritism towards workers of other nationalities and a slight drop in remittances inflow from the UAE to India have been observed.

- Influence of the Pakistan factor: Historical and civilizational ties between India and the Gulf region are strained due to the influence of the Pakistan factor.
- Political relations are affected by tensions between India and Pakistan, which impact India's relations with countries in the region.
- Balancing geopolitics: India's relations with Iran and the UAE's relations with China create a dynamic where geopolitical considerations can sometimes challenge the bilateral relationship between India and the UAE.
- Energy pricing disagreements: As an OPEC country, the UAE has a different perspective on energy pricing compared to India, a major oil consumer. Disagreements over energy pricing, including India's call for a cap on prices, have led to heated exchanges between oil ministers in the past.

Way Forward:

- The UAE today is India's closest partner in the Arab world and fortunately, there is enough resilience in bilateral ties to withstand the recent convulsions. It continues to forge closer partnership in these areas, building on their close and friendly relations and historical people-to-people connect. India-UAE has a strong energy partnership, which is now acquiring a new focus on renewable energy.

3. Economy

3.1 Fiscal Federalism in India

The Sixteenth Finance Commission (16th FC) is likely to be appointed soon & The commission may have to face some challenging issues of fiscal federalism.

About Fiscal Federalism:

- It deals with the division of financial powers as well as the functions between multiple levels of the federal government.
- It has within its ambit the imposition of taxes as well as the division of different taxes between the Centre and the constituent units.
- Similarly, in the case of joint collection of taxes, an objective criterion is determined for the fair division of funds between the entities.
- Usually, there is a constitutional authority (like Finance Commission in India) for the purpose to ensure fairness in the division.

Significance of fiscal federalism:

- Fiscal federalism broadly considers the vertical structure of the public sector, fiscal policy institutions and their interdependence.
- Fiscal federalism is significant broadly due to following reasons:
- To determine at which level of government to assign different expenditure responsibilities.
- To determine the strategy to finance a given level of public goods and services.
- To adopt strategies to cap excessive spending and borrowing at each level of government.

Challenging issues in Fiscal Federalism:

- Intersection domain of the Finance Commission and Goods and Services Tax (GST) Council: The latter's decisions impact the own tax revenue flows of states and, more importantly, the size of the central tax revenue pool .
- The demands for greater centralization of expenditure assignment is another issue.
- India has a quasi-federal system.
- For purposes of legislation, regulation and administration, Schedule 7 of the Constitution assigns 47 subjects to the Concurrent List.
- There is the issue of externalities: If social benefits or losses can spill over across boundaries of a lower-level jurisdiction, it requires assignment of the subject to a higher-level jurisdiction with wider spatial coverage.
- Three tier of government: Where it is left to the states to decide what functions from the state list in the 7th schedule should be further delegated and assigned to local governments.
- Inequality: India's fiscal federalism driven by political centralisation has deepened socio-economic inequality, belying the dreams of the founding fathers who saw a cure for such inequities in planning.

Way Forward:

- As recommended by the National Commission to Review the Working of the Constitution, there should be a formal institutional framework to mandate and facilitate consultation between the Union and the States in the areas of legislation under the Concurrent List.
- Recommendations of PV Rajamannar committee of 1971 needs to be considered which suggested that the Finance commission be made a permanent body.
- The Union government needs to invest resources towards facilitating effective consultation with States as a part of the lawmaking process.

3.2 Gross Non-Performing Assets (GNPA) ratio

The Gross Non-Performing Assets (GNPA) ratio of Scheduled Commercial Banks has fallen to 10-year low of 3.9 per cent in March 2023 as per recent reports.

Background:-

- Reserve Bank of India has informed that the Gross Non-Performing Assets (GNPA) ratio of Scheduled Commercial Banks has fallen to 10-year low of 3.9 per cent in March 2023.

About Gross Non-Performing Assets (GNPA) ratio:-

- Non-Performing Assets (NPA): NPAs are loans or advances made by a financial institution, on which both principal or interest is unpaid for a specified period.
- Gross Nonperforming assets (GNPA) is an absolute amount.
- Net non-performing assets (NNPA) ratio declined to 1 per cent.
- NNPA: This amount is realized after the provision amount has been deducted from the gross non-performing assets.
- Gross Nonperforming assets – Provisioning = Net Nonperforming assets.
- It tells the total value of gross non-performing assets for the bank in a particular quarter or financial year, as the case may be.
- GNPA ratio is the ratio of total gross non-performing assets to total loans of the bank.
- Interpretation: A very high GNPA means the institution's asset quality is in bad shape.
- Significance: The GNPA ratio estimate is to assess the resilience of banks to unforeseen shocks emanating from the macroeconomic environment.

Types of NPA:-

- Standard Assets: assets that carry a normal risk and are not NPA in the real sense of the word.
- No special provisions are required for standard assets.
- Sub Standard: is an asset where repayment has not been done for up to twelve months.
- Doubtful: an asset that has remained as an NPA for a period exceeding twelve months.
- Loss: one where loss has already been identified by the bank or an external institution, but it is not yet completely written off.

Impacts of rise in NPAs:-

- Lenders suffer a lowering of profit margins.
- Stress in the banking sector causes less money available to fund other projects, therefore, a negative impact on the larger national economy.
- Higher interest rates by the banks to maintain the profit margin.
- As investments got stuck, it may result in
- Investors do not get rightful returns.
- Both the banks and the corporate sector have stressed the balance sheet, which causes the halting of the investment-led development process.
- NPAs-related cases add more pressure to already pending cases with the judiciary.

3.3 Nirbhaya Fund

The Union Minister for Women and Child Development Smriti Irani recently launched a scheme for shelter, and aid to pregnant minor rape victims under the Nirbhaya Fund.

Background:-

- The proposal for “critical care and support for accessing justice to rape/gang rape survivors and minor girls who get pregnant” has been approved by the WCD Ministry.
- It has been approved with an outlay of Rs. 74.10 crore and will be applicable across the country in a

week's time.

- The scheme aims to provide shelter, food, daily needs, safe transportation for attending court hearings and legal aid to minor girls who have been abandoned by their family due to forced pregnancy, either due to rape or gang rape, or due to any other reason, and have no other means to support themselves.
- The administrative structure has been additionally leveraged with Mission Vatsalya, in collaboration with state governments and childcare institutions, to actualise this support to minor victims on the ground.

About Nirbhaya Fund:-

Historical Background:-

- The fund was created by the Ministry of Finance in 2013 with a corpus of Rs 1000 crore.
- The Government of India established the Nirbhaya Fund in response to the Nirbhaya Case in 2013.
- Objective: It is aimed specifically at projects for improving women's safety and security. (UPSC CSE: Protection of Women from Sexual Harassment (POSH) Act)
- Managed by: Ministry of Women and Child Development (MWCD).
- Administered by: Department of Economic Affairs of the finance ministry.
- It is a non-lapsable corpus fund.
- Major projects under the fund: Central Victim Compensation Fund (CVCF), One Stop Centers (OSCs), Universalization of Women Helpline (WHL), Mahila Police Volunteer (MPV), etc.

Mission Vatsalya Scheme

- Launched in 2021. (UPSC CSE: Mission Vatsalya Scheme)
- Ministry: Ministry of Women and Child Development (MWCD).
- Objective: to strengthen the juvenile justice care and protection system with the motto to 'leave no child behind'.
- The scheme provides a roadmap to achieve development and child protection priorities aligned with the Sustainable Development Goals (SDGs).
- It lays emphasis on child rights, advocacy and awareness.
- Framework: The Juvenile Justice (Care and Protection of Children) Act 2015 [JJ Act] provisions and the Protection of Children from Sexual Offences Act 2012 [POCSO Act] form the basic framework for the implementation of the Mission.
- Implementation and Funding: The Scheme is implemented as a Centrally Sponsored Scheme in partnership with State Governments and UT Administrations to support them in universalizing access and improving the quality of services across the country.

3.4 The Fiscal health of States

It has been observed that States' fiscal health improved after Covid-19 pandemic stress.

About Fiscal Condition of Various States:

- Stress tests show that the fiscal conditions of the most indebted State governments are expected to deteriorate further, with their debt-GSDP ratio likely to remain above 35 per cent in 2026-27.
- Based on the debt-GSDP ratio in 2020-21, Punjab, Rajasthan, Kerala, West Bengal, Bihar, Andhra Pradesh, Jharkhand, Madhya Pradesh, Uttar Pradesh and Haryana turn out to be the states with the highest debt burden.
- These 10 States account for around half of the total expenditure by all State governments in India. Other vulnerability indicators also capture these 10 States in their cross hairs.
- Their GFD-GSDP ratios were equal to or more than 3 per cent in 2021-22, besides deficits in their revenue accounts (except Uttar Pradesh and Jharkhand).
- Moreover, the Interest Payment to Revenue Receipts (IP-RR) ratio, a measure of debt servicing burden on States' revenues, in 8 of these States was more than 10 per cent.
- Among the 10 States, Andhra Pradesh, Bihar, Rajasthan and Punjab exceeded both debt and fiscal deficit targets for 2020-21 set by the 15th Finance Commission (FC-XV).

- Kerala, Jharkhand and West Bengal exceeded the debt target, while Madhya Pradesh overshot the fiscal deficit target. Haryana and Uttar Pradesh were exceptions as they met both criteria.
- Rajasthan, Kerala and West Bengal are projected to surpass the FC-XV targets for debt and fiscal deficit in 2022-23 (Budget Estimate/BE).

Basic terminologies:

- Revenue expenditure refers to the expenditure that neither creates an asset nor reduces the liability of the government. They are regular and recurring; Short-term; Example-Payment of salaries, maintenance of roads, street lights, etc.
- Capital expenditure refers to the expenditure that either creates an asset or reduces the liability of the government. They are irregular and non-recurring; Long-term; Example- Construction of metros, dams etc., repayment of loans to IMF etc., purchase of machinery, etc.
- Monetary policy is concerned with the management of interest rates and the total supply of money in circulation. It is generally carried out by the RBI.
- Fiscal policy estimates taxation and government spending. It should ideally be in line with the monetary policy, but since it is created by lawmakers, people's interest often takes precedence over growth.
- Fiscal Responsibility and Budget Management (FRBM) Act was enacted in 2003. The objective of the Act is to ensure inter-generational equity in fiscal management; long-run macroeconomic stability; better coordination between fiscal and monetary policy and transparency in the fiscal operations of the Government.

Fiscal Challenges Faced by Indian States:

Revenue Related Challenges:

- The impact of the Covid-19 pandemic on the economic activity and tax collection.
- The uncertainty and volatility of GST revenue and compensation.
- The dependence on tax devolution from the Union and its formula-based allocation.
- The erosion of fiscal autonomy due to the subsumption of various taxes under GST.
- The limited scope for raising non-tax revenues such as user charges, fees, etc.
- The compliance and administrative issues in collecting own taxes such as property tax, stamp duty, etc.
- Out of 17 major States, 13 States have revenue deficits, and seven States have revenue deficits as the main driver of their fiscal deficits.
- These States are Andhra Pradesh, Haryana, Kerala, Punjab, Rajasthan, Tamil Nadu, and West Bengal.

Expenditure Related Challenges:

- The rising demand for public health and education services due to the pandemic and demographic factors.
- The need to invest in infrastructure and urban development to support growth and employment.
- The fiscal implications of various welfare schemes and subsidies for the poor and vulnerable sections.
- The burden of pension and salary liabilities for the public sector employees.
- The contingent liabilities arising from guarantees, loans, etc. given to public sector enterprises and other entities.
- The sustainability and servicing of the debt stock accumulated over the years.

Framework of Revenue Deficit Consolidation:

- Data from the last 20 years suggests that revenue deficit had almost disappeared from State Budgets before COVID-19.
- States, in aggregate, were generating revenue surpluses almost all the years during this period.
- However, the re-emergence of revenue deficit in recent years should take the focus back on the management of revenue deficit by creating an incentive compatible framework.

Benefits of Reducing Revenue Deficits for Indian States?

- Improving the fiscal health and sustainability of State finances and reducing their debt burden.
- Enhancing the quality of expenditure and increasing the share of capital expenditure in total expenditure.

- Boosting public investment in infrastructure and human capital, which can foster economic growth and development.
- Strengthening the credibility and confidence of investors and creditors in State finances.
- Ensuring macroeconomic stability and coordination with the Union Government.

Measures to Manage Revenue Deficit Effectively

Interest Free Loans

- Interest-free loans to the States by the Union Government may be linked to a reduction in revenue deficit.
- This will help eliminate the possibility of a substitution of States' own capital spending and also prevent the diversion of borrowed resources to finance revenue expenditure.
- Defined Time Path: For revenue deficit reduction with a credible fiscal adjustment plan would help restore fiscal balance and improve quality of expenditure.

Incentive Grants

- A forward-looking performance incentive grants could also be considered for a reduction of revenue deficit.
- In this context, different approaches provided by earlier Finance Commissions can be considered to decide the framework of the incentive structure.

Way Forward:

- There has to be a differentiated approach for different States. The policy, for example, for Gujarat cannot be the same as for West Bengal because the starting conditions are different and their political economy is different. So different states cannot shrink their debt-to-GSDP ratio at the same speed.
- There is a need for some kind of fiscal council or interstate mechanism that can ensure that FRBM limits on spending are strictly adhered to, along with ensuring the quality of expenditure of the States.

3.5 World Investment Report 2023

Recently, the World Investment Report 2023 was released.

About the World Investment Report 2023:-

- Published by: United Nations Conference on Trade and Development (UNCTAD).
- Objectives: it focuses on trends in Foreign Direct Investment (FDI) worldwide, at the regional and country levels and emerging measures to improve its contribution to development. (UPSC CSE: FDI Inflow)

Key Findings:-

- India and ASEAN registered foreign direct investment (FDI) increases of 10 % and 5%, respectively.(UPSC CSE: FDI Policy Change and Government Initiatives).
- FDI inflows were higher in developing countries.
- China, the second largest FDI host country in the world, saw a 5% increase.
- Gulf region: FDI declined, but the number of project announcements increased by two-thirds.
- Inflows in many smaller developing countries were stagnant, and FDI to the least developed countries (LDCs) declined.
- LDC: developing countries listed by the United Nations that exhibit the lowest indicators of socioeconomic development.
- Much of the growth in international investment in renewable energy has been concentrated in developed countries.
- The investment gap across all sectors of the Sustainable Development Goals has increased to more than \$4 trillion per year from \$2.5 trillion in 2015.
- The largest gaps are in energy, water and transport infrastructure.

United Nations Conference on Trade and Development (UNCTAD)

- Established: 1964.
- UNCTAD is the UN's leading institution dealing with trade and development.
- It is a permanent intergovernmental body established by the United Nations General Assembly.
- UNCTAD is part of the UN Secretariat.
- HQ: Geneva in Switzerland.
- Membership: it has a membership of 195 countries.
- It is one of the largest in the UN system.

Functions of UNCTAD: –

- It supports developing countries to access the benefits of a globalized economy more fairly and effectively.
- It provides economic, trade analysis, and facilitates consensus building.
- It offers technical assistance to help developing countries use trade, investment, finance and technology for inclusive and sustainable development.

Some of the reports published by it are-

- Trade and Development Report
- World Investment Report
- The Least Developed Countries Report
- Information and Economy Report
- Technology and Innovation Report
- Commodities and Development Report

3.6 India's Creative Economy

The creative economy is one of the youngest and fastest-growing sectors in India.

About Creative Economy:

- It is an evolving concept which is building on the interplay between human creativity and ideas and intellectual property, knowledge and technology.
- It includes advertising, architecture, arts and crafts, design, fashion, film, video, photography, music, etc.

Status of India's creative economy:

Growing recognition:

- There is now growing recognition of the economic importance of the arts sector as it helps in the creation of jobs, economic growth, tourism, exports, and overall societal development.
- Digital platforms and technology have enabled Indian artists and artisans to reach wider audiences.
- Online platforms, social media, and digital content creation enable artists, writers, film-makers, musicians, and other creatives to engage with audiences, and monetise their talents.
- Indian artists and artisans play a vital role in preserving traditional art forms and creating contemporary artworks.

UNESCO MONDIACULT 2022:

- Recognising the economic importance of culture, the UNESCO World Conference on Cultural Policies and Sustainable Development (MONDIACULT 2022) was held to address contemporary issues in multicultural societies.
- The goal was to share a vision for the future of cultural policies and to reaffirm the international community's commitment to leveraging culture's transformative power for sustainable development.

Challenges faced by Indian artistes:

- Economic and market challenges: Indian artists struggle with issues related to economic sustainability and gaining adequate market access to monetize their work.
- Preservation of traditional art forms: In the face of rapidly changing societal trends, preserving and promoting traditional art forms presents significant challenges.
- Inequalities in representation and support: Artists often face a lack of transparency in the selection process for financial assistance and event organization. Those based outside cities are particularly disadvantaged.
- Crime in the art world: Artists must contend with art-related crimes such as theft, forgery, and illicit trafficking. These crimes undermine cultural heritage, financial security, and public trust.

To address these challenges, the article suggests several solutions:

- Government Support and Cultural Institutions: Continued financial assistance, training programs, and opportunities provided by the government and cultural institutions can help artists sustain themselves and gain exposure.
- Transparent Selection Processes: Implementing transparent and fair selection processes for financial assistance and cultural events can ensure equal representation and opportunities for artists.
- Promotion of Artists as Brands: Private and public institutions should take initiatives to promote contemporary artists as brands, providing market support, research, business facilitation, and platforms to showcase their work.
- Enhanced Security Measures and Technology: Strengthening security measures, promoting international cooperation, raising public awareness, and utilising advanced technology for authentication and tracking can help combat crime in the art world.
- Preservation of Cultural Heritage: Regular audits, verified identification marks, and institutional records can contribute to preserving the integrity and trust of cultural collections.

Way Forward:

The economic and cultural significance of art, culture, and the creative economy in India, while addressing challenges and proposing solutions, should support the growth and development of artists and artisans as a whole.

3.7 Intellectual Property Rights (IPR)

Recently, Delhi High Court dismissed PepsiCo's plea against a revocation order on its Intellectual Property Rights (IPR) certificate for potato variety.

Background:-

- The Delhi High Court on July 5, 2023, dismissed an appeal filed by PepsiCo India Holdings (PIH) against a 2021 order that had revoked the PVP (plant varietal protection) certificate granted to the company for a potato variety (FL-2027).
- The FL-2027 variety of potatoes, used in Lays potato chips, came to the limelight in April 2019, when it became the centerpiece for a fight in the potato belt of northern Gujarat.
- Alleging that farmers who were not part of its "collaborative farming programme" were also growing and selling this variety in Gujarat, PepsiCo had filed rights infringement cases against farmers.

About FL2027:-

- It is a for a potato variety.
- Its commercial name is FC-5.

- It has a 5 per cent lower moisture content than other varieties.
- With 80 per cent moisture content, as compared to the usual 85 per cent, this variety is considered more suitable for processing and therefore, for making snacks such as potato chips.
- The variety was first cultivated by Dr Robert W. Hoopes, who holds the most potato patents and potato variety protections in the whole world.
- FL2027 came to be registered in the US in 2005 and was put to commercial use in India in 2009.
- PepsiCo had then granted licenses to some farmers in Punjab to grow the variety on a buyback system.
- Buyback system allows the company to buy all the produce from these farmers at pre-decided rates.
- PepsiCo applied for registration of the potato variety in India in 2011.
- It was granted registration in
- Pepsi's North America subsidiary Frito-Lay has the patent for the potato plant variety FL-2027 until October 2023.
- For India, Pepsi Co has patented FC-5 until January 2031 under the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001.

PPVFR Act, 2001 has been enacted in India for giving effect to the TRIPS Agreement:-

- The PPVFR Act retained the main spirit of TRIPS.
- The Act also had strong provisions to protect farmers' rights.
- The act allows farmers to plant, grow exchange & sell patent-protected crops, including seeds, & only bars them from selling it as "branded seed".
- It recognized three roles for the farmer: cultivator, breeder & conserver.
- As cultivators, farmers were entitled to plant-back rights.
- As breeders, farmers were held equivalent to plant breeders.
- As conservers, farmers were entitled to rewards from a National Gene Fund.

The patent dispute Issue:-

- In 2019, PepsiCo sued nine Gujarat farmers for cultivating the same potato variety, accusing them of infringing its intellectual property rights (IPR).
- It sought over Rs. 1 crore each from the farmers for alleged patent infringement under the Protection of Plant Varieties and Farmers' Rights Act, 2001.
- However, PepsiCo soon withdrew the suit after discussions with the government.

Arguments by Farmers:

- The farmers stated that as per the agreement, PepsiCo would collect potatoes of diameter greater than 45 mm and those farmers had been storing smaller potatoes for sowing next year.
- They got registered seeds from known groups and farmer communities and had been sowing these for the last four years or so, and had no contractual agreement with anyone.
- According to Section 39(1)(iv) of the PPV&FR Act, a farmer is entitled to save, use, share or sell his farm produce including seed of a variety protected under this Act, provided that he is not entitled to sell branded seed of a variety protected under this Act. Hence, there was no violation.

Arguments by breeder: –

- In the US, if someone has patented a seed, no other farmer can grow it
- However, the same does not apply in India.

The court's take on the matter:-

- The court observed that PepsiCo India Holdings (PIH) had ticked the variety as 'New variety' instead of 'extant variety', which is a crop variety that exists in a country.
- The judgment was upheld on the grounds of an ineligible registrant and failure to provide necessary documents under various provisions of the Act.
- Based on these, an order that revoked the PVP (plant varietal protection) certificate granted to the company for a potato variety (FL-2027) was made in 2021.

- Hence, the suing of farmers by PepsiCo was not seen in the public interest.

About Intellectual Property Rights (IPR):-

- Intellectual Property Rights (IPR) are the rights acquired by an owner of intellectual property.
- It refers to creations of the mind, such as:-
- inventions
- literary & artistic works
- designs & symbols,
- Names & images used in commerce.
- IPRs have been outlined in Article 27 of the Universal Declaration of Human Rights.

Objectives of IPR:-

- To encourage the creation of a wide variety of intellectual goods & strike the right balance between the interests of innovators & wider public interest.
- These rights are outlined in Article 27 of the Universal Declaration of Human Rights, which provides for the right to benefit from the protection of moral and material interests resulting from authorship of scientific, literary, or artistic productions.

3.8 SEBI's Complaints Redress System (SCORES)

As per recent reports, Sebi's SCORES platform disposed of 3,079 complaints in June.

Background:-

At the beginning of June, as many as 3,141 complaints were pending, and 3,967 fresh complaints were received, according to SEBI.

About SEBI's Complaints Redress System (SCORES) platform:-

- Launched: 2011.
- Launched by: SEBI.
- SEBI's Complaints Redress System (SCORES) is a grievance redressal system.
- Objective: It enables investors to lodge and follow up on their complaints and track the status of redressal of such complaints online.
- These complaints are related to investment advisers, research analysts, corporate governance/listing conditions, minimum public shareholding, venture capital funds and takeover/restructuring.
- SCORES does not deal with complaints against companies.
- Laws covered: Complaints arising out of issues that are covered under the SEBI Act, Securities Contract Regulation Act, Depositories Act and rules and regulations made there under relevant provisions of the Companies Act, 2013.
- Time limit: The complaint shall be lodged on SCORES within one year from the date of the cause of action.
- Average resolution time for a complaint: 31 days.

About SEBI (The Securities and Exchange Board of India (SEBI))

- Establishment:
- The Securities and Exchange Board of India was established as a statutory body in the year 1992.
- HQ: Mumbai, Maharashtra.
- Ministry: Ministry of Finance.
- Function: It monitors and regulates the Indian capital and securities market while ensuring to protect the interests of the investors, formulating regulations and guidelines.
- Chairperson: The chairperson is nominated by the Union Government of India.

3.9 Goods and Services Tax Network (GSTN)

Recently, the government has brought the Goods and Services Tax Network (GSTN) under the Prevention of Money-laundering Act (PMLA).

Background:-

- The government has brought the Goods and Services Tax Network (GSTN) under the Prevention of Money-laundering Act (PMLA), as per a notification dated July 7.
- The changes have been made for provisions under Section 66 of the PMLA, which provides for the disclosure of information.
- Under Section 66 of the Act, the 15 entities are bound to disclose case information to the ED if the probe falls under its jurisdiction.
- Based on the information, the ED can file a case under the PMLA, if it deems fit.
- The notification by Finance Ministry has amended an earlier 2006 notification that will facilitate sharing of information between the GSTN, Enforcement Directorate and other investigative agencies.

About Goods and Services Tax Network (GSTN):-

- Establishment: 2013.
- HQ: New Delhi.
- It is a not for profit, non-Government, private limited company incorporated in 2013.
- Objective: The Company has been set up primarily to provide IT infrastructure and services to the Central and State Governments, taxpayers and other stakeholders for implementation of the Goods and Services Tax (GST).
- Shareholding: The Government of India holds 24.5% equity in GSTN.
- All States including NCT of Delhi and Puducherry, and the Empowered Committee of State Finance Ministers (EC), together hold another 5%.
- Balance 51% equity is with non-Government financial institutions.
- GST Council has approved a proposal to convert GST Network (GSTN) into a government entity from its current private entity status by taking over stakes held by private entities.
- GSTN provides a strong IT Infrastructure and Service backbone which enables the capture, processing and exchange of information amongst the stakeholders (including taxpayers, States and Central Governments, Accounting Offices, Banks and RBI).

Mission of GSTN:-

- Provide common and shared IT infrastructure and services to the Central and State Governments, Tax Payers and other stakeholders for implementation of the Goods & Services Tax (GST).
- Provide common Registration, Return and Payment services to the Taxpayers.
- Partner with other agencies for creating an efficient and user-friendly GST Eco-system.
- Encourage and collaborate with GST Suidha Providers (GSPs) to roll out GST Applications for providing simplified services to the stakeholders.
- Carry out research, study best practices and provide Training and Consultancy to the Tax authorities and other stakeholders.
- Provide efficient Backend Services to the Tax Departments of the Central and State Governments on request.
- Develop Tax Payer Profiling Utility (TPU) for Central and State Tax Administration.
- Assist Tax authorities in improving Tax compliance and transparency of the Tax Administration system.
- Deliver any other services of relevance to the Central and State Governments and other stakeholders on request.

Prevention of Money-laundering Act (PMLA), 2002

- It was enacted in
- It came into force with effect from 1st July 2005.
- The Parliament enacted the PMLA as a result of international commitment to sternly deal with the

menace of money laundering.

- Money Laundering: conversion or misrepresentation of money which has been illegally obtained by unlawful sources and methods. (UPSC MAINS: money laundering in India)
- Applicability: The PMLA is applicable to all persons which include individuals, companies, firms, partnership firms, associations of persons or incorporations and any agency, office or branch owned or controlled by any of the above-mentioned persons.

Objectives of PMLA:-

- To prevent and control money laundering.
- To confiscate and seize the property obtained from the laundered money.
- To deal with any other issue connected with money laundering in India.

Provisions of PMLA, 2002:-

- Definition of money laundering: 3 of PMLA defines the offence of money laundering
- Prescribed obligation: PMLA prescribes the obligation of banking companies, financial institutions and intermediaries to verification and maintenance of records of the identity of all its clients and also of all transactions and for furnishing information of such transactions in a prescribed form to the Financial Intelligence Unit-India (FIU-IND).

Empowerment of officers:

- PMLA empowers certain officers of the Directorate of Enforcement to carry out investigations in cases involving the offence of money laundering and also to attach the property involved in money laundering.
- It empowers the Director of FIU-IND to impose fines on banking companies, financial institutions or intermediaries if they or any of its officers fail to comply with the provisions of the Act as indicated above.

Setting up of Authority:

- PMLA envisages the setting up of an Adjudicating Authority to exercise jurisdiction, power and authority conferred by it essentially to confirm attachment or order confiscation of attached properties.
- It also envisages the setting up of an Appellate Tribunal to hear appeals against the order of the Adjudicating Authority and the authorities like Director FIU-IND.

Special Courts:-

- It envisages the designation of one or more courts of sessions as Special Courts or Special Courts to try the offences punishable under PMLA and offences with which the accused may, under the Code of Criminal Procedure 1973, be charged at the same trial.

3.10 Internationalisation of rupee: Why and what are the benefits?

The Reserve Bank of India's (RBI) inter-departmental group (IDG) recently said that India remaining one of the fastest-growing countries and showing remarkable resilience in the face of major headwinds and the rupee has the potential to become an internationalised currency.

The Internationalisation of the Rupee:

- Internationalisation is a process that involves increasing the use of the rupee in cross-border transactions.
- These are all transactions between residents in India and non-residents.
- It involves –
- Promoting the rupee for import and export trade and then other current account transactions (measures imports and exports of goods and services, etc),
- Followed by its use in capital account transactions – measures cross-border investments in financial instruments, etc.
- Currently, the US dollar, the Euro, the Japanese yen and the pound sterling are the leading reserve currencies in the world.

- China's efforts to make its currency renminbi has met with only limited success so far.
- India has allowed only full convertibility on the current account as of now.

Current Status for the Rupee's Internationalization:

- **Limited Progress in Internationalisation:** The rupee is far from being internationalized, the daily average share for the rupee in the global foreign exchange market hovers around 1.6%, while India's share of global goods trade is mere 2%.
- **Steps Taken to Promote Internationalisation:** India has taken some steps to promote the internationalisation of the rupee (e.g., enable external commercial borrowings in rupees), with a push to Indian banks to open Rupee Vostro accounts for banks from Russia, the UAE, Sri Lanka and Mauritius and measures to trade with about 18 countries in rupees instituted.
- However, such transactions have been limited, with India still buying oil from Russia in dollars.

Benefits of Internationalization of rupee

- **Increased global acceptance:** Internationalization of the rupee can increase its global acceptance, which can lead to more international transactions being conducted in the rupee, thereby reducing the demand for foreign currencies and reducing exchange rate risks.
- **Reduced transaction costs:** Internationalization of the rupee can reduce transaction costs for Indian businesses as they will not have to incur exchange rate fees for converting rupees into foreign currencies for international transactions.
- **Boost to trade and investment:** Internationalization of the rupee can promote trade and investment by making it easier for foreign businesses to invest in India and for Indian businesses to invest abroad.
- **Enhanced competitiveness:** A more freely traded rupee can enhance India's competitiveness in global markets by allowing the currency to reflect the country's economic fundamentals and reducing the need for the Reserve Bank of India to intervene in currency markets.
- **Diversification of reserves:** Internationalization of the rupee can diversify India's foreign exchange reserves away from a concentration in US dollars, reducing the risks associated with holding a single currency.

Challenges associated with Internationalizing the Rupee:

- **Exchange Rate Volatility:** Internationalising the rupee exposes it to greater exchange rate volatility. Fluctuations in the value of the rupee can impact trade competitiveness, foreign investment flows, and financial market stability.
- **Managing exchange rate risks** becomes crucial in order to mitigate potential adverse effects.
- **Capital Flight and Financial Stability:** Opening up the rupee to international markets may lead to capital flight if investors lose confidence in the currency or anticipate unfavourable economic conditions.
- This can strain the country's foreign exchange reserves, impact financial stability, and create challenges for monetary policy management.
- **Capital Controls:** India still has capital controls in place that limit the ability of foreigners to invest and trade in Indian markets.
- These restrictions make it difficult for the rupee to be used widely as an international currency.
- **Competing Currencies:** The rupee faces competition from established international currencies like the US dollar, euro, and yen, which enjoy widespread acceptance and liquidity.
- Gaining market share and displacing these dominant currencies can be a significant challenge.
- **Confidence and Perception:** The credibility and stability of India's economic and monetary policies play a crucial role in building confidence in the rupee.
- Any perception of policy uncertainty, lack of transparency, or geopolitical risks can impede the internationalisation process.
- **Adoption by Market Participants:** Convincing market participants, including businesses, individuals, and financial institutions, to adopt the rupee for international transactions requires trust, familiarity, and confidence in the currency.
- Building awareness and promoting the benefits of using the rupee globally is a significant challenge.

Way Forward: The RBI's Recommendations:

For the short term:

- Adoption of a standardised approach for examining the proposals on bilateral and multilateral trade arrangements.
- Encouraging the opening of the rupee accounts for non-residents both in India and outside India and integrating Indian payment systems with other countries for cross-border transactions.
- Strengthening the financial market by fostering a global 24x5 rupee market and recalibration of the FPI (foreign portfolio investor) regime.
- A review of taxes on masala (rupee-denominated bonds issued outside India by Indian entities) bonds, international use of Real Time Gross Settlement (RTGS) for cross-border trade transactions, etc.

For the long term:

- Efforts should be made for the inclusion of the rupee in International Monetary Fund's (IMF) special drawing rights (SDR).
- The SDR is an international reserve asset created by the IMF to supplement the official reserves of its member countries.
- The value of the SDR is based on a basket of five currencies [the U.S. dollar, the euro, the Chinese renminbi, the Japanese yen, and the British pound sterling].

3.11 Kharif crops

Recently, the Kharif crops took a severe hit by intense and unprecedented rainfall across India.

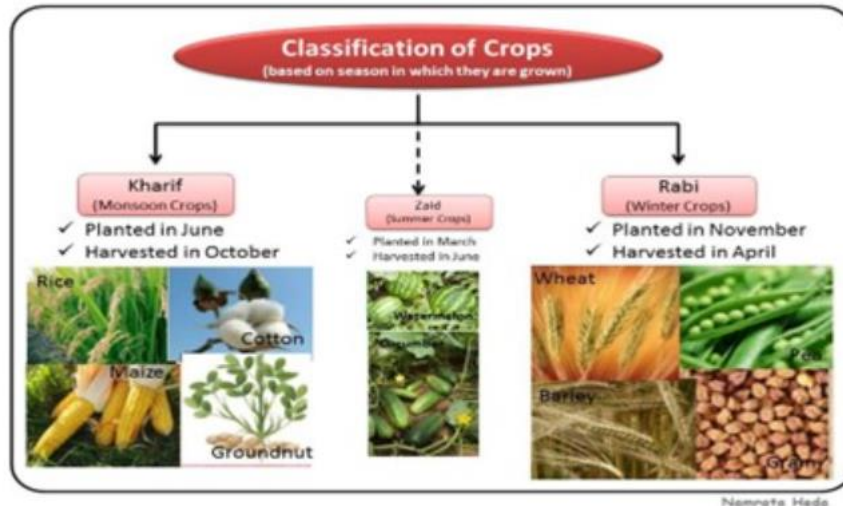
Background:-

- Record-breaking, heavy to extremely heavy rainfall in different regions, especially in the northwestern states of Himachal Pradesh, Uttarakhand, Punjab, Haryana and Uttar Pradesh, has now dealt a crushing blow by inundating the fields of already sown crops.
- The India Meteorological Department (IMD) has advised farmers to drain out excess water from their fields so that standing crops are saved from rotting.

About India Meteorological Department

- Established: 1875.
- Ministry: Ministry of Earth Sciences.
- HQ: New Delhi.
- It is the principal agency responsible for meteorological observations, weather forecasting and seismology.
- IMD is also one of the six Regional Specialized Meteorological Centres of the World Meteorological Organization.
- Regional Specialized Meteorological Centre (RSMC) of Tropical Cyclones in New Delhi is responsible for naming the cyclones in the northern Indian Ocean region.

About Kharif crops:-



- India is a peninsular country where the climate is mostly driven by monsoon. (UPSC CSE: North East Monsoon)
- Due to this reason, India is endowed with a variety of seasons.
- These seasons, in turn, provide different weather conditions to crops, which eventually lead to different cropping patterns.

Based on seasons, crops are classified into the following:

- Kharif crops
- Rabi crops
- Zaid crops
- Kharif crops, are cultivated and harvested in the monsoon season.
- Naming: The word “Kharif” is Arabic for autumn since the season coincides with the beginning of autumn or winter.
- Sowing and Harvesting: These are sown at the beginning of a monsoon season and farmers harvest them at the end of the season.
- Time Period: The Kharif season differs in every state of the country but is generally from June to September.
- One of the important features of Kharif crops is that they need a lot of water and hot weather for proper growth.
- Kharif crops examples: Rice, Cotton, Maize etc. (UPSC CSE: Government announces hike in MSP for Kharif season)
- India is the second-largest producer of rice in the world after China.
- India accounts for approximately 20% of the world’s rice production.

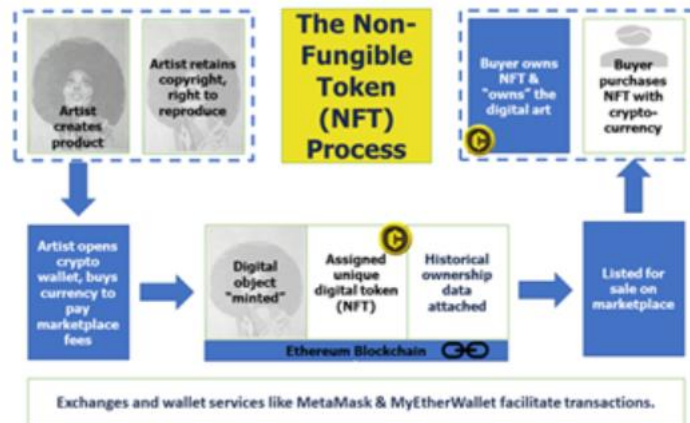
3.12 Non-Fungible Tokens (NFTs)

Home Minister Amit Shah will address two days G20 Conference on Crime and Security in the Age of Non-Fungible Tokens (NFTs) and Artificial Intelligence (AI).

Background:-

- Two days G20 Conference on Crime and Security in the Age of NFTs, AI, and Metaverse will be organized in Gurugram, Haryana on the 13th and 14th of July. (UPSC CSE: India and G20 Presidency)
- The conference will bring together over 900 participants from G20 countries, 9 special invitee countries, international bodies, technology leaders, and domain experts from the country and across the world.

About Non-Fungible Tokens (NFTs):-



- NFTs are assets in the digital world that can be bought and sold like any other piece of property, but which have no tangible form of their own. (UPSC CSE: Non Fungible Tokens (NFTs))
- Anything that can be converted into a digital form can be a Non-Fungible Token (NFT).
- It includes drawings, photos, videos, GIFs, music, in-game items, selfies etc.
- Even a tweet can be turned into an NFT, which can then be traded online using cryptocurrency.
- NFT transactions are recorded on blockchains.

Historical Background of NFTs:

- 2015: Terra Nulius was the first NFT on Ethereum Blockchain.
- 2017: Then came Curio Cards, CryptoPunks and CryptoCats .
- 2021: NFTs slowly moved into public awareness, expanding into mainstream adoption in early 2021.

Characteristic Features of NFTs:-

- Blockchain backed: NFTs are different from other digital forms in that they are backed by Blockchain technology.
- Exclusive ownership: NFTs can have only one owner at a time.
- Digital Storage: NFT owners can also digitally sign their artwork and store specific information in their NFTs metadata.
- Confidentiality: This will be only viewable to the individual who bought the NFT.

Conditions to buy NFTs:-

- Anyone who holds a cryptocurrency wallet can buy an NFT. (UPSC CSE: Cryptocurrency)
- That is the only prerequisite to purchasing an NFT.
- One does not need any KYC documents to purchase an art.

Risks associated with NFTs:-

- Risk of Fraud: In the recent past, several incidents of NFT Frauds have been reported.
- This includes the emergence of fake marketplaces, unverified sellers often impersonating real artists and selling copies of their artworks for half price.
- Environmental Risks: In order to validate transactions, crypto mining is done, which requires high-powered computers that run at a very high capacity, affecting the environment ultimately.

Artificial Intelligence (AI)

- It describes the action of machines accomplishing tasks that have historically required human intelligence. (UPSC CSE: A new global standard for AI ethics)
- It includes technologies like machine learning, pattern recognition, big data, neural networks, self-algorithms etc.
- India and AI
- According to a Canada-based company's report, Global AI Report 2019, India stood at the ninth position in

terms of the number of AI specialists working in the field.

- The US, China and the UK topped the list.

Benefits of AI:-

- In Policing: With the help of AI, one can predict the pattern of crime, and analyze a lot of CCTV footage, which is available across the country to identify suspects.
- In Agriculture: It can help sense one how much water the crop needs among many other works.
- Solving complex issues like efficient utilization of available resources.
- Analyzing the Data: AI technology helps in analyzing data

Disadvantages of AI:-

- Security: if somebody compromises a smart system, for instance, an autonomous car, the consequences can be disastrous, particularly given the ever-increasing cyber security threat.
- Lethal Autonomous Weapons: In the military, the autonomy in decision-making can be dangerous.
- Technological unemployment: by the introduction of new technologies the jobs will be replaced by intelligent machines or systems.

3.13 E-auction of rice

Recently, the Food Cooperation of India (FCI) started an e-auction of rice to control retail prices.

Background:-

- Consumer Affairs, Food and Public Distribution Ministry have said that the decision to sell rice through e-auction under the Open Market Sale Scheme (OMSS) from the buffer stock to bulk consumers has been taken in the public interest.

About the Open Market Scheme:

- It refers to the selling of food grains by the Government at predetermined prices in the open market from time to time.
- Objective: to enhance the supply of grains, especially during the lean season and thereby to moderate the general open market prices, especially in the deficit regions.
- Ministry: Ministry of Consumer Affairs, Food and Public Distribution.

Mechanism:-

- Under the OMSS, the FCI from time to time sells surplus food grains from the central pool, especially wheat and rice in the open market to traders, bulk consumers, retail chains, etc., at pre-determined prices.
- The FCI does this through e-auctions where open market bidders can buy specified quantities.
- The FCI conducts this weekly auction using NCDEX (National Commodity and Derivatives Exchange Limited).
- NCDEX: a commodity exchange platform in India that provides a platform for trading in various agricultural and other commodities.
- The State Governments/ Union Territory Administrations are also allowed to participate in the e-auction if they require wheat and rice outside Targeted Public Distribution System (TPDS).

The present form of OMSS comprises three schemes as under-

- Sale of wheat to bulk consumers/private traders through e-auction.
- Sale of wheat to bulk consumers/private traders through e-auction by dedicated movement.
- Sale of Raw Rice Grade 'A' to bulk consumers/private traders through e-auction.

About Food Cooperation of India (FCI):-

- Established: 1965.

- FCI is a statutory body under the Food Corporations Act of 1964.
- Ministry: Ministry of Consumer Affairs, Food and Public Distribution.
- HQ: New Delhi.
- It has five Zonal Offices, twenty-five Regional Offices and 170 District Offices under its control.

Objectives of FCI:-

- Effective price support operations for safeguarding the interests of the farmers.
- Distribution of food grains throughout the country for the public distribution system.
- Maintaining satisfactory levels of operational and buffer stocks of food grains to ensure National Food Security.

Functions of FCI:-

- It has the primary duty to undertake the purchase, store, transport, distribute and sell food grains and other foodstuffs.
- To provide farmers with remunerative prices.
- To make food grains available at reasonable prices, particularly to vulnerable sections of society.
- To maintain buffer stocks as a measure of Food Security.
- To intervene in the market for price stabilization.

3.14 National Bank for Agriculture and Rural Development (NABARD)

Recently, Union Cooperation Minister Amit Shah addressed the 42nd Foundation Day of the National Bank for Agriculture and Rural Development (NABARD) in New Delhi.

Background:-

- Union Cooperation Minister Amit Shah has said that NABARD is ensuring development and prosperity in rural areas by making rural banking accessible.
- For the last four decades, NABARD has proved to be the backbone of this country's rural economy, infrastructure, agriculture, and cooperative institutions.
- NABARD has a huge role in making every person in the village self-reliant especially the women, through self-help groups and establishing them in society with self-respect.

About National Bank for Agriculture and Rural Development (NABARD):-

- Established: 1982.
- It is a statutory body under the National Bank for Agriculture and Rural Development Act, of 1981.
- NABARD came into existence in 1982 by transferring the agricultural credit functions of RBI and refinance functions of the then Agricultural Refinance and Development Corporation (ARDC).
- NABARD today is fully owned by the Government of India.
- HQ: Mumbai

Role of NABARD:-

- It is an apex institution, which has the power to deal with all matters concerning policy, planning.
- It deals with the operations in giving credit for agriculture and other economic activities in rural areas. (UPSC CSE: Revised Rural Area Development Plan)
- It is a refinancing agency for those institutions that provide investment and production credit for promoting several developmental programs for rural development.
- It is improving the credit delivery system in India.
- It coordinates the rural credit financing activities while maintaining liaison with the Government of India, State Governments, and also RBI.

Functions of NABARD:-

- It provides refinance for IRDP accounts in order to give the highest share for the support for poverty

alleviation programs run by IRDP.

- It also makes the service area plan, to provide backward and forward linkages and infrastructural support.
- NABARD also prepares guidelines for the promotion of group activities under its programs and provides 100% refinance support for them.
- It is making efforts to establish linkages between the Self-help Group(SHG).
- It refines projects that are taken under the 'National Watershed Development Programme ' and the 'National Mission of Wasteland Development.
- It also has a system of District Oriented Monitoring Studies. (UPSC CSE: Start-Up Village Entrepreneurship Programme)
- It also supports Vikas volunteer Vahini programs which offer credit and development activities to poor farmers.
- It also inspects and supervises the cooperative banks and RRBs to periodically ensure the development of rural financing and farmers' welfare.
- It recommends licensing for RRBs and Cooperative banks to RBI.
- It provides assistance and support for the training and development of the staff of various other credit institutions, that are engaged in credit distributions.
- It also runs programs for agriculture and rural development.

3.15 India Government Mint

Recently, the 120th anniversary of the Indian Government Mint was celebrated in Hyderabad with commemorative souvenir coins.

Background:-

- These souvenir coins were crafted of silver, copper, and serve as a tribute to the rich legacy and contributions of the Indian Government Mint in the field of coinage and minting.
- Security Printing and Minting Corporation of India Ltd (SPMCIL) Chairman and Managing Director SK Sinha released the commemorative coins.

About Security Printing and Minting Corporation of India Ltd (SPMCIL)

- It is a wholly owned Schedule 'A' Miniratna Category-I company of the Government of India.
- Establishment: 2006.
- Ministry: Ministry of Finance.
- Objectives To be a leader in the manufacturing of currency, coins and security products through process excellence and innovation.

Functions:-

- Conducting printing and minting activities of the Government of India.
- Developing state-of-art currency, coins and diversified security products in a transparent, cost-effective and efficient manner.
- Constantly focusing on benchmarking, process automation, applied R & D, indigenization and the triple bottom line people, planet and profit.
- Ensuring Employees, Customers and Stakeholders' delight.
- Production of Currency and Bank Notes, Security Paper, Non-Judicial Stamp Papers, Postal Stamps & Stationery.
- It also includes producing Travel Documents viz. Passport and Visa, Security certificates, Cheques, Bonds, Warrants, Special Certificates with security features, Security Inks, Circulation & Commemorative Coins, Medallions, Refining of Gold & Silver, and Assay of Precious Metals.

About India Government Mint:-



India Government Mints (IGM) the units of Security Printing and Minting Corporation of India Ltd (SPMCIL).

There are four such units:-

- India Government Mints (IGM) Mumbai: it was established in 1829, and is one of the oldest mints in India.
- India Government Mints (IGM) Hyderabad: The present mint started in 1997 at Cherlapally.
- India Government Mints (IGM) Kolkata: The new mint was established in 1952 and became a unit of SPMCIL during corporatization in 2006.
- India Government Mints (IGM) Noida: it is the only Mint established in the post-independence era.(UPSC CSE: Kushans and Coins in India)
- IGMs offer a comprehensive range of services covering every stage of the minting process – from planning to the finished products.
- They utilize advanced technology, innovation, quality and reliable delivery methods.
- They strictly follow global laboratory standards.

3.16 Roiling resurgence

The latest Consumer Price Index data showing a resurgence in retail inflation proves exactly why the RBI's monetary authorities have reiterated the need to keep the policy approach firmly tilted towards ensuring price stability.

Consumer Price Index (CPI):

- The Consumer Price Index (CPI) in India measures the average change in prices of a fixed basket of goods and services consumed by households over time.
- It measures the Inflation rate in India and is commonly used by policymakers, economists, and market analysts to monitor price changes and evaluate the effectiveness of Monetary Policy.

The Inflation figures

- With food prices becoming unmoored and spiraling up, June's CPI-based provisional inflation reading accelerated by half a percentage point to a three-month high of 4.81%.
- Inflation in the food and beverages group, the single-largest constituent of the CPI that contributes almost 46% of its weight, led the resurgence, quickening from May's level to 4.63%.
- The food price inflation was broad-based with 10 of the 12 sub-groups witnessing year-on-year increases: cereals registered 12.7% price gains, eggs logged 7%, dairy experienced 8.56% inflation, pulses posted 10.5% and spices saw gains exceed 19%.
- Of the non-food items, clothing and footwear, as well as health and personal care saw price gains that

exceeded 6% in June.

- Education prices too continued to keep rising steadily.

Reasons for the rising inflation:

- Rising food prices are a major cause of inflation, with the food and beverages group's inflation reaching 4.63%.
- Specific food items like cereals and spices saw significant price increases, at 12.7% and 19% respectively.
- Even vegetable prices, despite being in the disinflation zone, witnessed a sharp rise in June.
- Core inflation (excluding food and fuel) remains steady but high at 5.16%.

Impact of agricultural trends on inflation:

- Impact of monsoon trends on inflation: Erratic monsoon trends are causing uncertainties in the agricultural sector.
- These uncertainties may disrupt crop outputs, leading to price increases and thus influencing inflation rates.
- Impact of sowing trends on inflation: As of July 7, overall kharif sowing was 8.7% lower than the previous year.
- This shortfall, especially a 24% drop in rice sowing and a 26% drop in pulses, could reduce crop availability, pushing prices and consequently inflation upwards.
- Impact of oilseeds deficiency on inflation: With oilseeds reflecting a 14% deficiency compared to 2022 levels, there is a potential risk for inflation.

Tackling Inflation

Monetary Policy Measures

- Using contractionary monetary policy, the money supply in the economy can be decreased. This leads to decrease in aggregate demand in the market and thereby reduces inflation.
- Decrease in supply of money → rate of interest increases → Investment decreases → Aggregate demand decreases → prices decline → rate of inflation is lower
- The RBI to control inflation increases rates like CRR, SLR, Repo Rate and Reverse Repo Rate to affect the money supply in the economy.

Fiscal Policy Measures

- Fiscal Policy refers to the revenue and expenditure policy of the government. Contractionary Fiscal Policy can be useful to tackle high inflation rates.
- The process is as follows: Increased taxes (keeping government spending constant) → disposable personal income decreases → consumption decreases → aggregate demand decreases → prices decline → rate of inflation is lowered.
- Similar process follows if the government cuts down on its expenditures without raising taxes (or reduces its deficit/ increases surplus).
- Some of the fiscal policy measures are – reducing import duties, banning exports or imposing minimum export prices, suspending the futures trading of commodities, raising the stock limit for commodities, etc.

Supply Measurement Measures

- It aims to increase the competitiveness and efficiency of the supply chain, putting downward pressure on long-term costs.
- Some of the supply management measures taken are- Restricting exports of commodities in short supply and increasing their imports.
- Effective implementation of the Essential Commodities Act, 1952 to prevent hoarding and speculation.
- Incentivizing the increase in production of commodities through tax concessions, subsidies, institutional support etc.
- Higher MSP has been announced to incentivize production and thereby enhance the availability of food items, which may help moderate prices.

- Fixing the ceiling prices of the commodities and taking measures to control the black marketing of those goods.
- Reforming the supply chain through infrastructure development, foreign investments etc.

Constraints in Controlling Inflation

- India imports more than 80 percent of its oil requirements. Oil prices are volatile owing to the various Political and Economic events in the international arena.
- Long overdue supply-side reforms.
- Inefficiencies in the monetary policy transmission.
- Limited control of Government and RBI in controlling rupee depreciation.
- Political compulsion in reducing expenditure and fiscal deficit.
- Populist measures of the government.

Way Forward:

- Thus, the policies can target inflation levels. A low level of inflation is considered to be healthy for the economy. If inflation is high, a contractionary policy can address this issue. Policymakers must tighten their grip over prices to prevent the broader economic recovery from floundering.

3.17 Export Preparedness Index 2022 report

Recently, NITI Aayog released the Export Preparedness Index 2022 report.

About Export Preparedness Index 2022 report:-

- Released by: Vice Chairman, NITI Aayog.
- This is the third edition of the Export Preparedness Index (EPI).
- EPI is a comprehensive tool which measures the export preparedness of the States and UTs in India. (UPSC CSE: Export Preparedness Index 2021)

Objectives of the report:-

- To present a comprehensive picture of a state's and UT's export preparedness.
- To highlight the achievements of states/UTs and encourage peer learning among the states/UTs.
- To uphold the spirit of competitive federalism.

Assessment Process:-

- EPI assess the performance of the States and UTs across four pillars – Policy, Business Ecosystem, Export Ecosystem, and Export Performance.
- Each pillar is composed of sub-pillars, which in turn capture a state's performance using relevant indicators.

Policy Pillar

- It evaluates states' and UTs' performance based on its adoption of export-related policy ecosystem at a state and district level as well as the institutional framework surrounding the ecosystem.

Significance of the report:-

- It gives an overview of the country's sector-specific export performance.
- It highlights the need to develop our districts as export hubs in the country and undertakes a district-level analysis of merchandise exports in the country.
- The index undertakes a comprehensive analysis of States and UTs across export-related parameters in order to identify their strengths and weaknesses.

Key Highlights of Export Preparedness Index 2022 report:-

- The report discusses India's export performance amid the prevailing global trade context in FY22. (UPSC

CSE: Export Preparedness Index 2020)

- The coastal states have performed well.
- Top performers: Tamil Nadu, Maharashtra, Karnataka, and Gujarat.
- The higher average of coastal states represents their better preparedness and higher contribution to national export.
- 73 per cent of districts in the country have an export action plan, and over 99 per cent are covered under the One District One Product scheme.
- One District One Product scheme: The initiative aims to select, brand, and promote at least One Product from each District (One District – One Product) of the country for enabling holistic socioeconomic growth across all regions. (UPSC CSE: One District One Product(ODOP))
- It was launched by the Ministry of Food Processing Industries.
- 100 districts in the country are responsible for nearly 87 per cent of the country's export.
- Lack of adequate transport connectivity: the report mentions that the absence of air connectivity hampers the movement of goods across regions especially in the landlocked states.

Recommendations of the report:-

- For the states which are lagging in terms of export commission, the central government should extend support to enable them to build the necessary ecosystem to facilitate their export.
- Indian states need to invest in research and development for developing market-specific products and improving product quality.

3.18 Employees' State Insurance Scheme (ESIC)

As per the recent data of the Employees' State Insurance Scheme (ESIC), more than 20 lakh new employees enrolled in ESI Scheme in May.

About Employees' State Insurance Scheme (ESIC):-

- The Employees' State Insurance Scheme (ESI) is an integrated measure of social Insurance embodied in the Employees' State Insurance Act, of 1948.
- Implementing Agency: Employees' State Insurance Corporation.

Applicability of ESI Scheme:-

- It applies to factories and other establishments Road Transport, Hotels, Restaurants, Cinemas, Newspaper, Shops, and Educational/Medical Institutions wherein 10 or more persons are employed.
- However, in some States threshold limit for coverage of establishments is still

Beneficiary Selection:-

- Employees of the aforesaid categories of factories and establishments, drawing wages up to Rs.15,000/- a month, are entitled to social security cover under the ESI Act.
- ESI Corporation has also decided to enhance the wage ceiling for coverage of employees under the ESI Act from Rs.15,000/- to Rs.21,000.

Coverage of the ESI Scheme:-

- 1952: In the beginning, the ESI Scheme was implemented at just two industrial centers in the country, namely Kanpur and Delhi

Funding of ESI Scheme:-

- The Employees' State Insurance Scheme (ESI Scheme) is financed by contributions from employers and employees.
- The rate of contribution by employer is 3.25% of the wages payable to employees.
- The employees' contribution is at the rate of 75% of the wages payable to an employee.

Employees' State Insurance Corporation

- Establishment: 1952.
- It is a state-run organization set up under the Employee State Insurance Act of 1948.
- Objective: It is responsible for overseeing the ESI plan.
- Ministry: The Ministry of Labour & Employment.
- HQ: New Delhi.
- Function: It provides socio-economic protection to the worker population and immediate dependent or family covered under the ESI scheme.

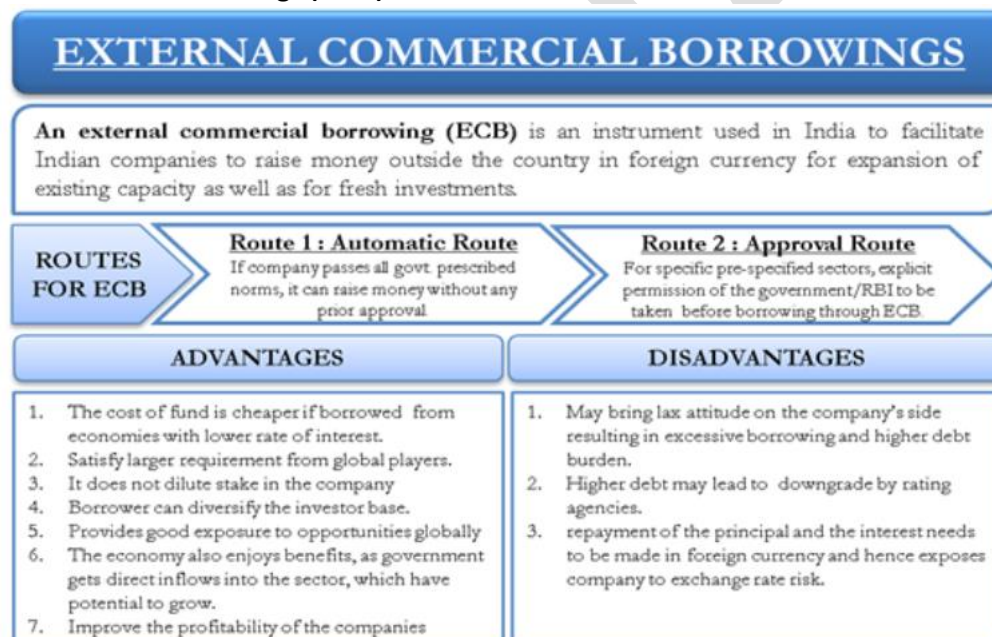
3.19 External commercial borrowings (ECBs)

Recent increase in External commercial borrowings (ECBs) signal the revival of private capital expenditure (Cap Ex).

Background:-

- Agreements for external commercial borrowings (ECBs) signed by Corporate India jumped to a massive \$12 billion in the April-June quarter, three times the level in the year-ago period, and as much as 80% of the inflows during the whole of the last financial year.
- Nearly two-thirds of the ECBs registered in the quarter were for investment activities.

About External commercial borrowings (ECBs)



- External commercial borrowing (ECB) is borrowing made in foreign currency by non-resident lenders to Indian borrowers.
- It is an instrument used in India to facilitate Indian companies to raise money outside the country in foreign currency.
- The government of India permits Indian corporates to raise money via ECB for the expansion of existing capacity as well as for fresh investments.
- Implementing Agencies: The DEA (Department of Economic Affairs), Ministry of Finance, along with Reserve Bank of India, monitors and regulates ECB guidelines and policies.

Benefits of ECB:-

- ECBs provide an opportunity to borrow large volumes of funds.
- The funds are available for a relatively long term.
- The cost of funds is usually cheaper from external sources if borrowed from economies with a lower

interest rate.

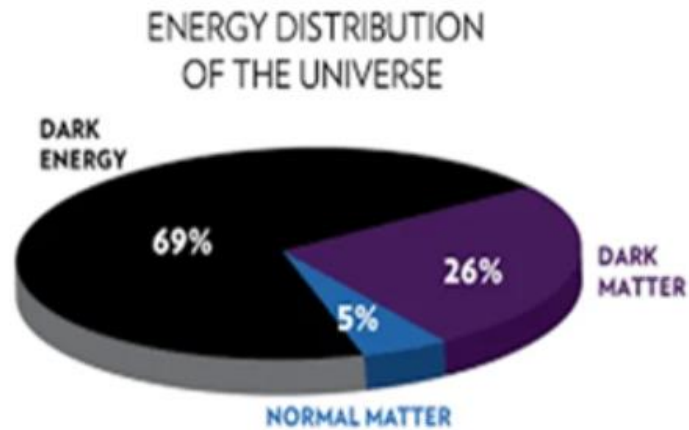
- For example Indian companies can usually borrow at lower rates from the U.S. and the Eurozone as interest rates are lower there compared to the home country, India.
- Availability of a larger market can help companies satisfy larger requirements from global players better than what can be achieved domestically.
- ECB is just a form of a loan and may not be of an equity nature or convertible to equity. Hence, it does not dilute the stake in the company and can be done without giving away control because debtors do not enjoy voting rights.
- The borrower can diversify the investor base.
- It provides access to international markets.
- The economy also enjoys benefits, as the government can direct inflows into the sector and have the potential to grow.

Disadvantages of ECB

- Availability of funds at a cheaper rate may bring in a lax attitude on the company's side, resulting in excessive borrowing.
- This eventually results in higher (than requirement) debt on the balance sheet, which may affect many financial ratios adversely.
- Higher debt on the company's balance sheet is usually viewed negatively by the rating agencies, resulting in a possible downgrade by rating agencies which eventually might increase the cost of debt.
- This may also tarnish the company's image in the market and the market value of the shares too in eventual times.
- Since the borrowing is foreign currency-denominated, the repayment of the principal and the interest needs to be made in foreign currency, exposing the company to exchange rate risk.

4. Science & Technology

4.1 Dark matter



- Dark matter is made up of particles that do not have a charge.
- These particles are “dark”, because they do not emit light.
- They are called “matter” because they possess mass like normal matter and interact through gravity.
- Scientists estimate that up to 85% of the matter in the universe could be made of dark matter.
- About 27% of the universe is dark matter and 68% is dark energy.
- Dark energy: It is an unknown form of energy that affects the universe on the largest scales.
- While dark matter attracts and holds galaxies together, dark energy repels and causes the expansion of the universe.

Historical Background:-

- In the 19th century, Lord Kelvin, a Scottish-Irish physicist, wanted to estimate the mass of our galaxy, the Milky Way.
- However, Kelvin found discrepancies or anomalies in the data, things which could not be explained.
- These were attributed to “dark bodies” that we could not see.
- Swiss American astronomer Fritz Zwicky first inferred dark matter’s existence in 1933.
- He discovered that the mass of all the stars in the Coma cluster of galaxies provided only about 1 per cent of the mass needed to keep the galaxies from escaping the cluster’s gravitational pull.
- 1970s: The reality of this missing mass remained in question for decades, until when American astronomers Vera Rubin and W. Kent Ford confirmed its existence.
- They observed that the mass of the stars visible within a typical galaxy is only about 10 per cent of that required to keep those stars orbiting the galaxy’s center.

Significance of Dark Matter:-

- Dark matter attracts and holds galaxies together.
- It exerts its influence on individual galaxies as well as the universe at large.
- Dark matter’s gravitational effects are also necessary to explain the motions of clusters of galaxies and the structure of the entire Universe at the largest scale.
- Galaxy: any of the systems of stars and interstellar matter that make up the universe.

- Galaxy clusters: are gravitationally bound groupings of galaxies, numbering from the hundreds to the tens of thousands.

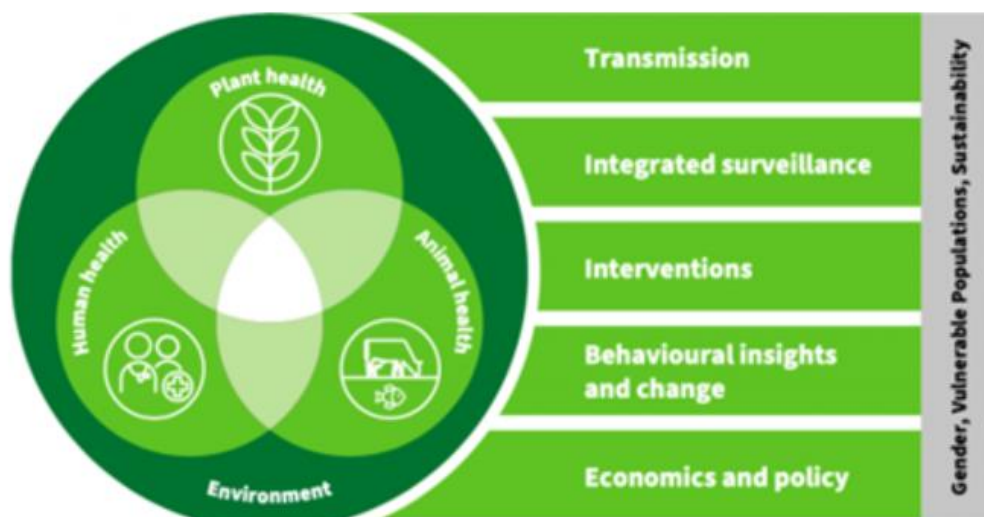
New theories about dark matter:-

- Doubting the existence of dark matter: Some scientists argue that if there were invisible forces in the universe, we would have found them already.
- They suggest we should think outside of the Standard Model.
- Physicist Mordehai Milgrom has developed an alternative theory of gravity.
- It suggests that gravitational force operates differently at different distances from the core of a galaxy.
- While Newton's theory of gravity explains most large-scale movements in the cosmos, Milgrom's Modified Newtonian Dynamics suggests that a force acts differently when it is weak, such as at the edge of a galaxy.
- Advocates of the theory say it predicts the rotation of galaxies and the speed of the stars better than Newton's theory.

4.2 Antimicrobial Resistance

The One Health Priority Research Agenda on Antimicrobial Resistance was launched recently.

About One Health Priority Research Agenda on Antimicrobial Resistance:-



- Launched: June 28, 2023.
- Launched by: the United Nations (UN) Food and Agriculture Organization (FAO), the UN Environment Programme (UNEP), the World Health Organization (WHO) and the World Organisation for Animal Health (WOAH).
- The concept acknowledges the health of humans, domestic and wild animals, plants, and the larger environment, including ecosystems, are inextricably linked and interdependent.

Objectives of One Health Priority Research Agenda on Antimicrobial Resistance:-

- To prioritise 40 research topics for evidence generation to inform policy and interventions by 2030.
- To guide a variety of stakeholders in generating new evidence to address antimicrobial resistance (AMR), with a focus on low- and middle-income countries.
- AMR: it is the resistance acquired by any microorganism (bacteria, viruses, fungi, parasites, etc.) against antimicrobial drugs that are used to treat infections. (UPSC CSE: AMR)

- It occurs when a microorganism changes over time and no longer responds to medicines.
- This makes infections harder to treat and increases the risk of disease spread, severe illness and death.
- The World Health Organisation (WHO) has identified AMR as one of the top ten threats to global health.
- In India: over 56,000 newborn deaths each year due to sepsis caused by organisms that are resistant to first-line antibiotics.
- To serve as a guide for countries, research institutes and funding bodies to support One Health AMR research.
- To allow policymakers, researchers, and the multidisciplinary scientific community to collaborate across sectors.
- To sustainably balance and optimize the health of people, animals and ecosystems.

Five key pillars of One Health Priority Research Agenda on Antimicrobial Resistance:-

Transmission

- This pillar focuses on the environment, plant, animal, and human sectors where AMR transmission, circulation and spread occur.

Integrated Surveillance

- The surveillance aims for harmonisation, effectiveness, and implementation of integrated surveillance with a focus on Low and Middle-Income Countries (LMICs).

Interventions

- This pillar focuses on programmes, practises, tools, and activities aimed at preventing, containing, or reducing the incidence, prevalence, and spread of AMR.

Behavioural Insights and Change

- It focuses on research addressing human behaviour that affects AMR, including ways to combat it.

Economics and policy

- This pillar also takes into account the cost-effectiveness of an AMR investment case, financial sustainability, and long-term financial impact.

4.3 Parker Solar Probe

Recently, NASA's Parker Solar Probe completed its 16th close approach to the Sun.

Background:-

- NASA's Parker Solar Probe completed its 16th orbit around the Sun, which included a close approach to the Sun on June 22, 2023.
- During the close approach, Parker came within 8.5 million kilometers of the Sun's surface while moving at around 586,782 kilometers per hour.

About Parker Solar Probe:-

- Launched from Cape Canaveral in Florida.
- Launch Vehicle: Delta IV-Heavy with Upper Stage.
- Mission by: National Aeronautics and Space Administration (NASA).
- Size: The spacecraft is about the size of a small car.

Scientific Instruments:-

- Fields Experiment (FIELDS)
- Integrated Science Investigation of the Sun (IS[☉]IS)
- Wide Field Imager for Solar Probe (WISPR)
- Solar Wind Electrons Alphas and Protons (SWEAP)
- It can travel directly through the Sun's atmosphere.
- Aim: to investigate how energy and heat move across the solar corona, as well as what accelerates the solar wind and solar energetic particles.
- It will journey through the sun's atmosphere eventually delivering humanity with the closest-ever observations of a star.
- It is said to be humanity's first-ever mission that "visited" a star. (UPSC CSE: NASA's DART mission)

Design: –

- The spacecraft and its instruments are protected from the heat of the Sun by a 5-inch thick carbon-composite shield.
- The shield can withstand temperatures of around 1,777 degrees Celsius.
- It carries four instrument suites that are designed to study magnetic fields, plasma and energetic particles and image the solar wind.

Objectives:-

- To trace how energy and heat move through the corona.
- To explore what causes the acceleration of solar winds and solar energetic particles.
- Mechanism: The spacecraft uses Venus's gravity to tighten its orbit around the Sun.
- Future plan: It is now preparing to get within around 7.2 million kilometers of the star's surface.

Significance of Parker Solar Probe:-

- Exploring the Universe: The Sun is the only star we can study closely. By studying this star we live with, we learn more about stars throughout the universe.
- Exploring the Sun: The Sun provides light and heat to all living things on Earth. The more we learn about it, the more we can grasp how life evolved on Earth.
- Knowledge of the phenomenon affecting the Earth: It is the source of the solar wind.
- Solar wind: which is a flow of ionized gases from the Sun that travels past the Earth at more than 500 kilometres per second (a million miles per hour).

4.4 Chandrayaan III

Chandrayaan III spacecraft was integrated with the GSLV Mark III launch vehicle recently. The launch is planned between 12-19th July 2023.

About Chandrayaan III:-

- Chandrayaan-3 is the successor to the Chandrayaan-2 mission. (UPSC CSE:CHANDRAYAAN-2)
- Launch Vehicle Mark-III (LVM3).
- Launched from: Satish Dhawan Space Centre (SDSC), Sriharikota, Andhra Pradesh.
- It consists of an indigenous Lander module (LM), a Propulsion module (PM) and a Rover.
- Lander: a spacecraft that descends towards and comes to rest on, the surface of an astronomical body.

- Propulsion module: a box-like structure, mounted with a large solar panel on one side and a large cylinder on top.
- Rover: a small vehicle that can move over rough ground, often used on the surface of other planets, sometimes controlled from the earth.
- The Lander and the Rover have scientific payloads to carry out experiments on the lunar surface.
- There will not be any orbiters like Chandrayaan 2 in it. (UPSC CSE: CHANDRAYAAN-2)

Objectives of Chandrayaan-3 mission:-

- To demonstrate a Safe and Soft Landing on Lunar Surface
- To demonstrate Rover roving on the moon and
- To conduct in-situ scientific experiments.

Lander payloads:-

- Chandra's Surface Thermophysical Experiment (ChaSTE): to measure the thermal conductivity and temperature
- Instrument for Lunar Seismic Activity (ILSA) for measuring the seismicity around the landing site
- Langmuir Probe (LP): to estimate the plasma density and its variations.
- A passive Laser Retroreflector Array from NASA is accommodated for lunar laser ranging studies.

Rover payloads:-

- Alpha Particle X-ray Spectrometer (APXS) and Laser Induced Breakdown Spectroscopy (LIBS) for deriving the elemental composition near the landing site.

Propulsion Module Payload:-

- Spectro-polarimetry of Habitable Planet Earth (SHAPE): Future discoveries of smaller planets in reflected light would allow us to probe into a variety of Exo-planets which would qualify for habitability or for the presence of life.

GSLV-Mk III

- It is also known as the Launch Vehicle Mark 3 (LVM3).
- It is a three-stage vehicle with two solid motor strap-ons, a liquid propellant core stage and a cryogenic stage.
- It is the heaviest and the shortest among India's operational launch vehicles.
- Weights: 641 tonnes, which is equal to the weight of five fully loaded passenger planes.
- Capacity: GSLV can take 10,000-kg satellites to lower earth orbits.

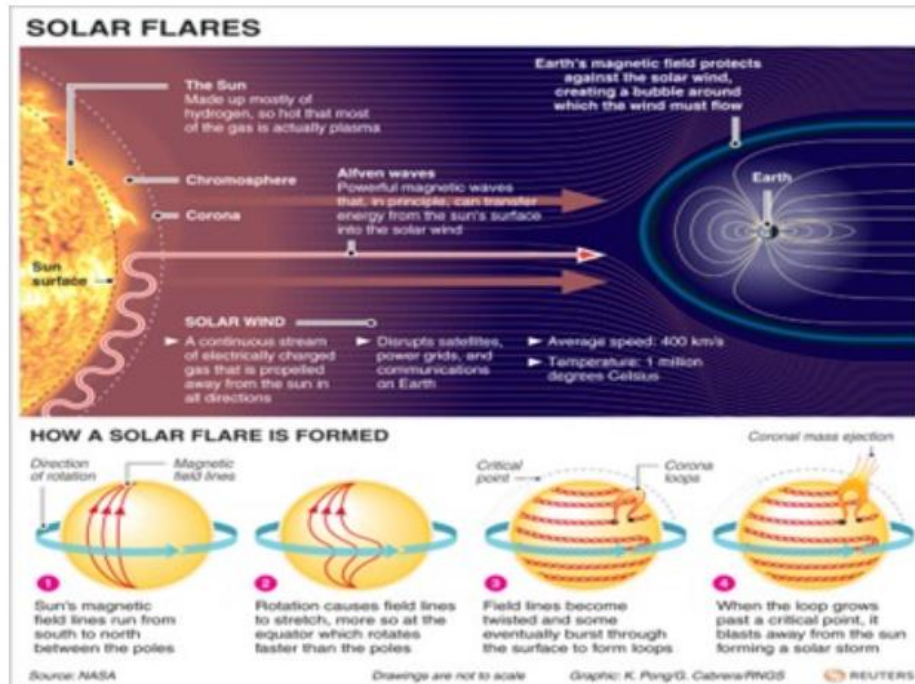
4.5 Solar flare

Recently, an X-class solar flare led to a radio blackout in parts of the US, Pacific Ocean.

Background:-

- According to media reports, the Sun emitted an X-class solar flare on July 2, 2023, disrupting radio communications over parts of the United States and the Pacific Ocean.
- The flare, classified as an X1.0 flare, peaked at 7:14 pm ET, confirmed US National Aeronautics and Space Administration (NASA).
- X-class denotes the most intense flares, while the number provides more information about its strength.

About Solar flares:-



- Solar flares are a sudden explosion of energy caused by tangling, crossing or reorganizing of magnetic field lines near sunspots.
- Sunspots: areas that appear dark on the surface of the Sun.
- They appear dark because they are cooler than other parts of the Sun's surface.
- The most powerful solar flares have the energy equivalent of a billion hydrogen bombs, enough energy to power the whole world for 20,000 years.
- Time period: Solar flares can last from minutes to hours.
- Sometimes the same active region on the Sun can give rise to several flares in succession, erupting over the course of days or even weeks.

Classes of solar flares:-

- Solar flares can be divided into various categories based on their brightness in X-ray wavelengths.
- There are five different classes of solar flares: A, B, C, M, and X.
- Each class is at least ten times more potent than the one before it.
- A-class flares: the smallest ones are near background levels.
- C-class flares: slight and have little effect on the Earth.
- B-class flares: smallest after the A-class flare.
- M-class flares: they are medium-sized and typically result in brief radio blackouts that affect the Earth's Polar Regions.
- Sometimes an M-class flare is followed by small radiation storms.
- X-class flares: large, significant events that have the power to cause global radio blackouts and persistent radiation storms in the upper atmosphere.

Effects of solar flares on Earth:-

- They can affect radio communications, power grids and navigation signals and endanger astronauts and spacecraft. (UPSC MAINS: effects of solar activity)
- They can heat a substance to several millions of degrees in a matter of minutes, producing a burst of radiation that spans the electromagnetic spectrum, from radio waves to x-rays and gamma rays.

- Auroras: When charged particles reach areas near Earth, they can trigger intense lights in the sky, called auroras.
- Electricity shortages and power outages: When particularly strong, a CME can also interfere in power utility grids, causing electricity shortages and power outages.

4.6 Small Satellite Launch Vehicle (SSLV)

Recently, IN SPACe, the commercial arm of the Indian Space Research Organisation, ISRO has called for an Expression of Interest from Indian private Industries to manufacture a Small Satellite Launch Vehicle (SSLV).

Background:-

- The Chairman of INSPACe, Dr. Pawan Goenka has outlined the objective of involving private players in the manufacturing of Small launchers by saying that this will pave the way for India to become a global hub for small satellite launches.

About Small Satellite Launch Vehicle (SSLV):-



- SSLV is an indigenously developed mini rocket launcher. (UPSC CSE: ISRO to undertake maiden flight of SSLV)
- It is the smallest vehicle at ISRO with a 110-ton mass.
- It is specially designed to carry smaller commercial satellites into the low-earth orbit (LEO) from 200-2,000 km above the Earth's surface.
- Low-earth orbit (LEO): an orbit that is relatively close to Earth's surface.
- It is normally at an altitude of less than 1000 km but could be as low as 160 km above Earth.
- It is a three-stage Launch Vehicle configured with three Solid Propulsion Stages and a liquid propulsion-based Velocity Trimming Module (VTM) as a terminal stage.
- Payload capacity: up to 500 kg.

It has the capacity to deliver:-

- 600 kg to Low Earth Orbit (500 km) or
- 300 kg to Sun-synchronous Orbit (500 km)

Advantages of SSLV:-

- It is a low-cost launch vehicle.
- It has a Low turn-around time.
- It is flexible in accommodating multiple satellites.
- It has minimal launch infrastructure requirements, etc.
- It is intended to cater to a market for the launch of small satellites into low earth orbits with a quick turn-around time.
- It will take only 72 hours to integrate, unlike the 70 days taken now for a launch vehicle.
- Only six people will be required to do the job, instead of 60 people.
- It will shift the burden of commercial launches from PSLV.
- PSLV: is the third generation launch vehicle of India and the first Indian launch vehicle to be equipped with liquid stages.
- The SSLV is likely to cost a fourth of the current PSLV. (UPSC CSE: PSLV-C54 launch)

IN-SPACe :

- Establishment: 2020.
- HQ: Ahmedabad, Gujrat.
- Objective: promotion, encouragement and regulation of space activities of both government and private entities.
- It is an autonomous agency in the Department of Space. (UPSC CSE: IN-SPACe)
- It also facilitates the usage of ISRO facilities by private entities.
- Composition: It comprises technical experts for space activities along with safety experts, academic experts and legal and strategic experts from other departments.
- It also comprises members from the Prime Minister's Office (PMO) and the Ministry of External Affairs (MEA) of the Government of India.

Functions of IN-SPACe:-

- To develop a space start-up ecosystem in India.
- To boost the participation of students in the Indian space sector and develop future space force frontiers.
- To create international opportunities for Indian space companies.
- To make India the spaceport and ground station hub for selected countries/regions.
- To develop space tourism and to spread awareness to the public about space technology and its benefits and role in the everyday life of individuals
- To develop IN-SPACe talent and knowledgebase.

4.7 Electric Vehicle Future

India's electric mobility plan is largely focussed on battery electric vehicles (BEVs) replacing internal combustion engine (ICE) vehicles, with Li-ion seen as the most viable battery option for now.

About BEVs:

- The Electric Vehicles (EVs) that qualify for a clear upfront tax incentive are the ones referred to as BEVs.
- Battery Electric Vehicles or EVs are fully electric vehicles with rechargeable batteries and no gasoline engine.
- All energy to run the vehicle comes from the battery pack, which is recharged from the grid.

- BEVs are zero emissions vehicles, as they do not generate any harmful tailpipe emissions or air pollution hazards caused by traditional gasoline-powered vehicles.

India and Electric Vehicle:

- India is the fourth highest emitter of carbon dioxide globally and at the recently concluded COP26, it has pledged to reduce its carbon emissions to net-zero by the year 2070.
- India aims to achieve EV sales accounting for 30% of private cars, 70% of commercial vehicles, and 80% of 2 and three-wheelers by the year 2030.
- For this reason, India is aggressively promoting the adoption of EVs in the country by offering various incentives at both Central and State level, to buyers and manufacturers.
- India is among a handful of countries that support the global EV30@30 campaign, which aims for at least 30% new vehicle sales to be electric by 2030.
- India's advocacy of five elements for climate change — "Panchamrit" — at the COP26 in Glasgow is a commitment to the same.
- Various ideas were espoused by India at the Glasgow summit, such as, renewable energy catering to 50% of India's energy needs, reducing carbon emission by 1 billion tonnes by 2030 and achieving net zero by 2070.
- The government of India remodeled Faster Adoption and Manufacturing of Electric Vehicles (FAME II) scheme.
- The recently launched Production-Linked Incentive (PLI) scheme for Advanced Chemistry Cell (ACC) for the supplier side.
- The recently launched PLI scheme for Auto and Automotive Components for manufacturers of electric vehicles.

Advantages of Electric Vehicles in India:

- **Low cost of ownership:** It is a proven fact by many researches that EVs offer way lower cost of ownership in their lifecycle compared to fossil fuel powered vehicles.
- At times, the cost of ownership for an EV is as lower as 27% than a fossil fuel vehicle.
- The incessant rise of petrol and diesel costs are increasing the cost of ownership further for the conventional vehicles.
- **Easier to maintenance:** An internal combustion engine usually contains more than 2,000 moving parts.
- An electric motor onboard an EV on the other hand contain around 20 moving parts.
- The only major components in an EV are the battery and the electric motor.
- This makes the EVs much easier for maintenance, reducing the cost of ownership significantly.
- **State EV policies:** Several state governments across India have already announced their respective EV policies.
- Some of them promote the supply side, while some promote the demand side.
- There are EV policies that promote both the supply and demand side through incentives, discounts and other benefits.
- **Cleaner environment:** The direct and obvious advantage of adopting electric mobility is the cleaner environment.
- Electric vehicles do not emit pollutants into the air like their ICE counterparts.
- The EVs are silent as well unlike their ICE counterparts.
- This means EVs ensure a cleaner and quieter environment.

Challenges associated with electric vehicles in India:

- High initial cost: The upfront cost of EVs is still higher than traditional gasoline-powered vehicles, making it difficult for many consumers to afford them.
- Limited charging infrastructure: The lack of charging infrastructure makes it difficult for EV owners to travel long distances.
- Battery technology: The current battery technology still has some limitations, such as limited driving range and long charging time.
- Limited domestic manufacturing capabilities: India currently lacks the domestic manufacturing capabilities for electric vehicle components and batteries, making it dependent on imports.
- Lack of awareness: There is still a lack of awareness about the benefits of EVs among the public in India.
- Limited Government initiatives: The Indian Government has set ambitious goals for the adoption of electric vehicles, but the lack of concrete action plans and initiatives has been a hindrance.
- Lack of standardization: The lack of standardization in charging infrastructure and lack of uniformity in regulations across states and union territories is a challenge.
- Power Grid infrastructure: India's power grid infrastructure is not fully developed and is not capable of handling the high-power demand of EV charging stations.

Government initiatives to promote EV adoption:

- The Faster Adoption and Manufacturing of Electric Vehicles (FAME)scheme II, which provides incentives for EV manufacturers and buyers. These incentives include subsidies, tax rebates, preferential financing, and exemptions from road tax and registration fees.
- The National Electric Mobility Mission Plan (NEMMP), which sets out the target to achieve 6-7 million sales of hybrid and electric vehicles year on year from 2020 onwards by providing fiscal incentives.
- The National Mission on Transformative Mobility and Battery Storage, which seeks to create a comprehensive ecosystem for the adoption of EVs and support the establishment of giga-scale battery manufacturing plants in India.
- The Production Linked Incentive (PLI) scheme, which provides incentives for the manufacturing of electric vehicles and components.
- The Vehicle Scrappage Policy, which provides incentives for the scrapping of old vehicles and the purchase of new electric vehicles.
- The Go Electric campaign aims to create awareness on the benefits of EVs and EV charging infrastructure.
- India is among a handful of countries that support the global EV30@30 campaign, which aims for at least 30% new vehicle sales to be electric by 2030.
- For the good or bad, India is establishing itself as a global leader in EV manufacturing. Electric vehicles are expected to accommodate higher renewable energy penetration while strengthening and stabilizing grid operation.

4.8 Indian Space Policy 2023

Hailing its ambitious space programme, India is currently home to about 140-registered space-tech start-ups, “stands to transform the planet’s connection to the final frontier” and can emerge as a “counterweight” to China.

India’s Space Economy

- Today, while ISRO’s budget is approximately \$1.6 billion, India’s space economy is over \$9.6 billion.
- Broadband, OTT and 5G promise a double-digit annual growth in satellite-based services.

- With an enabling environment, the Indian space industry could grow to \$60 billion by 2030, directly creating more than two lakh jobs.

About Indian Space Policy:

- In April 2023, the Union Cabinet approved the Indian Space Policy 2023.
- The Policy seeks to institutionalize the private sector participation in the space sector and give a larger participation to research, academia, startups, and industry. It also delineated the roles and responsibilities of ISRO, space sector PSU NewSpace India Limited (NSIL) and Indian National Space Promotion and Authorization Centre (IN-SPACE).

Major highlights of the policy:

- The policy creates four distinct, but related entities, that will facilitate greater private sector participation in activities that have usually been the traditional domain of the ISRO.
- Indian National Space Promotion and Authorisation Centre (InSPACE): It will be a single window clearance and authorisation agency for space launches, establishing launch pads, buying and selling satellites, and disseminating high-resolution data among other things.
- It will also share technologies, products, processes and best practices with NGEs (non-government entities and this will include private companies) and government companies.
- New Space India Limited (NSIL): It will be responsible for commercializing space technologies and platforms created through public expenditure, as well as, manufacturing, leasing, or procuring space components, technologies, platforms and other assets from the private or public sector.
- Department of Space: It will provide overall policy guidelines and be the nodal department for implementing space technologies and, among other things, co-ordinate international cooperation and coordination in the area of global space governance and programmes in consultation with the Ministry of External Affairs.
- It will also create an appropriate mechanism to resolve disputes arising out of space activity.

Advantages of the Indian Space Policy 2023:

- Provides clarity: The Indian Space Policy 2023 establishes a single regulatory body, IN-SPACE, to streamline the process and provide clarity to all involved parties.
- Fostering innovation: The Indian Space Policy 2023 encourages private sector participation, which brings new ideas, innovation, and competition into the Indian space sector.
- This could lead to the development of more advanced technologies and efficient processes, driving the overall growth of the sector.
- Economic growth and job creation: As the private sector and startups gain more share in the space sector, it is expected to lead to economic growth and job creation.
- The policy could spur investments, create high-tech jobs, and contribute significantly to the Indian economy.
- Accessible and affordable space technology: With increased competition, space technology and services could become more accessible and affordable, benefiting various sectors like communication, navigation, earth observation, and more.
- Encouraging entrepreneurship: The policy creates an encouraging environment for space startups, fostering entrepreneurship and innovation in the country.
- It provides a clear path for entrepreneurs to enter the space sector, contributing to the startup ecosystem's growth.

- Streamlining regulations: By creating a single-window clearance system, the policy streamlines the regulatory process for space activities.
- This makes it easier for businesses to navigate the regulatory landscape and encourages more entities to participate in space activities.

Challenges associated with the Indian Space Policy 2023:

- Lack of Timeframe: The policy lacks a specific timeframe for implementation and the transition of ISRO's practices, as well as the establishment of the regulatory framework by IN-SPACe.
- This makes it difficult to assess the progress and implementation of the policy.
- Absence of Clear Rules and Regulations: The policy framework requires clear and detailed rules and regulations in several areas, including foreign direct investment (FDI) and licensing, government procurement to support new space start-ups, liability provisions in case of violations, and an appellate framework for dispute settlement.
- Ambiguity in IN-SPACe's Position and Authority: Currently, IN-SPACe's position is ambiguous as it functions under the purview of the Department of Space.
- The Secretary (Space) is also Chairman of ISRO, the government entity to be regulated by IN-SPACe.
- Legislative Authority: The establishment of a regulatory body like IN-SPACe requires legislative authority to ensure its effectiveness and legitimacy.
- The absence of a dedicated legislation could hinder its ability to enforce regulations and provide a robust regulatory framework for the space industry.

Way Forward:

- The introduction of India's new space policy is a significant milestone in fostering a commercial space ecosystem, but there are still important questions to be addressed to fully realize the potential benefits of private sector participation.

4.9 India Mobile Congress (IMC) 2023

As per recent announcements, India Mobile Congress (IMC) 2023 will be held from the 27th of October this year in New Delhi.

About India Mobile Congress (IMC) 2023:-

- India Mobile Congress (IMC) is the largest telecom, media, and technology forum in Asia.
- Organized by: It is jointly organized by the Department of Telecommunications (DoT) and the Cellular Operators Association of India (COAI).
- Mission: to catapult India into the limelight, becoming a beacon of the all-encompassing digital transformation shaping the future.
- Significance: It is a leading forum for bringing together industry, government, academia, and other ecosystem players.
- Venue: Pragati Maidan, New Delhi. (UPSC CSE: IMC 2021)
- Ministry: Minister of Information Technology.
- This is the seventh edition of Asia's premier digital technology exhibition. (UPSC CSE: IMC 2021)
- Aim of IMC 2023: The event will harness India's potent expertise in cutting-edge technologies such as 5G, 6G, broadcasting, satellite, and semiconductors and sculpt an electric atmosphere where ideas ignite, alliances shape, and digital boundaries are incessantly expanded.

- Theme of the India Mobile Congress-2023: Global Digital Innovation.
- Sub Themes of the India Mobile Congress-2023: Engage, Learn, Innovate.
- The event plays a pivotal role in driving meaningful conversations, facilitating enriching connections, and sparking ingenuity across industries.
- This year IMC is introducing Aspire, the grand Start-Up event.
- It will lay emphasis on igniting the future of entrepreneurship growth among young innovators and industry delegates in the telecom and other digital domains.

4.10 GM mustard

A determined battle by environmentalists in the Supreme Court of India against Delhi University's genetically modified (GM) herbicide-tolerant (HT) mustard is all that stands between GM food and Indian farmers and consumers.

About GM crops:

- GM food involves the editing of genes of a crop in such a way that it incorporates beneficial traits from another crop or organism.
- This could mean changing the way the plant grows, or making it resistant to a particular disease.
- Food produced using the edited crop is called GM food. This is done using the tools of genetic engineering.

GM crops in India

Bt cotton:

- Bt cotton, the only GM crop that is allowed in India, has two alien genes from the soil bacterium *Bacillus thuringiensis* (Bt) that allows the crop to develop a protein toxic to the common pest pink bollworm.
- On the other hand, Bt cotton is derived with the insertion of an additional gene, from another soil bacterium, which allows the plant to resist the common herbicide glyphosate.

Bt Brinjal:

- In Bt brinjal, a gene allows the plant to resist attacks of fruit and shoot borer.
- In Bt brinjal, a gene permits the plant to resist attacks of fruit and shoot borers.
- Previously, the government has put on hold the commercial release of genetically modified (GM) mustard due to stiff opposition from anti-GMO activists and NGOs.

DMH 11 Mustard:

- In DMH-11 mustard, developed by Deepak Pental and colleagues in the South Campus of the University of Delhi, genetic modification allows cross-pollination in a crop that self-pollinates in nature.

Advantages of GMO crops

Potential benefits for agricultural productivity:

- Better resistance to stress: If crops can be made more resistant to pest outbreaks, weather conditions such as frost, extreme heat or drought, it would reduce the danger of crop failure.
- More nutritious staple foods: By inserting genes into crops such as rice and wheat, we can increase their food value.
- For example, genes responsible for producing the precursor of vitamin A have been inserted into rice plants, which have higher levels of vitamin A in their grain.
- This is called Golden Rice.

Potential benefits for the environment:

- More food from less land: Improved productivity from GMOs might mean that farmers will not have to bring more land into cultivation.
- Rehabilitation of damaged or less-fertile land: Large areas of cropland in the developing world have become saline due to unsustainable irrigation practices. Genetic modification could produce salt-tolerant varieties.
- Bioremediation: Rehabilitation of damaged land may also become possible through organisms bred to restore nutrients and soil structure.
- Longer shelf lives: The genetic modification of fruits and vegetables can make them less likely to spoil in storage or on the way to market.

Concerns related to Transgenic Crops:

- Lack Nutritional Value: GM foods can sometimes lack nutritional value despite their increased production and pest resistance focus. This is because the emphasis is often placed on enhancing certain traits rather than nutritional content.
- Risks to Ecosystems: GM production can also pose risks to ecosystems and biodiversity. It may disrupt gene flow and harm indigenous varieties, leading to a loss of diversity in the long run.
- Trigger Allergic Reactions: Genetically modified foods have the potential to trigger allergic reactions since they are biologically altered. This can be problematic for individual's accustomed to conventional varieties.
- Endangered Animals: Wildlife is also at risk due to GM crops. For instance, genetically modified plants used for producing plastic or pharmaceuticals can endanger animals like mice or deer that consume crop debris left in fields after harvest.

Legal position of genetically modified crops in India

- In India, the Genetic Engineering Appraisal Committee (GEAC) is the apex body that allows for the commercial release of GM crops.
- In 2002, the GEAC had allowed the commercial release of Bt cotton.
- Use of the unapproved GM variant can attract a jail term of 5 years and a fine of Rs 1 lakh under the Environmental Protection Act, 1986.
- The Central government had for the first time exempted certain types of genome-edited crops from the stringent regulations applicable on genetically modified or GM crops, paving the way for further R&D on them.
- The Ministry of Environment and Forests had, in the order, exempted SDN1 and SDN2 genome edited plants from Rules 7-11 of the Environment Protection Act (EPA) for manufacture, use or import or export and storage of hazardous microorganisms or genetically engineered organisms or cells rules-1989.
- Recently, the Department of Biotechnology (DBT) issued guidelines easing norms for research into Genetically Modified (GM) crops and circumventing challenges of using foreign genes to change crops profile.

Misleading the court

- In recent hearings in the Supreme Court, to get around the growing evidence of long-term ecological and health risks of HT crops, the government has argued that GM mustard should not be considered HT at all - since the objective for developing it was to improve yields.
- In fact, a crop that can withstand herbicides is an HT crop.
- As far as the science of biotechnology and ecology go, there is no doubt that GM mustard is an HT crop.

Way Forward:

- Genetically modified foods can potentially solve many hunger and malnutrition problems in the world, as well as help protect and preserve the environment by increasing yields and reducing reliance upon chemical pesticides and herbicides. However, it is important to proceed with caution to avoid unfavourable consequences for the surroundings and our health, considering that genetic engineering technology is very powerful.

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5. Environment & Ecology

5.1 Groundwater status in India

The excessive extraction of groundwater for drinking and irrigation has shifted the Earth's axis of rotation, according to a new study.

Key findings of the study:

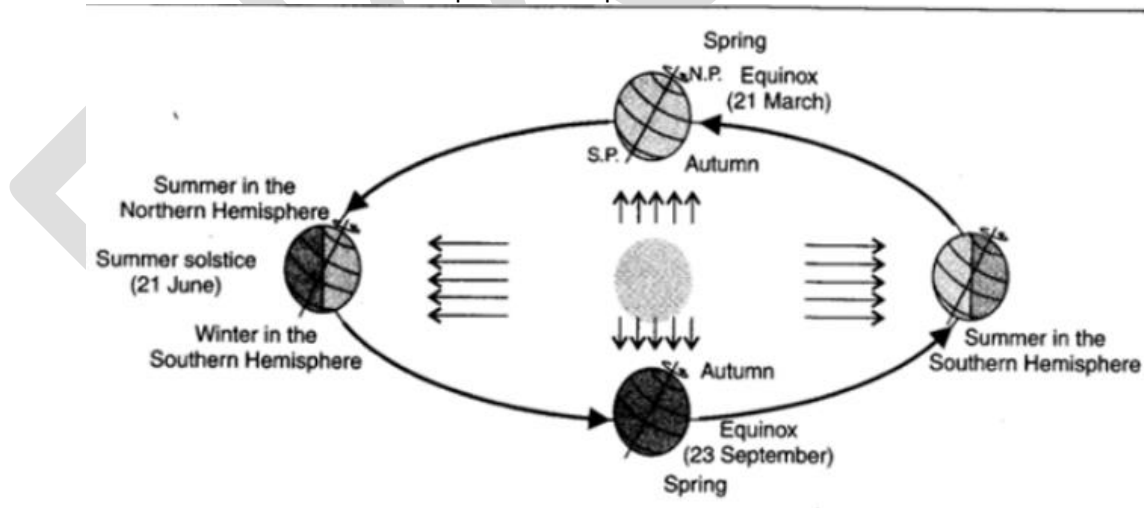
- The study says that humans pumped out around 2,150 gigatons of groundwater between 1993 and 2010 and this has led the planet's axis to drift at the rate of 4.36 cm per year towards the east.

Groundwater status in India:

- India is the largest user of groundwater with a fourth of the total global withdrawal.
- Indian cities cater to about 48 per cent of its water supply from groundwater.
- The unmanaged groundwater and increasing population may result in seasonal water shortages by 2050 for an estimated 3.1 billion people and perpetual water shortage for almost a billion.
- Water and food security will also be compromised and lead to poverty in the cities despite having good infrastructure development.

About Earth's Axis:

- The Earth's axis is the imaginary line through the earth that extends from the North Pole to the South Pole.
- At present, the Earth's axis is tilted 23.5 degrees from the plane of its orbit around the Sun.
- During a cycle that averages about 40,000 years, the tilt of the axis varies between 22.1 and 24.5 degrees.
- Scientists for years have known that the poles and the axis keep shifting naturally as the mass distribution in and on the planet changes. This phenomenon is known as "polar motion".
- For instance, rocks slowly circulating inside Earth's mantle causes the planet's mass to shift, leading to a change in the position of the rotational axis.
- There are several other reasons responsible for polar motion like ocean currents and even hurricanes.



Impact of Climate Change on Polar Motion:

- Changes in Water Mass Distribution: Climate change is causing significant changes in the distribution of water masses on Earth.
- This alteration in water mass distribution affects the planet's rotational dynamics, including polar motion.
- Melting of Greenland's Ice: Greenland's ice sheet is particularly susceptible to climate change.
- As it melts, vast amounts of water are discharged into the surrounding oceans.
- This influx of water alters the distribution of mass on Earth, leading to shifts in the rotational axis.

- Accelerated Rotational Axis Shift: Recent studies suggest that climate change has accelerated the shift of Earth's rotational axis since the 1990s.

Major reasons for groundwater depletion:

- Green Revolution: Green Revolution enabled water intensive crops to be grown in drought prone/ water deficit regions, leading to over extraction of groundwater.
- Frequent pumping of water from the ground without waiting for its replenishment leads to quick depletion.
- Further, Subsidies on electricity and high MSP (Minimum Support Price) for water intensive crops.
- Industries Requirement: Water contamination as in the case of pollution by landfills, septic tanks, leaky underground gas tanks, and from overuse of fertilizers and pesticides leading to damage and depletion of groundwater resources.
- Inadequate Regulation: Inadequate regulation of groundwater encourages the exhaustion of groundwater resources without any penalty.
- Federal Issue: Water being a State subject, initiatives on water management including water conservation and water harvesting and making available adequate drinkable water to citizens in the Country is primarily States' responsibility.

Impacts:

- Lowering of the water table: Groundwater depletion may lower the water table leading to difficulty in extracting groundwater for usage.
- Reduction of water in streams and lakes: A substantial amount of the water flowing in rivers comes from seepage of groundwater into the streambed.
- Depletion of groundwater levels may reduce water flow in such streams.
- Subsidence of land: Groundwater often provides support to the soil. When this balance is altered by taking out the water, the soil collapses, compacts, and drops leading to subsidence of land.
- Increased cost for water extraction: As the depleting groundwater levels lower the water table, the user has to delve deep to extract water.
- This will increase the cost of water extraction.
- Contamination of groundwater: Groundwater that is deep within the ground often intermingles with saltwater that we shouldn't drink.

Initiatives taken by the Government:

- Atal Bhujal Yojana (Atal Jal): It is a Rs. 6000 crore Central Sector Scheme with World Bank assistance, for sustainable management of ground water resources with community participation.
- Jal Shakti Abhiyan (JSA): It was launched in 2019 in 256 water stressed districts in the country to improve water availability including ground water conditions in these areas.
- It has special emphasis on creation of recharge structures, rejuvenation of traditional water bodies, intensive afforestation etc.
- Aquifer Mapping and Management Programme: The Central Ground Water Board (CGWB) has taken up Aquifer Mapping and Management Programme.
- The program is aimed to delineate aquifer disposition and their characterization for preparation of aquifer/ area specific groundwater management plans with community participation.
- Atal Mission for Rejuvenation and Urban Transformation (AMRUT): The Mission focuses on development of basic urban infrastructure in the AMRUT cities, such as water supply, sewerage & septage management, storm water drainage, green spaces and parks, and non-motorized urban transport.

Way Forward:

- The study's results emphasize the need to recognize the far-reaching consequences of human activities on the Earth's delicate equilibrium. Groundwater extraction, driven by agricultural and freshwater needs, has been found to impact the planet's rotational axis, leading to polar motion and contributing to global sea level rise.

- Therefore, understanding these interactions is crucial for effective environmental management and sustainable practices to mitigate the adverse effects of human-induced changes on our planet.

5.2 Sturgeon species

Recent reports suggest that poaching is the biggest threat to sturgeon species in the River Danube.

Key Findings of the report:-

- As many as 337 cases of illegal activities involving the fish were reported from 2016-2022 in the Danube River.
- Bulgaria recorded the highest number (130) of such cases that included violations of fishing bans and regulations, seizures of illegal fishing gear and the illicit trade of sturgeon and sturgeon-based products.
- It was followed by Romania (125) and Ukraine (82).
- Main hotspots: Vratsa in Bulgaria, Tulcea in Romania, and Odesa in Ukraine.
- Incidents of trafficking: As much as 20 per cent of the sturgeon samples collected from the fish markets in these countries were wild fish and did not come from farms.
- This was another indicator of the rampant sturgeon trafficking occurring in these places.
- Corruption: the report highlighted that the poaching rings and illegal fishers often work with the connivance of corrupt officials of the government's fishing departments who accept bribes.
- Mitigation Solutions: Innovative approaches involving advanced technology have helped curb the menace.
- Inter-agency cooperation and coordination for controlling the different parts of the trade chain can also be helpful.

About Sturgeon species:-

- Sturgeons are ancient migratory fish.
- Sturgeons have existed since the time of dinosaurs, for about 200 million years.
- They are called 'living fossils' because their appearance has altered very little over the years.
- Living Fossil: an organism that has remained unchanged from earlier geologic times and whose close relatives are usually extinct.
- They are considered the world's most endangered species.

Habitat:-

- There are 27 species of sturgeons and paddlefishes distributed across the Northern Hemisphere.
- While some species inhabit only freshwater, most species are anadromous.
- Anadromous: spawning in freshwater but spending much of their life history in marine or brackish environments.
- Danube sturgeons live mostly in the Black Sea, migrating up the Danube and other major rivers to produce eggs:

Three of the four sturgeon species found in the River Danube:—

- Beluga: critically endangered (IUCN)
- International Union for Conservation of Nature (IUCN): Red List of Threatened Species.
- Stellate: critically endangered (IUCN)
- Russian sturgeon: critically endangered (IUCN)
- Sterlet: Endangered (IUCN)
- Two more species of the family, the European sturgeon and the ship sturgeon, that used to swim in the waters of the Danube have been declared extinct locally.
- Significance: Because the sturgeons live for so many years, mature late and spawn with long intervals, they take a long time to recover from environmental and human pressures.
- This makes them great indicators for the health of the river and other ecological parameters.

5.3 Progress of Global Stocktake

The Bonn Climate Change Conference was the last big milestone in climate negotiations before the first Global Stocktake under the Paris Agreement at COP28 (Conference of the Parties 28) in Dubai.

About the Global Stocktake:

- Global Stocktake is essentially a periodic review of global climate action which aims to assess whether current efforts will enable us to reach the objectives set out in the Paris Agreement. This includes
- Progress on greenhouse gas reduction,
- Building resilience to climate impacts, and
- Securing finance to address the climate crisis.
- The Global Stocktake is mandated under Article 14 (1) of the Paris Agreement to assess collective progress towards long-term global goals.
- This is the first Global Stocktake year since the Paris Agreement was signed in 2015 and the report has been underway for the past two years.

Key aspects of the Global Stocktake under the Paris Agreement:

- **Assessment of Progress:** The primary purpose of the Global Stocktake is to assess collective progress made by countries in achieving the long-term goals of the Paris Agreement.
- This includes evaluating the implementation of countries' nationally determined contributions (NDCs) and assessing the overall effectiveness of global climate actions.
- **Review of Mitigation Efforts:** The Stocktake examines the mitigation efforts undertaken by countries to reduce greenhouse gas emissions.
- It evaluates the adequacy and ambition of these efforts limiting global temperature rise to well below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit the increase to 1.5 degrees Celsius.
- **Assessment of Adaptation Measures:** The Stocktake also considers the progress and effectiveness of adaptation measures implemented by countries to address the impacts of climate change.
- It assesses the extent to which countries are building resilience and adapting to the changing climate conditions.
- **Evaluation of Climate Finance:** It examines the mobilization and allocation of financial resources to support climate actions, particularly from developed to developing countries.
- The Stocktake reviews progress towards the commitment of developed countries to jointly mobilize \$100 billion annually by 2020 to support climate mitigation and adaptation efforts in developing nations.
- **Technology Transfer and Capacity Building:** The Stocktake reviews the efforts made in technology transfer and capacity-building activities to support developing countries in their climate actions.
- It assesses the provision of technology, knowledge, and technical assistance to enhance the capabilities of developing nations in implementing climate solutions.
- **Transparency and Reporting:** Transparency and accountability are integral components of the Stocktake process.
- The Stocktake ensures that countries provide accurate and reliable information to facilitate an objective assessment of global progress.
- **Informing Future Climate Action:** It provides guidance for countries to set more ambitious targets in their subsequent rounds of NDCs.
- The Stocktake also identifies areas where additional efforts and support are required to bridge the emissions gap and accelerate progress towards the Paris Agreement goals.

Challenges in GST Discussions:

- Countries can decide their contribution to climate action, but collective efforts are insufficient, necessitating some imposition.
- Faultlines arise between developed and developing countries regarding apportioning responsibility.
- Developed countries demand more from major emitters like China and India while developing countries highlight unfulfilled commitments.
- **The United States Position:** The US states that bridging the gap is not solely the developed countries' responsibility.

- It opposes including suggestions of ‘closing of pre-2020 gaps’ in GST decisions.
- India’s Response: India rejects ‘prescriptive messages’ from GST on what the content of a country’s climate action plan, (known as Nationally Determined Contributions or NDCs) should be.
- India insists on determining its climate targets in pursuit of national goals and demands the closing of pre-2020 gaps.
- China’s Perspective: China expresses disappointment over the insufficient capture of demands from 134 developing countries regarding pre-2020 gaps in GST discussions so far.
- It emphasizes the importance of addressing pre-2020 gaps and highlights carbon dioxide emissions generated before 1990.

Suggestive measures: Way Ahead

- Developed countries must honor their commitment to mobilize \$100 billion annually for climate finance as agreed upon at the 2009 Copenhagen Climate Change Conference.
- There is a need for improved accounting mechanisms and transparency in climate finance. Focus should be on prioritizing adaptation finance for vulnerable countries.
- Mobilizing public and private finance is crucial, along with facilitating technology transfer.
- Strengthening international cooperation and prioritizing climate finance in global agendas are necessary for effective mobilization.
- Thus, to ensure climate finance is in line with the goals of the Paris Agreement, it is crucial to involve and hold the World Bank accountable for its investments in fossil fuels. The pursuit of the Global Stocktake, a review mechanism under the Paris Agreement, should prioritize principles of equity, justice, and fairness.

5.4 National Green Tribunal (NGT)

Recently, the National Green Tribunal (NGT) imposed a fine of about 80,000 crore on states for not disposing of sewage and garbage.

Background:-

- The NGT observed that there is a huge gap in the treatment of sewage and disposal of solid waste by states and UTs.
- The highest penalty has been imposed on Tamil Nadu at Rs 15,419.71 crore followed by Maharashtra at Rs 12,000 crore, Madhya Pradesh at Rs 9,688 crore and Uttar Pradesh at Rs 5,000 crore.

About National Green Tribunal (NGT):-



- The National Green Tribunal is a statutory body under the National Green Tribunal Act 2010.
- Objective: for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.
- HQ: New Delhi.
- Regional Offices: Bhopal, Pune, Kolkata and Chennai.
- Language:
- It is a specialized body equipped with the necessary expertise to handle environmental disputes involving

multi-disciplinary issues. (UPSC MAINS: What are tribunals)

- The Tribunal is not bound by the procedure laid down under the Code of Civil Procedure, 1908.
- It is rather guided by principles of natural justice.
- Timeline for case disposal: The Tribunal is mandated to make and endeavor for disposal of applications or appeals finally within 6 months of the filing of the same.
- Tribunal's orders are binding and it has the power to grant relief in the form of compensation and damages to affected persons. (UPSC MAINS: Discuss the mandate of the National Green Tribunal (NGT))
- Benefits: The Tribunal's dedicated jurisdiction in environmental matters shall provide speedy environmental justice and help reduce the burden of litigation in the higher courts.
- India became the third country in the world to set up a specialized environmental tribunal, only after Australia and New Zealand.

Composition of NGT

- Sanctioned strength: The act allows for up to 40 members (20 expert members and 20 judicial members).
- Chairman: The administrative head of the tribunal.
- He also serves as a judicial member.
- He is required to be a serving or retired Chief Justice of a High Court or a judge of the Supreme Court of India.

Selection process:-

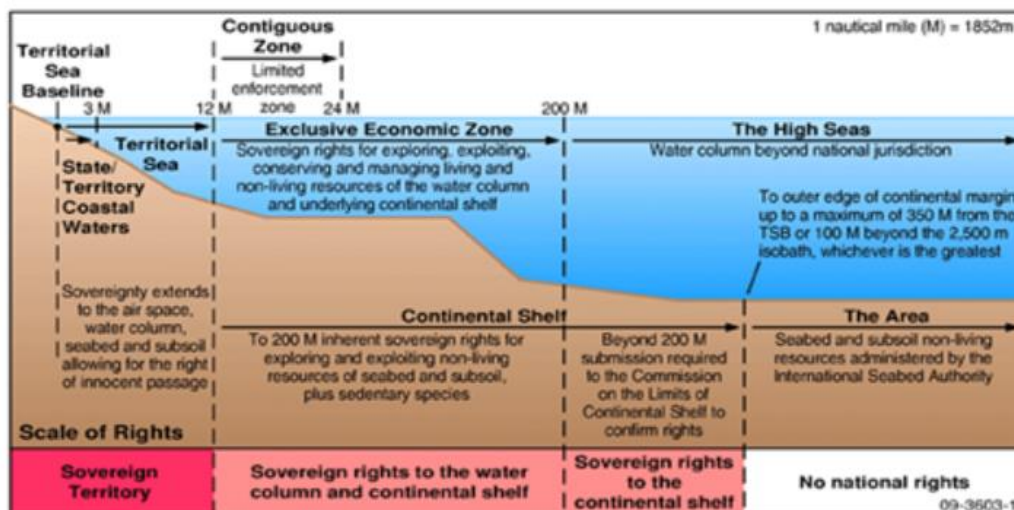
- Members are chosen by a selection committee that reviews their applications and conducts interviews.
- The committee is headed by a sitting judge of the Supreme Court of India.
- Judicial members: chosen from applicants who are serving or retired judges of High Courts.
- Expert members: chosen from applicants who are either serving or retired bureaucrats not below the rank of an Additional Secretary to the Government of India and not below the rank of Principal Secretary if serving under a state government.
- They are required to have a minimum administrative experience of five years in dealing with environmental matters.
- Alternatively, they must have a doctorate in a related field.

5.5 High Seas Treaty

Recently, the UN adopted the Marine Biodiversity of Areas beyond National Jurisdiction (BBNJ) or the High Seas Treaty.

Background:-

About High Seas Treaty:-



- It is an international agreement on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction. (UPSC CSE: UN High Seas Treaty)
- The UN adopted the Marine Biodiversity of Areas beyond National Jurisdiction (BBNJ) or the High Seas Treaty in 2023.
- Objective: to achieve a more holistic management of high seas activities, which should better balance the conservation and sustainable use of marine resources.
- Jurisdiction: It encompasses the high seas, beyond the exclusive economic zones or national waters of countries.
- This new instrument is being developed within the framework of the UNCLOS (United Nations Convention for the Law of the Sea). (UPSC CSE: BBNJ Treaty)

The agreement has five aspects:

- Environmental impact assessments for activities taken up on high seas.
- Conservation of marine genetic resources.
- Capacity building.
- Technology transfer.
- Cross-cutting issues such as institutional structure and financial support.
- UNCLOS(United Nations Convention for the Law of the Sea)
- It is an international agreement that establishes the legal framework for marine and maritime activities.
- Historical Background: The Convention which concluded in the year 1982 replaced the quad-treaty of 1958.
- Establishment: It came into effect in the year
- It is the only international convention which stipulates a framework for state jurisdiction in maritime spaces.
- It provides a different legal status to different maritime zones.

It divides marine areas into 5 zones :

- Internal-waters
- Territorial seas
- Contiguous Zone
- Exclusive Economic Zone (EEZ)
- Continental shelf or High seas
- India has been a party to the convention since 1995.

5.6 Nitrogen dioxide (NO₂)

Recent reports suggest that Nitrogen dioxide (NO₂) exposure can lead to premature death and respiratory & circulatory illness.

Background:-

- The review commissioned by Health and Environment Alliance (HEAL), suggested that Nitrogen dioxide (NO₂) can lead to premature death from respiratory and circulatory illness.
- HEAL a European non-profit organization.
- The review, also observed that the knowledge about the health effects of NO₂ has increased significantly over the last 10-15 years.
- In addition, studies are now able to distinguish between health impacts caused by NO₂ and that by other pollutants, including particulate matter or PM_{2.5}.
- 5: it refers to atmospheric particulate matter (PM) that has a diameter of less than 2.5 micrometers

About Nitrogen dioxide (NO₂):-



- Nitrogen Dioxide (NO₂) is a highly reactive gas.
- Other nitrogen oxides include nitrous acid and nitric acid.
- It is an odourless, acidic, and extremely corrosive gas.
- It can harm our health and the environment. (UPSC CSE: Delhi and Air Pollution)
- Sources:-
- NO₂ primarily gets in the air from the burning of fuel.
- It forms from emissions from cars, trucks and buses, power plants, and off-road equipment.
- It is also created by natural sources that include volcanoes and microbes.
- It is also formed during the creation of nitric acid, welding and the usage of explosives, the refining of fuel and metals, commercial manufacturing, and food processing.

Uses of Nitrogen Dioxide

- Nitrogen dioxide is used as an intermediary in the production of nitric acid.
- It is used to make oxidised cellulose molecules.
- It is used as a catalyst in many reactions.
- It is used in the production of sulphuric acid.
- Rocket fuels use it as an
- As a nitrating agent.
- As an oxidising agent.
- It is used to make explosives.

Health effects of Nitrogen dioxide (NO₂):-

- NO₂ can aggravate respiratory diseases, particularly asthma.
- It increases airway inflammation.
- It decreases lung capacity.
- It increases allergic response.
- It increases the probability of respiratory problems.
- It can cause a burning sensation in the eyes and skin.
- NO₂ along with other NO_x reacts with other chemicals in the air to form both PM and ozone.

Environmental effects

- Acid Rain: NO₂ and other NO_x interact with water, oxygen and other chemicals in the atmosphere to form acid rain.
- Acid rain harms ecosystems such as lakes and forests.
- Air Pollution: The nitrate particles that result from NO_x make the air hazy and difficult to see through.
- Water Pollution: NO_x in the atmosphere contributes to nutrient pollution in coastal waters.

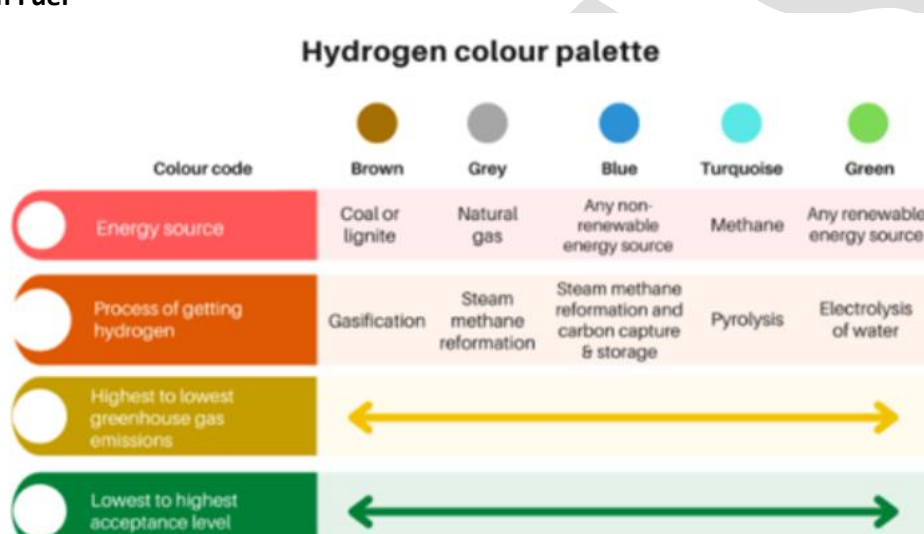
5.7 National Green Hydrogen Mission

As part of its quest towards energy transition, the government has brought together stakeholders in order to explore how we can establish a Green Hydrogen ecosystem.

Hydrogen Fuel:

- Hydrogen fuel is a zero-emission fuel burned with oxygen.
- It can be used in fuel cells or internal combustion engines.
- It can be manufactured by
- Electrolysis of water by using direct current.
- Natural Gas Reforming/Gasification: Natural Gas on reaction with steam produces Synthesis gas. Synthetic gas is a mixture of hydrogen, carbon monoxide, and a small amount of carbon dioxide.
- Fermentation: Biomass is converted into sugar-rich feedstocks that can be fermented to produce hydrogen.

Types of Hydrogen Fuel



About National Green Hydrogen Mission?

- It is a program to incentivise the commercial production of green hydrogen and make India a net exporter of the fuel.
- The Mission will facilitate demand creation, production, utilization and export of Green Hydrogen.

Sub Schemes:

- Strategic Interventions for Green Hydrogen Transition Programme (SIGHT):
- It will fund the domestic manufacturing of electrolysers and produce green hydrogen.

Green Hydrogen Hubs:

- States and regions capable of supporting large scale production and/or utilization of hydrogen will be identified and developed as Green Hydrogen Hubs.

Objective:

- Developing green hydrogen production capacity of at least 5 MMT (Million Metric Tonne) per annum, alongside adding renewable energy capacity of about 125 GW (gigawatt) in India by 2030.
- It aims to entail over Rs 8 lakh crore of total investments and is expected to generate six lakh jobs.
- It will also lead to a cumulative reduction in fossil fuel imports by over Rs 1 lakh crore and an abatement of nearly 50 MT of annual greenhouse gas emissions.
- Nodal Ministry: Ministry of New and Renewable Energy

Significance:

- It will help entail the decarbonisation of the industrial, mobility and energy sectors; reducing dependence on imported fossil fuels and feedstock; developing indigenous manufacturing capabilities; creating employment opportunities; and developing new technologies such as efficient fuel cells.

Significance/Intended outcomes of the NGHM

- Renewable Energy Capacity Enhancement: Development of green hydrogen production capacity of at least 5 MMT (Million Metric Tonne) per annum.
- An associated renewable energy capacity addition of about 125 GW in the country
- Investment boost
- Employment generation
- Cumulative reduction in fossil fuel imports.
- Green House Gases Emission Reduction: Abatement of nearly 50 MMT of annual greenhouse gas emissions and help government in achievement the commitments made at COP 26
- Under the Paris Agreement of 2015, India is committed to reducing its greenhouse gas emissions by 33-35% from the 2005 levels.
- It is a legally binding international treaty on climate change with the goal of limiting global warming to below 2°C compared to pre-industrial levels.

Possible Challenges in harnessing Green Hydrogen

- Lack of fuel station infrastructure: India will need to compete with around 500 operational hydrogen stations in the world today which are mostly in Europe, followed by Japan and South Korea.
- Energy-intensive nature of Hydrogen generation process: The technology is in an infant stage and the energy requirement for splitting water or Methane is high. Besides, the whole process is costly at present.
- High R and D requirement for the newer technology for making the process cheap and operational and scalable.
- Multiplicity of regulatory authorities: Involvement of multiple Ministries and Departments causes red tape in government functioning.
- Risks associated with the transportation of hydrogen: Hydrogen in gaseous form is highly inflammable and difficult to transport, thereby making safety a primary concern.

Indian Initiatives for Promoting Clean Fuel Transition

- The India-led International Solar Alliance (ISA) is a coalition of solar-rich countries aiming at promoting solar energy globally. India aims to reach net zero emissions by 2070 and to meet fifty percent of its electricity requirements from renewable energy sources by 2030.
- Initiatives such as Faster Adoption and Manufacturing of (Hybrid) Electric Vehicles (FAME) India Scheme and Atal Jyoti Yojana promote the adoption of electric and hybrid vehicles and solar-powered lighting to rural areas, a move which reduces emission footprint.
- The 'National Policy on Biofuels' notified by the Government in 2018 envisaged an indicative target of 20% ethanol blending in petrol by year 2030.
- A "Roadmap for Ethanol Blending in India 2020-25" which lays out a detailed pathway for achieving 20% ethanol blending.

Way Forward:

- There is a need to announce incentives to convince enough users of industrial hydrogen to adopt green hydrogen. India needs to develop supply chains in the form of pipelines, tankers, intermediate storage and last leg distribution networks as well as put in place an effective skill development programme to ensure that lakhs of workers can be suitably trained to adapt to a viable green hydrogen economy.

5.8 Commission on Genetic Resources for Food and Agriculture (CGRFA)

The 19th session of the Commission on Genetic Resources for Food and Agriculture (CGRFA) was held in Rome, Italy.

About Commission on Genetic Resources for Food and Agriculture (CGRFA):-

- Established in 1983.
- The Commission on Genetic Resources for Food and Agriculture (CGRFA) is the only permanent intergovernmental body focused on conserving all types of biodiversity for food and agriculture.
- Members: The Commission consists of 179 Member States and the European Union.
- Membership of the Commission is open to all Members of FAO. (UPSC CSE: 42nd Session of FAO Conference)
- Objective: to promote international policies for the sustainable use and conservation of genetic resources for food and agriculture, while also ensuring that benefits derived from biodiversity are fairly and equitably shared.
- The Commission offers a unique platform for its members and other stakeholder to promote a world without hunger by fostering the use and development of the whole portfolio of biodiversity important to food security and rural poverty.
- The CGRFA meets regularly to address policies on genetic resources for food and agriculture.

19th session of the CGRFA

- Venue: FAO headquarters in Rome, Italy.(UPSC CSE: Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture (WG AnGR))
- Date: from 17 to 21 July 2023.
- Organized by: Food and Agriculture Organization (FAO).
- Focus areas: the state of the world's forest and plant genetic resources, access and benefit-sharing policies, and biotechnologies for the conservation and sustainable use of genetic resources.

The Commission will also discuss:-

- Framework for Action on Biodiversity for Food and Agriculture.
- the role of genetic resources for food and agriculture in mitigation of and adaptation to climate change
- microorganism and invertebrate genetic resources, including pollinator and biological control agents

5.9 Guichi

Recent reports show the impact of climate change on Kashmir's guichi mushroom pickers.

Background:-

- Unpredictable weather patterns, early springs, and above-average temperatures have left guichi mushroom hunters in distress, facing another season of low yield for the second consecutive year.

About Guichi:-

- The guichi mushroom is the local name for morel.
- Morel: a genus of edible fungi.
- Professional chefs and amateur foodies prize it alike for its nutty, earthy flavour.
- Family: it is a species of fungus from the family Morchellaceae of the Ascomycota.
- Appearance: They are pale yellow in color with large pits and ridges on the surface of the cap.
- Guichis can vary in color from blonde to dark black.
- Habitat: It is found in temperate forests.
- It is primarily obtained from the forests and pastures of Doda district, Jammu and Kashmir.
- Distribution: It is also found in the high-altitude areas of Kupwara, Pahalgam, Shopian, Kishtwar and Poonch of Jammu & Kashmir.

- Characteristic: It is one of the costliest mushrooms in the world, which is known for its spongy, honeycombed head and savory flavor.
- The mushroom is often coveted, not only for its taste but because it is very difficult to find.

Benefits of Guichi:-

- They are rich in antioxidant and antimicrobial properties that prevent health issues including heart diseases and diabetes by removing reactive oxygen species that harm the body.
- They are also considered a rich source of protein, potassium, copper, carbohydrates and Vitamin B.
- The exotic wild mushrooms are used in pulaos and served during celebratory occasions such as marriages.
- It is said to have medicinal and anti-inflammatory properties.

Edge IAS

6. Security issues

6.1 Salvage and Explosive Ordnance Disposal Exercise (SALVEX)

The Seventh edition of the Indian Navy – US Navy (IN – USN) Salvage and Explosive Ordnance Disposal exercise, SALVEX was conducted recently.

About SALVEX:-

- It was conducted from 26 Jun – 06 Jul 23 at Kochi.

Started :

- Background: Indian Navy(IN) and US Navy(USN) have been participating in joint Salvage and EOD exercises since
- EOD: it is a specialized technical area in military and law enforcement.
- The exercise saw participation from both the navies which included the ships – INS Nireekshak and USNS Salvor in addition to Specialist Diving and EOD teams.
- Duration: it spans over 10 days. (UPSC CSE: Exercise TARKASH)

Key engagements and outcomes:-

- Shared Learning on Maritime Salvage: The Diving teams from both countries engaged in the exchange of experiences, lessons, and best practices in maritime salvage operations.
- Training Synergies on EOD Operations: The exercise provided an ideal platform for joint training exercises, allowing divers and EOD teams to enhance their interoperability and refine their skills.
- Mastery of Mine Detection and Neutralization: The participating divers received comprehensive training in the detection and neutralization of mines, enabling them to mitigate potential threats in underwater environments.
- Efficient Wreck Location and Salvage Techniques: The exercise focused on honing the teams' abilities to locate and salvage wrecks, a critical skill for ensuring safe navigation and effective disaster response.

6.2 INS Utkrosh

- The Chief of Defense Staff, CDS, General Anil Chauhan inaugurated LRMR Hangar & Dispersal at Naval Air Station, INS Utkrosh in Port Blair.
- The twin hangar spread over 6000 sq. mt. can accommodate a combination of P8I aircraft with Dronier & Advanced Light Helicopters.
- It will help in strengthening the security of the Indian Oceans Region.

About INS Utkrosh:-

- It is an Indian naval air station under the joint-services Andaman and Nicobar Command of the Indian Armed Forces.
- Location: Port Blair, Andaman & Nicobar Islands.
- Commissioning: It was commissioned in
- This station operates the Do-228 maritime patrol aircraft and a SAR (Search & Rescue) flight of HAL Chetak helicopters.
- Maritime patrol aircraft (MPA): a fixed-wing aircraft designed to operate for long durations over water in maritime patrol roles.
- Search and rescue (SAR) service: provided to the survivors of aircraft accidents as well as aircraft in distress (and their occupants) regardless of their nationality.

Significance:-

- The station handles courier flights from the mainland and civil flights to and from Port Blair.

- It shares airside facilities with Veer Savarkar International Airport which handles civilian traffic.
- The facilities at INS Utkrosh have been significantly upgraded.
- The runway has been lengthened to almost 11,000 feet (3,400 m).
- Except for the civilian terminal operated by the Airports Authority of India, all other air traffic operations over Port Blair are undertaken by INS Utkrosh.

6.3 Kargil Vijay Diwas

Recently, leaders across India's political spectrum paid their tributes to India's armed forces and the fallen martyrs on the occasion of Kargil Vijay Diwas.

About Kargil Vijay Diwas:-

- The Kargil War officially ended on July 26, 1999.
- The day is dedicated to the martyred soldiers of the Kargil War.

Historical Background of the Kargil War:-

- Time period: – May-July of 1999.
- Location: Kargil (now a district in the Union Territory of Ladakh) district of Jammu and Kashmir along the Line of Control (LoC)
- Line of Control (LoC): it is a military control line between the Indian and Pakistani-controlled parts of the Union Territory of Jammu and Kashmir.
- Cause of the war: The conflict was triggered when infiltrators from Pakistan crossed the LoC and occupied high positions in Ladakh's Kargil district. (Upgradation of Kargil Zaskar road)

Operation Vijay:

- In the year 1999, India and Pakistan signed the Lahore Agreement to mutually resolve the Kashmir issue in a peaceful manner.
- However, the Pakistani troops began infiltrating toward the Indian side of the Line of Control (LoC) under Operation Badr, hoping to cut off Indian Troops in Siachen.
- The Indian Army responded by launching Operation Vijay.
- It had infiltrated into the high altitudes in the rocky mountainous region of Kargil with around 5,000 soldiers and captured it.
- When the Indian Government got the information about it, 'Operation Vijay' was launched by the Indian army to throw back the intruders who had treacherously occupied Indian Territory.

7. Social issues

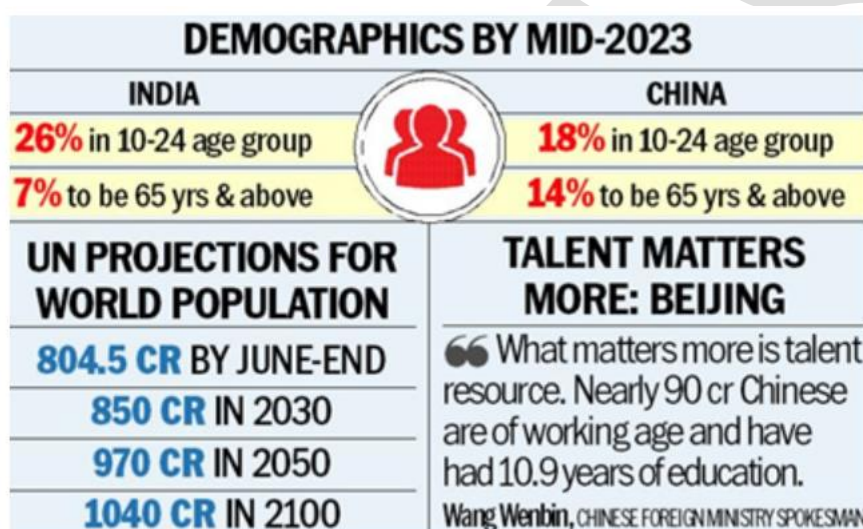
7.1 How India can leverage its biggest strength

The next 25 years could be the golden years for the country, provided it makes the best use of its favourable demographic composition.

About Demographic dividend:

- Demographic dividend, as defined by the United Nations Population Fund (UNFPA), is “the economic growth potential that can result from shifts in a population’s age structure, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population (14 and younger, and 65 and older)”.

India’s demographic dividend:



- India’s average age is 29 years, whereas the average age in US, China, France, Germany and Japan is 38, 38, 42, 45 and 48 years, respectively.
- Therefore, India is the youngest among the most populous countries in the world.

Advantages of India’s demographic dividend:

- Higher Economic Growth:** A large and young working-age population can increase the labour supply, productivity, savings, and investment in the economy, leading to higher GDP growth and per capita income.
- Greater Competitiveness:** A skilled workforce can enhance India’s competitiveness in the global market, especially in labour-intensive sectors such as manufacturing, services, and agriculture.
- India can also benefit from the rising demand for its exports in the ageing markets of developed countries.
- Social Development:** It can contribute to social development by improving health, education, gender equality, and social cohesion.
- An empowered population can also participate more actively in democratic processes and civic engagement.
- Innovation and Entrepreneurship:** A creative population can foster innovation and entrepreneurship in various fields, such as science, technology, arts, and culture.
- An aspirational population can also create new markets and opportunities for economic diversification.

Challenges associated with Demographic dividend:

- Asymmetric demography:** The growth in the working-age ratio is likely to be concentrated in some of India’s poorest states and the demographic dividend will be fully realized only if India is able to create

gainful employment opportunities for this working-age population.

- Lack of skills: Most of the new jobs that will be created in the future will be highly skilled and lack of skill in Indian workforce is a major challenge.
- India may not be able to take advantage of the opportunities, due to a low human capital base and lack of skills.
- Low human development parameters: India ranks 130 out of 189 countries in UNDP's Human Development Index, which is alarming.
- Therefore, health and education parameters need to be improved substantially to make the Indian workforce efficient and skilled.
- Informal nature of economy in India is another hurdle in reaping the benefits of demographic transition in India.
- Jobless growth: There is mounting concern that future growth could turn out to be jobless due to de-industrialization, de-globalization, the fourth industrial revolution and technological progress.
- As per the NSSO Periodic Labour Force Survey 2017-18, India's labour force participation rate for the age-group 15-59 years is around 53%, that is, around half of the working age population is jobless.

Indian government's initiatives to reap the demographic dividend in India:

- The government has launched programmes like Jan Shikshan Sansthan, Pradhan Mantri Kaushal Vikas Yojana, and National Apprenticeship Promotion Scheme to improve employability through skilling, re-skilling, and up-skilling.
- These initiatives aim to make the Indian labour force more productive and efficient. The MSDE Vision 2025 further aims to improve the linkage between education and skill.
- The Ayushman Bharat and Swachh Bharat Mission seek to improve health equity in India.
- The Pradhan Mantri Bhartiya Janaushadhi Pariyojana aims to make drug prices affordable and accessible, enhancing overall public health.
- The National Education Policy 2020, alongside the Samagra Shiksha programme, is focused on providing inclusive, equitable, and quality education at all school levels, ensuring a productive labour force in the future.
- Recognizing MSMEs as the backbone of Indian manufacturing, the government has endeavoured to support them in improving competitiveness, achieving scale, digital infrastructure, technology upgrades, and branding.
- The government has introduced flagship programmes like Skill India, Make in India, and Start-up India to enhance the productivity of the labour force and to foster innovation and entrepreneurship.

Way Forward:

- If India has to reap the benefits of 'demographic dividend' in the years ahead, it is imperative that investments in social infrastructure by way of education, skill development, training and provision of health care facilities are made to enhance productivity of workforce and welfare of the population.

7.2 Human Trafficking in India

The Ministry of Women and Child Development has approved a scheme to provide financial assistance to states and Union Territories to set up protection and rehabilitation homes for victims of trafficking in states having international borders.

About Human trafficking:

- It is trading humans mostly for the purpose of bonded labour, forced labour, sexual slavery, commercial sexual exploitation or extraction of organs.
- Trafficking of humans is considered one of the fastest growing crimes of trans national criminal organizations.
- It is a crime which involves violation of human rights by means of exploitation and coercion.
- It is a heinous crime which is occurring not only within a country but also trans nationally.

Trafficking in India:

- In 2022, 6,622 trafficking victims were reported to have been identified; in addition, 694 were identified as potential victims.
- In 2021 Police filed charge sheets in 84.7 percent of the 2,189 cases registered under the Anti-Human Trafficking Units (AHTUs) across the country in 2021.

Issues and challenges of Human Trafficking In India

- **Commercial demand for Sex:** The nature of sex trafficking is seen as an economic supply by the traffickers. Males request female prostitutes under this demand model, which creates a market for sex workers and ultimately encourages sex trafficking, illegal trade, and the coercion of people into the sex industry.
- **Poverty and unemployment:** Women may migrate voluntarily due to a lack of economic, educational, and social opportunities before becoming involuntarily trafficked for sex work.
- **Globalization:** As globalization has opened the national borders for smooth exchange of goods and services, its economic impact has also pushed peoples especially women and children to migrate and be vulnerable to trafficking.
- **Gender based discrimination:** Sons are traditionally regarded as more valuable, superior, and useful in a family than daughters in our patriarchal society.
- As a result, girls in this society have little to no access to education, which causes a gender gap in both literacy rates and potential income for boys and girls.

Legal Instrument to Combat human trafficking:

- The main international legal instrument is the UN Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children, which was adopted by the United Nations General Assembly in 2000.
- The Trafficking Protocol, which supplements the United Nations Convention against Transnational Organized Crime, is the only international legal instrument addressing human trafficking as a crime.

Related Constitutional and Legislative Provisions in India:

- **Article 23(1):** It prohibits the trafficking of persons.
- **Immoral Traffic (Prevention) Act, 1956 (ITPA):** It aims to stop immoral trafficking and prostitution in India and is divided into 25 sections and one schedule.
- **Sections 366(A) of Indian Penal Code:** It prohibits kidnapping and Section 372 of IPC prohibits selling minors into prostitution.
- **Bonded Labour System (Abolition) Act 1976, Child Labour (Prohibition and Abolition) Act 1986 and Juvenile Justice Act:** All of these prohibit bonded and forced labour.
- **Protection of Children from Sexual offences (POCSO) Act, 2012:** It is a special law to protect children from sexual abuse and exploitation.

Other Specific Legislations:

- **Prohibition of Child Marriage Act, 2006**
- **Bonded Labour System (Abolition) Act, 1976**
- **Child Labour (Prohibition and Regulation) Act, 1986**
- **Transplantation of Human Organs Act, 1994**
- **Specific Sections in the IPC, like Sections 372 and 373** dealing with selling and buying of girls for the purpose of prostitution.
- **Steps by State Governments:** States have also enacted specific legislations to deal with the issue, like the Punjab Prevention of Human Smuggling Act, 2012.

Way forward:

- Human Trafficking is an organized crime and operated across domestic and international borders, the nature of the crime needs strong cooperation and intelligence sharing between different investigating agencies.

- There is need to ensure a minimum standard of living for all people, strict border control through proper fencing and regular patrolling, prevent corruption in bureaucracy, etc., to curb the menace of trafficking. Steps should be taken to set up Protection Homes across the country, to provide shelter, food, counselling, and medical services to victims. Our development goals must include both economic development and social inclusion.

7.3 Online abuse among students

Recent research on technology-facilitated sexual violence (TFSV) indicate that, online abuse disproportionately affected young women.

About Technology-facilitated sexual violence (TFSV):

- Technology-facilitated sexual violence can take many forms, such as morphed images, sexualised blackmailing and bullying, digital flashing, rape threats, and explicit comments and messages.
- It pervades every social media and messaging platform, but Instagram, Facebook and WhatsApp are the ones especially culpable.
- It is a growing problem, especially affecting college students across India.
- A private survey on 400 students from 111 Indian higher education institutions found that a staggering 60% of women experienced some form of TFSV compared to only 8% of men.

Features of TFSV

- **Morphed Images:** Manipulated or altered images where someone's face is placed onto explicit or inappropriate content without their consent.
- **Photoshopping** someone's face onto a pornographic image and sharing it online.
- **Sexualized Blackmailing:** Using explicit material to coerce or manipulate someone into doing something against his or her will.
- **Threatening** to distribute intimate photos unless the victim engages in sexual acts or pays a certain amount of money.
- **Bullying:** Harassing, intimidating, or humiliating someone based on his or her gender or sexuality using technology.
- **Sending derogatory messages,** spreading rumours, or creating hate pages targeting a person for their sexual orientation.
- **Digital Flashing:** Sending unsolicited explicit images or videos to someone without their consent.
- **Forwarding explicit photos** to someone's inbox or social media accounts without their permission.
- **Rape Threats:** Explicit messages or comments threatening someone with sexual violence or rape.
- **Sending a message** stating, "I will find you and rape you." to intimidate and instill fear in the recipient.
- **Explicit Comments and Messages:** Sending sexually suggestive or vulgar content or messages without consent.
- **Sending graphic sexual content** or explicit language to someone via direct messages on a social media platform without their invitation or interest.

Concerns associated with TFSV:

- **Various Forms:** TFSV can take many forms, such as morphed nude images, sexualised blackmailing and bullying, digital flashing, rape threats, and explicit comments and messages.
- **High Penetration:** It has its penetration over every social media and messaging platform.
- **Forever Presence:** Abuse is linked to an individual's name and online profile, and can remain on the Internet forever.
- **Mental Illness:** Many survivors experience depression, post-traumatic stress disorder, anxiety, and suicidal thoughts.
- **Tangible Consequences:** Many survivors experience loss of academic or career prospects, social isolation, and violence and rejection by one's own family.
- **Meanwhile,** abusers hide behind anonymity.

- Ambiguity in Legislation: India's IT Act of 2000 criminalizes some forms of TFSV, but ambiguities in the law can deter survivors from reporting.

Government initiatives:

- Specific provisions in IT Act for cybercrime against women:
- Violation of privacy (section 66E)
- Obscene material (section 67)
- Pornography & sexually explicit act (section 67A)
- Child pornography (section 67B)
- Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021:

Definition of Digital Media:

- It will cover digitized content that can be transmitted over the internet or computer networks.
- It also includes intermediaries such as Twitter and Facebook, and publishers of news and current affairs content.
- It also includes so-called curators of such content.
- Publishers of news and current affairs content will cover online papers, news portals, news agencies, and news aggregators.
- Self-regulation: Industry regulatory body headed by a former judge of the Supreme Court and High Court with additional members from an Information and Broadcasting ministry approved panel.
- Oversight mechanism that includes an inter-ministerial committee with the authority to block access to content.
- The Inter-ministerial Committee can also take suo motu cognizance of an issue, and any grievance flagged by the ministry.

The "Digital Literacy and Online Safety Programme":

- It aims to train 60,000 women in universities across major cities of India regarding safe use of internet, social media and email that will enable them to differentiate between the credible and questionable information available online.

Suggestive measures:

- Awareness: Raising widespread awareness of TFSV and implementing solutions is vital while the problem is still within our control.
- Grassroots solutions like hosting regular workshops, safety training, facilitated discussions, and designating student organizations to lead education and response efforts.
- Legal regulations already mandate that IHEs conduct gender sensitization programmes and empower students to engage their community.
- Discussions: Openly discussing TFSV without shaming or blaming survivors is an essential step to improve India's levels of sexual violence to remove the barrier of stigmatization.
- Anonymous Helplines: Schools must provide anonymous helplines and reporting options, mental health services from trained counsellors.
- Legislation backing: With the upcoming Digital India Act, the government has an opportunity to strengthen its regulations for technology platforms and compel social media companies to take accountability.
- Adequate funding: The implementation of related measures should be prioritized with adequate allocation of funds.
- Internal Complaints Committees (ICCs): All IHEs must have Internal Complaints Committees (ICCs) to investigate incidents of sexual harassment with strict implementation, transparency and accountability.
- The ability to safely access the Internet is crucial to women's agency, mobility, and economic development. With the government showing regard for the issue of women's safety online, it is important to look after matters such as the nature of technology-facilitated abuse, capturing what this means, understanding how cases impact individuals as well as communities, the language needed to capture such offences and the punishment — penalties, jail or even rehabilitation programmes for perpetrators.

7.4 Marital Rape in India

The Supreme Court would list a batch of petitions pertaining to the matters related to marital rape.

About Marital rape:

- Marital rape (or spousal rape) is an act in which one of the spouses indulges in sexual intercourse without the consent of the other.
- Rape in India continues with the patriarchal outlook of considering women to be the property of men post marriage, with no autonomy or agency over their bodies.
- They deny married women equal protection of the laws guaranteed by the Indian constitution.
- Today, more than 100 countries have criminalized marital rape but, unfortunately, India is one of the only 36 countries where marital rape is still not criminalized.

Current Scenario:

- Marital rape has been impeached in more than 100 countries but, unfortunately, India is one of the only 36 countries where marital rape is still not criminalized.
- In 2013, the UN Committee on Elimination of Discrimination against Women (CEDAW) recommended that the Indian government should criminalize marital rape.
- The JS Verma committee set up in the aftermath of nationwide protests over the December 16, 2012 gang rape case had also recommended the same.
- As per the NCRB report, in India, a woman is raped every 16 minutes, and every four minutes, she experiences cruelty at the hands of her in-laws.
- National Family Health Survey (NFHS) shows that sexual violence is most often committed by individuals with whom women have an intimate relationship.

Section 375 of the Indian Penal Code

- It defines rape as “sexual intercourse with a woman against her will, without her consent, by coercion, misrepresentation or fraud or at a time when she has been intoxicated or duped, or is of unsound mental health and in any case if she is under 18 years of age.
- Consent is defined as clear, voluntary communication that the woman gives for a certain sexual act.
- Exceptions to Section 375: Sexual intercourse by a man with his own wife, who is above the age of 18, is not sexual assault.
- Punishment: Except in certain aggravated situations, the punishment will be imprisonment of not less than seven years but it may extend to imprisonment for life, and shall also be liable to fine.
- In aggravated situations, punishment will be rigorous imprisonment for a term which shall not be less than 10 years but which may extend to imprisonment for life, and shall also be liable to fine.

Arguments for criminalizing Marital Rape

- The doctrine of Coverture: The marital exception to the IPC’s definition of rape was drafted based on Victorian patriarchal norms that did not recognize men and women as equals.
- It did not allow married women to own property, and merged the identities of husband and wife under the “Doctrine of Coverture.”
- Article 14: Indian women deserve to be treated equally under article 14 and an individual’s human rights do not deserve to be ignored by anyone, including by their spouse.
- Further, a married woman has the same right to control her own body, as does an unmarried woman.
- Bodily Integrity is intrinsic to Article 21: A woman is entitled to refuse sexual relations with her husband as the right to bodily integrity and privacy is an intrinsic part of Article 21 of the Constitution.
- Supreme Court has included sanctity of women, and freedom to make choices related to sexual activity under the ambit of Article 21.
- In the State of Karnataka v. Krishnappa, the Supreme Court held that sexual violence apart from being a dehumanizing act is an unlawful intrusion of the right to privacy and sanctity of a female.
- In the Suchita Srivastava v. Chandigarh Administration, the Supreme Court equated the right to make choices related to sexual activity with rights to personal liberty, privacy, dignity, and bodily integrity under

Article 21 of the Constitution.

- Rape not ground for Divorce: As marital rape is not a ground for a divorce in any personal laws and even the Special Marriage Act, 1954, It cannot be used as a ground for divorce and cruelty against the husband. Thus, the women remain helpless and keep suffering in silence.
- Rape is rape, irrespective of the identity of the perpetrator, and the age of the survivor.
- A woman who is raped by a stranger lives with a memory of a horrible attack; a woman who is raped by her husband lives with her rapist throughout her life .
- Criminalizing marital rape: It will ensure that women remains safer from abusive spouses and they can receive the help needed to recover from marital rape and can save themselves from domestic violence and sexual abuse
- The United Kingdom, whose common law was followed by India, made marital rape a criminal offence in 1991.

Arguments against criminalising marital rape:

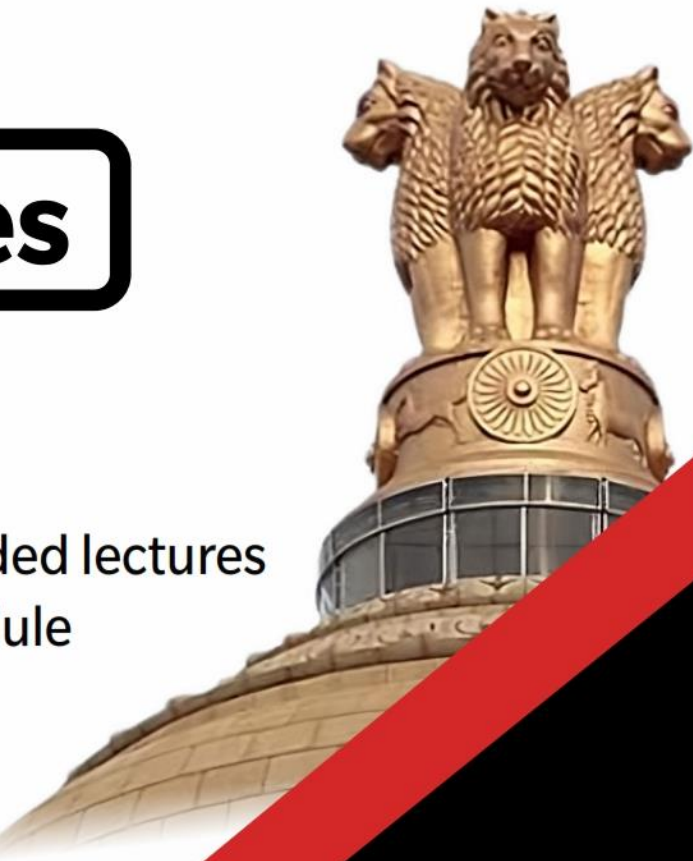
- Threat to the institution of marriage: Criminalisation of marital rape is often viewed as a threat to the institution of marriage, in which both the spouses have conjugal rights over each other.
- Conjugal rights: Section 9 of the Hindu Marriage Act gives either spouse in a marriage the legal right to “restitution of conjugal rights”.
- Misuse of the law is a big reason why several individuals, jurists and even men’s rights activists have raised alarm over the criminalisation of marital rape.
- According to some activists, as huge as 85% of dowry cases turn out to be false and India cannot deal with another failed catastrophic law that will amount to “legal terrorism”.
- Burden of proof: The burden of proof is a hugely complex issue that has prevented marital rape to be criminalised.
- In the case of marital rape, one has to consider that intercourse is a part of any marriage.
- Now, if marital rape itself is criminalised, the question remains who would the burden of proof be on and what would that burden be.
- Gender Neutrality: Arguments to make the definition of ‘rape’ gender-neutral have been put forward on many occasions, and the same argument is put forward in the case of marital rapes too.
- Even if the exception of IPC section 375 is removed or criminal provisions are added to the Domestic Violence act, husbands will not be able to use those.

Way Forward

- It is high time that the legislature should take cognisance of this legal infirmity and bring marital rape within the purview of rape laws by eliminating Section 375 (Exception) of IPC. By removing this law, women will be safer from abusive spouses.
- It is important that legal prohibition on marital rape is accompanied by changes in the attitude of the prosecutors, police officers and those in society generally. The need of the hour is that marriage and divorce must come under secular law and there cannot be any difficulty in having a common code of law for all communities at least for marriage and divorce.

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